ABSTRACT

Title of Document:	POWERFUL PATHWAYS ACROSS RACE: SENSE OF BELONGING IN DISCRIMINATORY COLLEGIATE ENVIRONMENTS
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The purpose of this study was to explore potential direct or indirect relationships among discriminatory climate, structural diversity (i.e., compositional diversity), mentorship experiences, socio-cultural discussions, level of involvement on- and off-campus, and individual characteristics (e.g., gender, class standing, and socioeconomic status) and how these relationships potentially affect students' sense of belonging. To understand the individual and shared relationships among these multiple variables, structural equation modeling (SEM) was used. Informed by existing research and literature, the proposed model suggests directionality and a specific set of pathways towards the outcome of sense of belonging. The model tested a series of relationships simultaneously to explore significance of specific variable relationships relative to all other variables. The model was applied separately to White, Black, Latino, and Asian racial groups to explore unique findings associated with one's race.

This study builds on previous climate and belonging research and illuminates three key pathways to bolster students' sense of belonging within discriminatory collegiate experiences.

On-campus involvement is the most powerful pathway to a deeper sense of belonging across Asian, Black, Latino, and White students. Additionally, socio-cultural discussions and mentorship prove to be positive supports for belonging and counteract the significant negative effects of discrimination. The pathway for off-campus involvement is not a powerful mediator between a discriminatory climate and belonging, but off-campus experiences that are not connected to discrimination appear to support a greater sense of belonging for some students. Researchers and educators within higher education can use the results of this study to build more complex studies, construct more effective interventions, and raise the level of discourse about students' sense of belonging in college.

POWERFUL PATHWAYS ACROSS RACE: SENSE OF BELONGING IN DISCRIMINATORY COLLEGIATE ENVIRONMENTS

By

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Dedication

This dissertation is dedicated to my wife, Melissa, whose patience, support, and love are embedded within every page that follows.

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CHAPTER 1: INTRODUCTION

Background

Institutions of higher education purport diversity as a central value in their mission statements, strategic plans, and everyday activities (Hurtado, Dey, Gurin, & Gurin, 2003; Hurtado, 2007). During their time on campus, college students are expected to deepen their understanding of diversity, to better understand the complexities of privilege and oppression, and to meaningfully engage with others who are different from themselves (Orfield, 2001). While the college-going population has become more demographically diverse, higher education's legacy of exclusion and selectivity has created educational environments that benefit some and isolate others (Carey, 2004). Depending on one's background and pre-college experiences, campus environments can be perceived differently (Fisher, 2007; Rankin & Reason, 2005).

As the United States population diversifies, the racial and ethnic diversity of students on college campuses has not kept pace (Bok, 2006; Locks, Hurtado, Bowman, & Oseguera, 2008). For example, Latinos and Asian Americans are two of the fastest growing racial/ethnic populations in the United States, yet sub-groups within these populations lag behind on national measures of college access and success. Latino students are significantly less likely to attend a four year institution (Hurtado, Inkelas, Briggs, & Rhee, 1997) and specific sub-groups of Asian Americans (i.e., Cambodian Americans) have a dismal 6.9% graduation rate compared to the national average of 24% (Chhuon, Hudley, & Macias, 2008). While there are more individuals who identify as Latino or Asian American in the United States, still only a limited number are accessing higher education, and an even smaller number are graduating with a bachelor's degree. The funneling effect for minority races/ethnicities is prevalent within other racial and ethnic populations as well. Over 50% of African Americans will not complete their four-year degree,

compared to non-completion rate of 33% for their White peers (Berkner, He, & Cataldi, 2002). Filipino students, a subgroup of Asian Americans, are less likely to attend selective institutions in favor of community colleges that are closer to home and have a lower perceived financial burden (Teranishi, Ceja, Antonio, Allen, & McDonough, 2004). The changing demographic landscape of higher education illustrated in these simple examples requires research that is responsive to the complexities of today's college student population.

Higher education's researchers have spent a great deal of time understanding the factors that promote academic success. At a fundamental level, success is influenced by a group's academic preparedness, access to college, their perceptions of discrimination, and feelings of belongingness during their educational journey (Terenzini, Cabrera, & Bernal, 2001); however, these notions of success are not necessarily germane for illustrating the pathway to success for every student or group of college students. Differential undergraduate degree attainment for various demographic groups is a result of a complex array of factors. For racial minorities, access to college typically is riddled with more obstacles than their majority peers, and their feelings of belongingness and discrimination are significantly more negative, too (Museus, 2010). Thus, underrepresented minorities generally have lower levels of retention and degree attainment.

Retention and academic success for minority students is a recurrent problem that scholars of campus climate and sense of belonging have worked to understand. This study aligns with previous research by conducting an examination of sense of belonging across racial/ethnic groups, including variables for campus climate, demographic characteristics, and environmental measures. In better understanding the factors that develop one's sense of belonging, the hope is

to provide information that can directly and indirectly enhance rates of access for minority students (Nora & Cabrera, 1993).

The primary goal of this study is to understand what influences the development of sense of belonging across racial/ethnic groups of college students attending four-year higher education institutions. The next sections of this introduction overview existing campus climate and sense of belonging literature; detail the problem statement, purpose, research questions, and hypotheses; introduce the conceptual framework and key terms; and, discuss the significance of this study.

Campus Racial Climate

An institution's culture is ever-evolving while being simultaneously grounded in a rich, rooted legacy of its past, as well as the history of higher education and American society writ large. Toma, Dubrow, and Hartley (2005) explained that "the broadest norms, values, and beliefs that make up the substance of institutional culture, like community, are usually characteristic of higher education institutions generally—or at least to a particular institution type" (p. 59). Throughout the history of American higher education, researchers have developed specific and broad ways to assess campus culture and climate (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Hurtado, 1998, 1999). However, many contemporary scholars (e.g., Harper & Hurtado, 2007; Museus, 2010; Worthington, 2008) argue that the full range of benefits and challenges associated with a campus' unique climate are yet to be fully researched and realized. Worthington (2008) stated that "despite a vast array of research…very little attention has been given to the scientific validity or quality of that research, especially with respect to measurement and assessment issues that are the most fundamental aspects of scholarly inquiry" (p. 202). Comprehensive climate assessments of all students, faculty, and staff can be

traced to earlier research that examined differential climate experiences between gender (Hall & Sandler, 1982, 1984) and between Black and White students (Schuh, Jones, & Harper, 2010).

The campus racial incidents of the 1980s sharpened higher education's focus on race relations (Altbach, Berdahl, & Gumport, 2005). In 1992, Hurtado wrote: "The research on minorities in higher education is extensive, yet a surprisingly small number of empirical studies have focused specifically on campus racial climates" (p. 539). Since the early 1990s, the growing amount of scholarship devoted to the impact of campus racial climates has deepened college administrators' understanding that climate, across race, has an effect on persistence, satisfaction, involvement, and academic success (Gloria, Hird, & Navarro, 2001; Locks et al., 2008; Mendoza-Denton, Downey, Purdie, Davis, & Peitrzak, 2002; Park, 2009b). Racial climate studies often have served as a proxy to better understand the broader impact of diversity and multiculturalism on college campuses (Worthington, 2008).

Racial stratification and tension are directly influenced by exposure to prejudicial and discriminatory climates (Ancis, Sedlacek, & Mohr, 2000; Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Hurtado 1992, 1994). Students of underrepresented groups are more likely than White students to express feelings of discrimination, racial inequity, and social inferiority (Rankin & Reason, 2005; Worthington, Navarro, Loewy, & Hart, 2008). Ancis et al. (2000) found that White students consistently indicated more favorable views of the campus racial climate when compared to their African American, Latino, and Asian American peers at traditionally White institutions (TWI). Scholars have connected these findings to Tinto's (1987, 1993) earlier work on student persistence which points to full integration into the social and intellectual life of the campus as one of the key factors for persistence (Hausmann, Schofield, & Woods, 2007). According to Tinto's model, if students of color feel disconnected from their

campus environment (i.e., expressing feelings of dissatisfaction and lack of comfort with the campus racial climate), then they would be less likely than their White peers to persist. The differential in persistence rates between White students and students of color is well documented in the literature showing that White students generally persist and graduate at higher rates than their non-White peers (Reason, 2009). Accordingly, the feelings students of color have about their campus' racial climate affect not only their satisfaction but also—and arguably more importantly—affect their persistence and degree completion.

Sense of Belonging

Unlike broad measures of campus climate that often account for institutional- or group-level perspectives, sense of belonging is a construct that measures an individual's perception of his or her environment, or how much he or she feels comfortable and a part of the larger community. Although a number of scholars have incorporated measures of sense of belonging into their studies, the construct is not always measured similarly. In fact, Hausmann et al. (2007) called for:

> a more systematic study of one variable that has received sparse attention in existing studies of student persistence: students' sense of belonging to their college or university, defined as the psychological sense that one is a valued member of the college community. (p. 804)

Their study concluded that students' intentions to persist were described by two significant predictors, sense of belonging and institutional commitment. "These findings suggest that sense of belonging is an important but often overlooked variable in studies of student persistence" (p. 835).

Previous research demonstrates the important positive effect that strong feelings of belongingness can have for a student's transition to college (Pittman & Richmond, 2008). Students' perceptions of their environment can influence their behaviors and interactions with others. In particular, interactions and relationships with peers are related to how strongly students feel that they belong and their ability to interact with diverse peers (Meeuwisse, Severiens, & Born, 2010; Strayhorn, 2008). Sense of belonging also is dependent on interactions and mentorship with faculty and staff. Female students and students of color are common populations for which mentoring programs are designed (Jacobi, 1991; Nora & Crisp, 2007), but there is little empirical evidence regarding the efficacy of mentoring relationships on one's sense of belonging.

When students feel that they belong at a particular college or university, they are more likely to persist through to graduation (Hausmann et al., 2007). Sense of belonging is also connected with other key outcomes within higher education, including academic self-efficacy, intrinsic motivation, and task value (Freeman, Anderson, & Jensen, 2007). It is clear that sense of belonging is related to a number of student perceptions, behaviors, and interactions, but the literature is not conclusive regarding the strength of influence that factors like mentorship, socio-cultural discussions, on-campus involvement, or off-campus involvement has on one's sense of belonging.

Problem Statement

Previous researchers have revealed pervasive, significant relationships between campus climate (i.e., discriminatory climate), sense of belonging, and students' college choices, perceptions, behaviors, and actions; however, the existing research often confounds the distinctly different constructs of discriminatory climate and sense of belonging with each other (see, for

example, Rankin & Reason, 2008). Moreover, few studies have investigated the interplay between measures of discriminatory climate and sense of belonging (Hurtado & Carter, 1997) to see if the relationship suggests directionality or is potentially mediated by other factors within the college experience. Without this information, future research will lack the specificity necessary to advance the study of sense of belonging, relative to one's climate experiences, in ways applicable to specific populations of college students.

The constructs of discriminatory climate and sense of belonging are potentially dependent on one's inter- and intra-group interactions with others, but less is known about the types of interactions and collegiate relationships that support positive climates. Thus, research is needed to isolate the specific interpersonal relationships that college students experience (e.g., peer relationships and faculty/staff mentoring relationships) and measure students' ability to bolster feelings of belongingness; this is distinctly important for students of color who, compared to their White peers, consistently express lower levels of sense of belonging and higher levels of discrimination (Ancis et al., 2000; Suarez-Balcazar, Orellana-Damacela, Portillo, Rowan, & Andrews-Guillen, 2003).

The key questions this study seeks to explore and understand are:

> Compared to their White peers, do students of color have different levels of belongingness in college? If so, are there certain experiences (e.g., mentorship or types of involvement) and perceptions of campus climate that encourage a greater sense of belonging for students of color? Finally, are the experiences that promote belonging for students of color similar or different from their White peers?

Purpose of this Study

The purpose of this study was to explore potential direct or indirect relationships among discriminatory climate, structural diversity (i.e., compositional diversity), mentorship experiences, socio-cultural discussions, level of involvement on- and off-campus, and individual characteristics (e.g., gender, class standing, and socioeconomic status) and how these relationships potentially affect students' sense of belonging. To understand the individual and shared relationships among these multiple variables, structural equation modeling (SEM) was used. Informed by existing research and literature, the proposed model suggests directionality and a specific set of pathways towards the outcome of sense of belonging. The model tested a series of relationships simultaneously to explore significance of specific variable relationships relative to all other variables. The model was applied separately to White, Black, Latino, and Asian racial groups to explore unique findings associated with one's race. Previous studies (see, for example, Hurtado & Carter, 1997) only explore one racial group (i.e., Latino students); this study extends their work by including additional racial minority groups.

Research Questions and Hypotheses

This study is driven by the following research questions which will be tested using null hypotheses.

(1) What are the relationships among sense of belonging and (a) discriminatory climate, (b) mentorship, (c) sociocultural discussions, (d) on-campus involvement, (e) off-campus involvement, (f) structural diversity, (g) class standing, (h) gender, and (i) socioeconomic status?

(2) Do the observed relationships between the variables of interest differ across four racial/ethnic groups: (a) Black, (b) Latino, (c) Asian, and (d) White?

The following hypotheses will be tested in this study:

(1) Discriminatory climate will not predict scores on the sense of belonging scale.

(2) Mentorship will not predict scores on the sense of belonging scale.

(3) Socio-cultural discussions will not predict scores on the sense of belonging scale.

(4) On-campus involvement will not predict scores on the sense of belonging scale.

(5) Off-campus involvement will not predict scores on the sense of belonging scale.

(6) Structural diversity will not predict scores on the discriminatory climate or sense of belonging scales.

(7) Class standing will not predict scores on the discriminatory climate or sense of belonging scales.

(8) Gender will not predict scores on the discriminatory climate or sense of belonging scales.

(9) Socioeconomic status will not predict scores on the discriminatory climate scale.

(10) Race/ethnicity models will show no significant changes against the omnibus model.

Conceptual Framework

The conceptual framework for this study is built on a number of earlier studies and theories that focus on the behaviors and interactions that emerge from the interplay between individuals and their environments. Lewin's (1936) formula (i.e., one's behavior is a product of the interaction between the individual and the environment) is the foundation for explaining the dynamic nature of interactions that can occur between a college student and the campus environment. Other lines of interactionist theory and research complement the behavior-

outcome theory of Lewin, specifically Tinto's (1987) model of student departure which is a result of Spady (1970) and Durkheim's (Allan, 2005) earlier conceptual and empirical work.

The research and framework most similar to the approach of this study is Hurtado and Carter's (1997) model for sense of belonging. The authors used path analysis to test the relative relationships between transition, hostile climate, and students' sense of belonging. Like Hurtado and Carter, this study employed a hypothesized path analysis to test a framework of variables in order to understand the significance of variables' relationships with sense of belonging. Previous critiques of Tinto's (1987) work have argued that it suggests the need for minority groups to assimilate into the majority culture. Little research has explored sense of belonging for racial minority groups of students. Like Hurtado and Carter (1997) who tested a minority group (i.e., Latino college students) to test interactionist theories, the framework for this study also tested racial minority groups (i.e., Black, Latino, and Asian), in addition to testing the model for White students. The complete framework is presented at the end of Chapter 2.

Summary of Methods

This quantitative study used data collected through the web-based 2009 Multi-Institutional Study of Leadership (MSL), a cross-sectional, causal comparative design. The dataset includes 101 institutions with n=115,632 student respondents (34% response rate). For the purpose of this study, the sample was reduced to 115,852 after removing invalid cases. The purpose of MSL is to understand current aspects of college student leadership development, particularly how college students build their capacity for leadership. The MSL study includes variables for demographics, involvement measures, and scales for climate, belonging, mentorship, and socio-cultural discussions, among others. Structural equation modeling (SEM) was selected as the analytic technique since it allows researchers to test theoretically derived

models and is able to incorporate several exogenous variables with multiple pathways of influence (Hancock & Mueller, 2006).

Significance

Researchers have shown the effects of sense of belonging on a number of college student outcomes (Johnson et al., 2007), but little is known about the factors that contribute to one's feelings of belongingness on campus. While researchers have investigated the influence of sense of belonging on outcomes like persistence and transition to college (Hausmann et al., 2007; Hurtado & Carter, 1997), no existing studies have examined how facets of the college experience like mentorship, sociocultural discussion, and on- and off-campus involvement, as well as perceptions of discrimination collectively influence one's sense of belonging. This study provided a complex analysis of sense of belonging, accounting for demographic variables and constructs measuring specific interpersonal and intrapersonal interaction, in order to better understand which combination of factors has the strongest relationship with the outcome variable of interest for different racial groups.

This research was developed to extend previous studies of sense of belonging. Recent research using the MSL dataset for this study found that sense of belonging was the strongest predictor for changes in leadership outcomes and also found that discriminatory climate primarily influenced leadership outcomes as a pathway through sense of belonging (Campbell, Fincher, Fink, Zhang, Komives, & Dugan, 2011). This study helps clarify the distinct relationship and pathway between discriminatory climate and sense of belonging. If the other variables (e.g., individual characteristics, interpersonal interactions) act through discriminatory climate to explain changes in variance for sense of belonging, the findings then show the strong influence that perception of a discriminatory climate has on one's sense of belonging. On the

other hand, if individual characteristics, for example, have the strongest direct relationship with sense of belonging and are not mediated by discriminatory climate, then the findings challenge the previous research on these variables.

This research provides scholars and practitioners with a more complete understanding of which factors matter when trying to ensure that students feel like they belong. Because structural equation modeling (SEM) provides a framework to test different variables in various pathways, the results of this study show the interconnected, directional nature of the factors that most influence students' sense of belonging development. Sense of belonging is a prominent predictor for other outcome variables (Hausmann et al., 2007); knowing what predicts it adds a new layer of understanding to the experiences and perceptions of the college environment for undergraduates.

Definition of Key Terms

For the purposes of this study, a number of key terms will be used generally and need to be defined for clarity and consistency.

Campus Racial Climate – Informed by the work of Hurtado, Milem, and colleagues (1998, 1999, 2005), campus racial climate is inclusive of one's perceptions and actual experiences with discrimination and feelings of belongingness on campus. Campus climate includes interactions between individuals and groups of individuals, perceptions of the institutions' legacy of exclusion and current commitment to diversity, the composition of diverse individuals within the faculty, staff, and student populations, and the psychological dimensions associated with climate.

Discriminatory Racial Climate – Discriminatory racial climate is a measure of students' perceptions of and experiences with prejudice and discrimination against themselves and people

like them. The term includes specific instances of discrimination, as well as general feelings of prejudice within the campus environment.

Sense of Belonging – Sense of belonging is a perceptual measure, or how students feel about their value and acceptance. Sense of belonging assesses students' psychological fit within their campus community. Do they feel they belong? Are they and people like them valued at their school?

Conclusion

This chapter presented an overview of the constructs of campus climate and sense of belonging within higher education research. The primary problem presented by this study is that students of color generally have a lower sense of belonging compared to their White peers, suggesting different experiences and interactions. Accordingly, the purpose of this study is to test a model exploring sense of belonging for Black, Latino, Asian, and White students in order to understand the unique and shared experiences across race. Chapter one also included the specific research questions guiding the study, a conceptual framework, definitions of key terms, and the significance of the study. Chapter two will provide a thorough examination of literature relevant to college students' sense of belonging within their campus' climate. Informed by existing literature, chapter three will describe the design and methodology of this study.

CHAPTER 2: REVIEW OF LITERATURE

Chapter Overview

This study seeks to investigate sense of belonging and its relationship with measures of campus climate, mentorship, sociocultural discussion, involvement, and demographic characteristics. In this chapter, I detail the existing campus climate literature, including: (a) the evolution of climate research, (b) definitions of campus climate, (c) campus racial climate, (d) other demographic explorations of climate, and (e) measuring the construct. I then explore the body of research on sense of belonging within higher education, including: (a) transition to college, (b) interactions across difference, both peers and faculty/staff mentorship, and (c) connections with persistence research. Next, I outline studies that inform the conceptual framework for this study. At the conclusion of the chapter, I introduce the hypothesized path model for this study and explain how the components of the sense of belonging model are guided by theory and previous research.

Background of Higher Education and Inequality

United States higher education started as an educational pathway for White men headed for the clergy (Brubacher & Rudy, 2004). Today, over 6,500 colleges and universities are filled with more than 16 million students whose majors and involvement are as diverse as their family backgrounds and interests (Eckel & King, 2004). As the demographics of the United States become more diverse, so too does the composition of higher education's student body (Locks, Hurtado, Bowman, & Oseguera 2008).

For underserved populations, barriers within society (e.g., discrimination, racism, sexism, and classism) diminish opportunities for full and equal access to resources like higher education. Historically, minority groups' access and college choice process is more complex and more

limiting than that of the majority groups (Cabrera & La Nasa, 2000; Hossler, Braxton, & Coopersmith, 1989). For minority students who successfully navigate the college access and choice process, their acceptance to and attendance in postsecondary education is often met with great challenges. Consequently, the rates of academic satisfaction and success often are significantly lower for minority students than their privileged peers (Ancis, Sedlacek, & Mohr, 2000). Scholars within higher education have investigated these inequalities throughout the campus climate literature. To better understand how an individual's personal characteristics interact with the campus environment, researchers and scholars have developed extensive campus climate frameworks and measures (Hurtado, Milem, Clayton-Pedersen, & Allen, 1998, 1999; Milem, Chang, & Antonio, 2005, Milem, Dey, & White, 2004; Rankin & Reason, 2008) which have linked climate to student satisfaction, persistence, and academic success, as well as other cognitive and interpersonal outcomes (Milem et al., 2005). The following analysis, including the evolution and measurement of higher education's campus climate, underscores the powerful barriers that exist within society and postsecondary educational institutions for minority college students.

Evolution of Climate Research

The evolution of campus climate research is rather circuitous but can be traced along social movements, Supreme Court rulings, and educational policy reforms (Hurtado, 2006). The civil rights movement of the 1950s and 1960s noticeably increased the racial/ethnic diversity of students completing high school and attending post-secondary education (U.S. Census Bureau, 2003). Although campuses were admitting greater numbers of students of color, most institutions lacked intentional, integrative strategies to welcome and include these growing populations into the existing fabric of their campuses (Bonilla-Silva, 2001).

Like the rest of the country, college campuses were not immune to the resulting racial tension, explicit and implicit discrimination, race riots, and hate crimes post-1960s (Jackson & Heckman, 2002). In fact, some campuses appeared to be incubators for such racial conflict due to their significant, racist historical roots (Miller & Sujitparapitaya, 2010). "Early efforts to assess climate arose out of a need to attend to a myriad of campus diversity issues, most significant of which were recurring racial incidents that sparked media attention" (Hurtado, Griffin, Arellano, & Cuellar, 2008, p. 204). At that time, administrators simply were reacting to the issues that emerged on their campuses. The women's movement from the 1960s into the 1990s also encouraged a focus on climate for women; Hall and Sandler (1982, 1984) developed the often-referenced term "chilly climate" to describe the general experiences of women in- and out-of-the-classroom. Their work was advanced by other scholars who illuminated the differences in climate perceptions by gender with women feeling more isolated and uncomfortable (Morris, 2003; Woodard & Simms, 2000).

Throughout the last three decades, scholars in higher education have developed a more proactive approach to assess and promote strategies that support and strengthen diversity and the associated benefits (Altbach, Berdahl, & Gumport, 2005; Gurin, Dey, Hurtado, & Gurin, 2002; Hughes, 1990). From comprehensive high-school-to-college transition programs for underserved students to new curricular requirements that necessitate a deeper understanding of diverse perspectives, colleges have developed an expansive range of programs and services that seek to encourage a positive student experience for all students (Astin, 1993).

Affirmative Action

One key way that postsecondary institutions have developed a more compositionally diverse environment is through their admissions policies and practices that consider systemic

discrimination and injustice (Pike, Kuh, & Gonyea, 2007). In 2003, *Grutter v. Bollinger*, a hallmark Supreme Court affirmative action case, supported higher education's concern for attracting and retaining a diverse population of learners. This case stimulated a strong collection of research that demonstrates the educational benefits connected to a diverse student population (Long, 2007). In one study, Park (2009b) expressed her fear regarding the sustainability of race-conscious admissions:

> Despite the Supreme Court's affirmation of race-conscious admissions policies in *Grutter v. Bollinger*, the future of affirmative action remains uncertain. Following the decision, voters in Michigan passed Proposal 2, joining other states that have barred race-conscious admissions policies. Implicit within these rejections of affirmative action is a rejection of the concept that universities should take race into account in assembling a diverse student body. (p. 292)

The uncertainty of affirmative action generates a continual stream of research and debate on the perceived and real benefits of diversity (Long, 2007). Key scholars like Sylvia Hurtado (2006) argued that diversity is connected to one's ability to think more complexly and develop a greater social awareness. Hurtado's work emphasized diversity's benefits for White students and showed that students of color do not necessarily benefit in the same way as their White peers. Other scholars have reviewed outcomes connected to diversity (Gurin, 1999; Milem, 2003). For example, Antonio, Chang, Hakuta, Kenny, Levin, and Milem (2003) found higher levels of integrative complexity for students who indicated a racially diverse group of friends and classmates. Likewise, in a study of 1,963 law students, researchers found strong series of relationships between diversity and educational outcomes like cognitive openness and attitudes favoring equal opportunity (Gottfredson, Panter, Daye, Allen, Wightman, & Deo, 2008). The

previous examples suggest that a more diverse student body enters society better equipped to address systemic inequalities that perpetuate the barriers to equal access to higher education. While students benefit from diverse interactions, researchers (Antonio, 1998; Duster, 1991) have shown that students also tend to gather together with others of the same race/ethnicity when given the choice. Thus, campuses are becoming more compositionally diverse but students are not necessarily interacting with diverse peers if intentional programs are not present (Antonio, 1998; Duster, 1991; Park, 2009b). Inter- and intra-group interactions are not mutually exclusive and both should be considered when examining climate.

Current Climate Research

Although campus climate literature over the past 20 years has focused primarily on race/ethnicity and—to a lesser degree—gender, a growing body of scholarship is exploring additional demographic characteristics (such as sexual orientation, religion, and ability status) (Bryant, 2011; Huger, 2011; Rankin, 2005). Renn (2010) discussed studies of campus climate for LGBT students and noted that single-campus assessments for LGBT climate are now becoming standardized and broadly accessible due to technology. Higher education has lagged behind national studies of LGBT populations in K-12 education; although there has been a considerable increase in studies of the LGBT collegiate experience, critics have expressed that the studies essentialize individuals and their experiences and are not attuned to a deeper understanding of queerness on campus (Mayo, 2007; Renn, 2010).

Today's progressive campus climate research explores the complexities of multiple identities and intersectionality of different identities and how that influences climate. For example, Park (2012) examined how race and religion affect cross-racial interactions, and Hutchinson, Raymond, and Black (2008) observed differences across race, gender, and class year

in the study of psychological and behavioral climate dimensions. The evolution of campus climate research is complex and intertwined with socio-political and historical forces. This complexity also is apparent when trying to identify a unifying, common definition of the construct within existing literature.

Defining Campus Climate

Clarifying and isolating the definition of "climate" within higher education literature is challenging. As Rankin and Reason (2008) explained, **"**terms, such as environment, climate, and culture often are conflated or erroneously used interchangeably, calling into question the basic understanding of the topic, as well as the quality of assessment plans" (p. 263). Hart and Fellabaum (2008) produced the most extensive analysis to date of existing campus climate definitions. Their work included a content analysis of 118 climate studies to understand commonalities in design, definition, constituents assessed, and best practices. They note the first distinction that is often overlooked when defining climate is the difference between campus culture and climate – terms that have different meanings but are often used interchangeably within scholarship. Cress (2002) offers a succinct differentiation of culture and climate; culture involves a holistic viewpoint of the entirety of an organization whereas climate is tuned into the interpersonal interactions between individuals. Although Cress helped create a more nuanced understanding of climate-related terminology, her definition of climate failed to account for other dimensions of the institution and individual that influence experiences and interactions due to climate. A commonly cited framework for campus climate is Hurtado et al.'s (1998; 1999) studies which include an institution's historical legacy of inclusion/exclusion, compositional diversity, psychological dimensions, behavioral dimensions. Later, Milem, Dey, and White (2004) added organizational/structural dimensions to the framework, specifically

governmental/political forces and sociohistorical forces (Milem, 2005). Milem et al. (2005) expanded the framework to more explicitly consider factors like curriculum, policies, court decisions, and budgeting. While Hurtado and Milem's understandings of climate are more expansive and inclusive, "their definition is primarily concerned with race and students" (Hart & Fellabaum, 2008, p. 224).

After identifying the limitations of Cress (2002) and Hurtado et al.'s (1999) campus climate definitions, Hart and Fellabaum (2008) selected Peterson and Spencer's (1990) definition of campus climate because it was not specific to a certain demographic group and allowed for more flexibility than just interpersonal relationships. Peterson and Spencer organized their understanding of climate across three dimensions: (a) objective climate; (b) perceived climate; and (c) psychological or felt climate. Hart and Fellabaum's use of this definition fit with their research questions and the purpose of their study. However, where Peterson and Spencer's definition builds on more than just the interpersonal nature of Cress' definition, it falls short in addressing key factors like the historical legacy of inclusion/exclusion or sociohistorical forces found within Hurtado et al.'s (1999) framework.

The previous example highlights the complexities researchers regularly negotiate when defining campus climate for their studies, and it suggests that an all-encompassing definition of campus climate may not be the most effective, measureable approach. Instead, a more focused definition (e.g., campus racial climate or sense of belonging) may prove to be a more accurate, reliable method to understand an aspect of the climate. Rankin and Reason (2008) explained: "Although confusion exists, climate is normally understood to be an immeasurable construct comprised of multiple items that attempt to assess the 'prevailing attitudes [or] standards…of a group, period or place' (Webster's new universal unabridged dictionary, 1996)" (pp. 263-264).

In other words, campus climate serves as a broad theoretical framework to understand the host of considerations that comprise the construct, while measures like perceptions of discrimination or diversity within curricula are more exacting ways to approximate the construct and explain the broader climate. A more defined approach to campus climate has been through students' racial/ethnic experiences, and this study focuses on climate-related outcomes across racial groups. Thus, the next section uses Milem et al.'s (2005) framework to describe prominent studies of campus racial climate and diversity.

Campus Racial Climate

For this section, I provide an in-depth review of campus racial climate literature using the existing framework establish by Hurtado, Milem, and colleagues. Using the latest iteration of the framework (Milem et al., 2005), I organize the literature using the key elements of their empirical research, introducing additional studies that support or challenge the findings within the framework. After reviewing the campus climate literature for race, I then explore other demographic considerations relevant to climate research in higher education.

Emerging out of higher education's racial climate literature, Hurtado and colleagues (Hurtado et al., 1998, 1999) built a framework for understanding campus climate based on empirical research. Milem, Chang, and Antonio (2005) explained that:

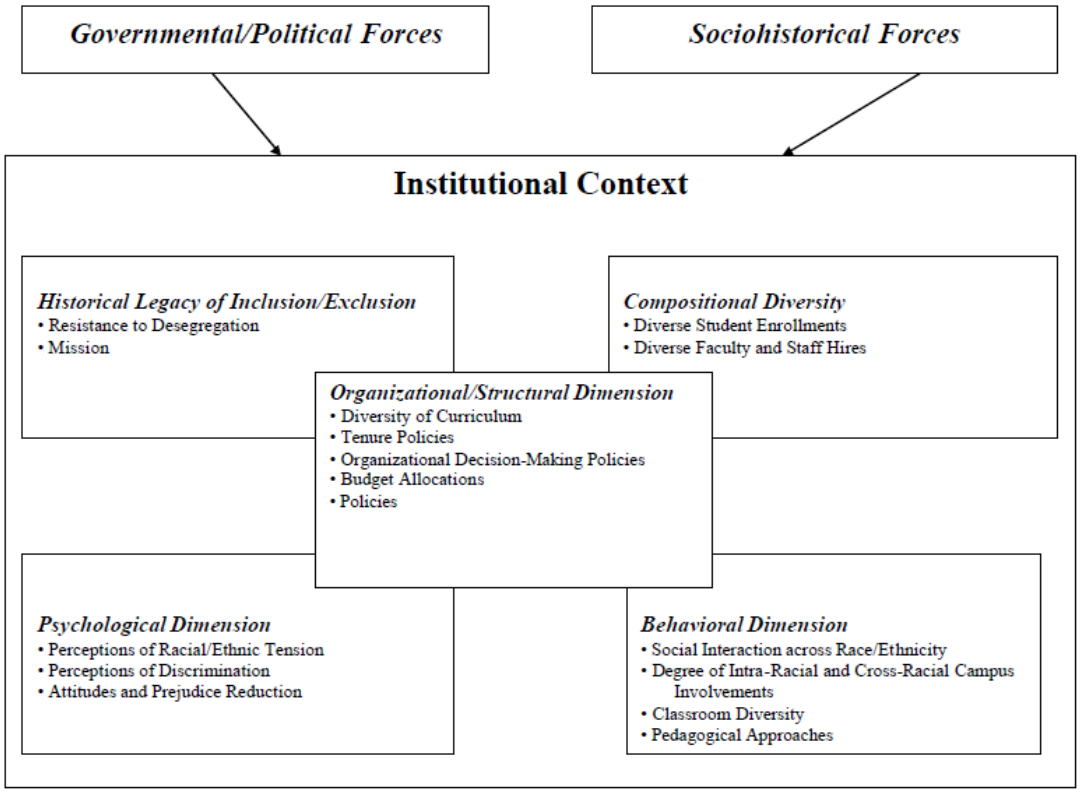
> Their framework for understanding campus racial climate is helpful for several reasons. First, it is empirical, drawing from the body of research on the impact of climate on student learning and development that was synthesized earlier. Second, the framework treats campus climate as a multidimensional phenomenon that is shaped by the interaction of internal and external forces. Third, the framework offers specific

> suggestions about how to improve educational policy and practice through the engagement of campus diversity. (p. 14)

Hurtado, Milem et al. (1998) described four elements contained in the construct of campus climate: (a) institutional history, (b) structural diversity, (c) psychological climate, and (d) behavioral climate. External forces that influence and shape the institutional context include governmental/political forces and sociohistorical forces, which include policy and legal actions such as affirmative action or changes in federal financial aid. Milem, Dey, and White (2004) offered an additional fifth element to be included in the model: organizational/structural dimension, including budget allocations, tenure policies and the like. Figure 2.1 is extracted from Milem et al.'s (2005) *Making Diversity Work on Campus: A Research-Based Perspective* and incorporates the complete model, including the fifth dimension.

Although designed specifically for racial climate, the framework offers the most holistic view of institutional climate. The framework will serve as the organizing outline for the next section of this paper which consolidates research and relevant literature that are connected to each of the key dimensions of campus climate, including but not limited to racial climate. The research on climate across race and ethnicity will be discussed first followed by the literature on other demographic groups (e.g., gender and sexual orientation). By doing this, one can see the strengths and gaps of the broader campus climate research through the lens of a robust, empirically-founded model.

Figure 2.1: Campus Racial Climate Framework



(Milem, Chang, & antonio, 2005, p. 18)

External forces: Governmental/Political Forces & Sociohistorical Forces

Institutions of higher education exist within a broader governmental context exhibiting forces that can alter the experiences of students. This can include financial aid policies, local and national actions regarding affirmative action, laws pertaining to higher education's desegregation, and the ways in which individual states organize their systems of public higher education (Milem, Chang, & antonio, 2005). Research on the effects of affirmative action (Long, 2007) and financial aid (Heller, 1999) show disparities between certain groups of students, particularly racial groups, yet the direct link to how those external influencers impact a

student's campus climate experience is still largely unknown. Questions like "how do state funding models influence campus climate measures for specific student populations?" or "does the campus LGBT community show a change in campus climate perception after state legalization of gay marriage?" have not yet been addressed empirically.

Other political, social, and governmental have not been directly connected to the climate experiences of college students. For example, the impact of *No Child Left Behind* and *Common CORE* has been examined within the K-12 classroom experiences, but little is known about its implications for access and student experience in college (Porter, McMaken, Hwang, & Yang, 2011; Yell & Drasgow, 2005). Similarly, the effects of the September 11 terrorist attacks are not fully understood within higher education's climate literature (GhaneaBassiri, 2010; Nacos, 2007). The subsequent discrimination of foreign students or looming concerns about safety have created new climate experiences that have not been directly tied to academic outcomes (Altbach, 2004).

Connecting student climate experiences with larger external forces helps consider and control for factors that are often excluded during a campus' climate analysis. However, it is unclear of the effects, both direct and indirect, that external influences place on the other five internal dimensions. The challenges associated with directly incorporating sociopolitical influences with a student's campus climate perceptions limit a researcher's ability to situate the student's experience within the broader context of society.

Historical Legacy of Inclusion/Exclusion

History has shown the evolution of higher education policies and practices that advantage some groups of people and exclude others. "The influence of an institution's legacy of inclusion or exclusion, for example, is largely unaddressed in campus racial climate survey research

because it involves more in-depth study of norms that may be embedded in campus culture, traditions, policies, and historical mission" (Hurtado et al., 2008, p. 206). For example, homogenous historically White fraternities have a storied history of excluding people of color, harassing homosexual men, and disrespecting women within their community (Syrett, 2009). Clearly, this is not indicative of all historically White fraternities on every college campus, but a legacy has created a perception, reduced some individuals and groups of individuals' desire to be involved, and created general skepticism of fraternal institutions (Borsari & Carey, 1999). The same can be said for entire colleges and universities, like institutions that were all-male until the 1970's or institutions with physical layouts that were in place before laws mandating accessibility for individuals with mobility needs (Scott, McGuire, & Foley, 2003). Institutions have changed to be more diverse and accommodating, yet explicit and implicit remnants of exclusion and discrimination are visible in the yearbooks, by the stories passed down by alumni, and within the lived experiences of students who perceive the campus based on their own history and background.

Because of the complexity of measuring an institution's legacy and the indirect nature of its effects, proxies like "measures that include student and faculty ratings of diversity-related institutional priorities (e.g., priorities to recruit more students or faculty of color)" (Hurtado et al., 2008, p. 206) are often used to quantify this dimension. For example, Antonio (2002) described earlier studies of faculty of color which emphasized institutional histories of racism and disproportionate workloads (see Turner & Meyers, 2000 or Turner, Myers, & Creswell, 1999). Furthermore, qualitative studies have emerged within the literature to connect histories of exclusion from student experiences to the inequities faced by faculty of color (Baez, 1998; Santos, Ortiz, Morales, & Rosales, 2007; Turner et al., 1999). While an institution's legacy

permeates every dimension of an institution's climate context, it has not been effectively isolated and measured by previous research and scholarship.

Compositional Diversity

Probably the most direct, often-mentioned measure when administrators seek to understand a campus' climate is the institution's compositional diversity (e.g., percentage of diverse students enrolled or the number of diverse faculty hires over a given amount of time). Milem et al. (2004) introduced "compositional diversity" to highlight the proportional nature of the measure and realigned "structural diversity" (originally used by Hurtado and colleagues (1998, 1999) to mean budgets, policies, and curriculum. In many cases, this is the sole climate assessment used to understand changes in diversity (Milem, 2004), and even then, those numbers are simplified in a way that does not paint a nuanced picture. Many institutions readily share improvements in percentages of minority students admitted and enrolled, but the retention and graduation rates for those students may lag significantly behind their majority peers, never to be willingly reported. Within the present literature, there is no apparent singular formula or set of measures commonly used to accurately and adequately share the full scope of an institution's climate through its compositional figures. Accounting for the percent of students of color on campus, applying diversity indexes (see, Gurin, Dey, Hurtado, & Gurin, 2002), or using an equity scorecard (see, for example, Bensimon, 2005) are all examples of institutional approaches to understand compositional diversity, but no one approach is universally used within higher education.

The last two decades of research on diversity associates a number of student outcomes with the campus' composition of diverse students, faculty, and staff (Chang, 1999, 2000; Gurin, 1999; Hu & Kuh, 2003). Gurin's (1999) examination of interactional diversity suggested that the

more heterogeneous a campus is, the more likely students will interact with peers from different backgrounds. Further, Gurin suggested that students who interact with diverse peers are more likely to do so again. Other empirical research has highlighted the connection between a campus' compositional diversity and the significant, positive influence a more compositionally diverse campus has on students' openness to diversity (Rudenstine, 2001; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001). Other documented benefits of a compositionally diverse campus include higher critical thinking abilities (Bowman, 2010) and a higher likelihood of addressing prejudice and discrimination within society (Palmer, 2001; Smith, Gerbick, Figueroa, Watkins, Levitan, Moore, Merchant, Beliak, & Figueroa, 1997).

Chang (2002) explained the assessment of diversity as preservation or transformation. Higher education institutions of preservation are those that intently focus on compositional diversity, which, as he asserts, fails to capture real changes in attitudes and beliefs on campus. Whereas higher education institutions of transformation account for compositional changes and include meaningful institutional changes. The latter of these two perspectives is tricky if not unfeasible to measure, but it reminds scholars that sheer numbers cannot alone account for advances or regressions in a positive campus climate for all students.

Psychological Dimension

The psychological dimension of the campus climate framework involves one's perceptions of belonging and attitudes (Berryhill & Bee, 2007; McDonald, 2002). Berryhill and Bee use the term *psychological sense of community* (PSOC) to describe the broad dimension. Their review of literature includes a number of variables that connect with PSOC. Students who express higher levels of PSOC are: usually women (Loundsbury & DeNeui, 1995), out-of-state residents, and earlier in their academic experience. Additionally, students who are more

involved have higher PSOC (DeNeui, 2003). Berryhill and Bee pointed to Loundsbury, Loveland, and Gibson's (2003) research that linked PSOC to individual's personality characteristics like extraversion and conscientiousness. Then, they asked the question if psychological sense of community is really not a community construct but rather a personality construct. This question of individuals' climate experiences are primarily due to their personality types is still unanswered in the current campus climate literature.

Other researchers have documented the impact of perceptions of tension and discrimination on one's psychological state (Ancis, Sedlacek, & Mohr, 2000; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Yosso, Smith, Ceja, & Solorzano, 2009). Yosso et al. (2009) looked at Latino students who navigated regular, intense racial assaults. The participants described that they felt like outsiders within their own university and simply did not belong. The researchers noted that their findings were focused on racial aggressions and not necessarily inclusive of analyzing other potential contributing variables like gender or age. The literature on psychological sense of community and general measures of psychological dimensions of climate demonstrates connections to critical factors like persistence, academic outcomes, and students' level of involvement on campus. The psychological dimensions of Milem et al.'s (2005) model are important because they include self-perceptions of students' climate experiences which is often omitted from other climate research.

Behavioral Dimension

Milem et al. (2005) described the behavioral dimension of campus climate to include social interaction across groups, intra-group and cross-group involvements, classroom diversity, and pedagogical approaches. Chang, Astin, & Kim (2004) noted that increases in racial heterogeneity increased the likelihood of more inter-racial interaction. Chang et al.'s research

demonstrates the connected nature of the dimensions of campus climate; without structural diversity, cross-group involvements would not be possible. Further, Milem and colleagues (2005) stated that "empirical research that examines student interactions reveals that students of color are much more likely than white students to report that they interact across racial and ethnic groups" (p. 17). While the benefits of intergroup interaction in higher education are most developed within the literature on race and ethnicity, interactions across differences in gender and other demographic characteristics at individual and group levels promote increased outcomes of leadership, ability to deal with conflict, and reduced anxiety interacting with others different from oneself (Dugan, 2006; Levin, van Laar, & Sidanius, 2003).

As Sigelman and Welch (1993) and Park (2012) explained, propinquity which is the physical or psychological proximity between individuals influences the likelihood of forming relationships. The closer individuals are, the more likely that they will form a relationship. Park pairs this concept with the idea of homophily, or "likes attract likes" (p. 6). Both of these factors influence the development of interracial friendships on college campuses. The opportunity to interact across race/ethnicity is minimized if the compositional diversity of a campus is rather homogenous (like many traditionally white institutions). This is compounded further by the idea that individuals tend to gravitate to other individuals who are most like themselves. The ideas of propinquity and homophily illustrate social forces that promote homogeneity which, in turn, promotes stratification, segregation, and ultimately a poor campus racial climate.

The research on regular interactions across demographic groups shows increases in a number of important outcome measures. The behavioral dimension of the framework attempts to understand the quality and complexity of interactions while the compositional dimension is a measure of quantity and makeup. Interracial friendships, particularly interracial roommates, are

positive predictors for a sustained behavior of developing relationships across race (Carmago, Stinebrickner, & Stinebrickner, 2009). Antonio (2004) found that within friendship groups, racial diversity had positive effects but only for students of color and not their White peers.

Organizational/Structural diversity

Funding decisions and organizational policies can influence a campus' environment. "The organizational/structural dimension of climate is reflected in the curriculum; in campus decision-making practices related to budget allocations, reward structures, hiring practices, admissions practices, and tenure decisions; and in other important structures and day-to-day 'business' of our campuses." (Milem, Chang, & Antonio, 2005, p. 18). Research on women faculty and faculty of color shows differences in hiring practices, as well as salary (Perna, 2005; Turner, Gonzalez, & Wood, 2008). Faculty members who are women or people of color generally have lower salaries and are less likely to be tenured at an institution (Morrissey & Schmidt, 2008). Some institutions develop targeted hiring strategies to recruit diverse faculty members to help counteract the institutional norm (Morrissey & Schmidt, 2008). The fact that institutions have to build additional policies and create separate funding structures for minority faculty illustrates to the broader community an investment while simultaneously showing their standard practices and policies still produce inequities that need adjustment.

The comprehensive approach to learning, or an institution's curriculum, is also connected to the larger campus climate. Mayhew, Grunwald, and Dey (2005) said, "findings provide specific guidance for moving toward a positive climate from the perspective of undergraduates, including the need to have a publically visible institutional commitment toward diversity goals and obvious reinforcement of these kinds of messages as embodied in the curriculum" (p. 408).

Said another way, students need to see institutional action and progress that is apparent and not simply in writing.

Administrators have shaped policies and programs to help advance stronger, intentional student interactions across race. One of the most promising practices for interracial friendship development is the random room assignment of individuals who are of different races/ethnicities living on campus (Shook & Fazio, 2008; Van Laar, Levin, Sinclair, & Sidanius, 2005). Van Laar et al. (2005) found that students indicated more positive attitudes toward other ethnic groups and had more friendships with students of a different races the earlier they were placed in an interracial campus residence. The researchers followed student participants over five years, starting before their first year, to test if Allport's (1954) (see also, Pettigrew, 1998) *contact hypothesis* supported or contradicted their findings. The contact hypothesis suggests that lack of exposure and exchange with others can perpetuate prejudice, and increased interaction can reduce hostility and bias. Van Laar et al.'s study supported the contact hypothesis, as did Shook and Fazio's (2008) study. Shook and Fazio followed White students who were randomly paired with either a White roommate or an African American roommate. Participants who lived with African American roommates reported less involvement with their roommate and lower satisfaction, yet their intergroup anxiety and racial attitudes became more positive over the course of the year. Thus, institutions that are more structurally diverse are more likely to increase opportunities for interactions across race that ultimately promote more positive racial attitudes.

While racial discrimination and tension create angst and even fear on college campuses, racial diversity advances the critical outcomes of learning and citizenship. "Campus communities that are more racially and ethnically diverse tend to create more richly varied

educational experiences that enhance students' learning and better prepare them for participation in a democratic society" (Milem et al., 2005, p. 6). Building a stable, supportive racial climate fosters collective self-esteem for underrepresented groups (Luhtanen & Crocker, 1992), strengthens students' sense of belonging (Hausmann et al., 2007), increases involvement of all students (Fischer, 2007), and improves persistence and degree attainment for students of color (Mayo, Murguia, & Padilla, 1995; Guiffrida & Douthit, 2010). Positive campus racial climates also promote broader perspective taking. As discussed by Milem et al. (2005):

> Increasing the compositional diversity of a campus by increasing the representation of students from various racial and ethnic groups leads to a broader collection of thoughts, ideas, and opinions held by the student body, and this in turn increases the probability of exposing a student, irrespective of his or her race and opinion, to a wider range of perspectives on a particular issue. (p. 7)

Positive outcomes associated with interactions across race are documented within higher education's research. The previous sections have detailed empirical findings relative to race/ethnicity. The next section extends the work of Hurtado, Milem, and colleagues within other demographic characteristics. While this study will focus primarily on differences across race and ethnicity, studies regarding climate and belonging for other demographic groups (e.g., gender, sexual orientation) can bring forward additional variables to consider within this study.

Other Demographic Characteristics and Climate

While campus climate research is predominantly focused on race and ethnicity, scholars have also investigated the impact campus climate has on gender, sexual orientation, religious affiliation, and ability status, among others. While these distinct pockets of literature are underdeveloped, much of the research still highlights the differences in experience based on

being a member of the majority group versus a member of a minority group (Love, 2009). Campus climate research that is not based on racial groups is primarily concerned with one's perceptions of discrimination, as explained in the next sections on gender, sexual orientation, religion, and ability.

Gender

Hall and Sandler (1982, 1984) started an intentional examination of women's experiences within the college classroom as well as outside of the classroom. Their work is best known by their phrase "chilly climate" which they coined to describe the lack of support and environmental barriers that women subtlety and explicitly face on campus that are not present for their male peers. Since Hall and Sandler's early work, additional scholarship has pointed to negative issues that women face on college campuses (Allan & Madden, 2006; Foster & Foster, 1994; Whitt, Edison, Pascarella, Nora, & Terenzini, 1999), and while much of the findings are based off female students' experiences inside the classroom (Allan, 2002; Banks, 1988; Canada & Pringle, 1995), some research has looked at the broader campus climate for women (Henry & Nixon, 1994).

Various types of harassment have created negative climate experiences for women within higher education. Women who experience higher rates of any type of harassment indicate significantly lower evaluations of the campus' climate (Cortina, Swan, Fitzgerald, & Waldo, 1998). More specifically, women who experience sexual harassment during college can experience psychological stress (e.g., depression and anxiety), challenges establishing social networks, and difficulty forming their sexual and vocational identities (Huerta, Cortina, Pang, Torges, & Magley, 2006). Whether college women observe or experience harassment due to

their gender, they are less likely to participate in the academic environment and are less likely to establish new peer relationships (Dansky & Kilpatrick, 1997).

Today, women are the dominant gender enrolling in postsecondary education (Cho, 2007). Even with these increasing numbers and undergraduates, female college students still have lower confidence (Betz, 1994; Hackett, Betz, Casas, & Rocha-Singh, 1992) which in part is due to fewer female faculty members (Perna, 2005), particularly in the sciences (Ceci, Williams, & Barnett, 2009). Women's confidence and advancement into the top ranks of the academy lags behind their growth in percentage attending college, yet another remnant of how the legacy and historical oppression of women is not a dimension of the climate that can be altered swiftly. Since numbers do not necessarily equal power, the real effects of the legacy of gender discrimination will be felt long after the number of women attending college equaled that of men.

Sexual Orientation

Campus climate research for the lesbian, gay, bisexual, and transgender (LGBT) community has emerged over the last two decades (D'Augelli, 1992; Evans & Broido, 2002). Rankin (2005) shared that "sexual-minority students on college or university campuses encounter unique challenges because of how they are perceived and treated as a result of their sexual orientation, gender identity, or gender expression" (p. 17). In general, sexual minorities report lower satisfaction with the campus climate (Brown, Clarke, Gortmaker, & Robinson-Keilig, 2004; Slater, 1993) and experience more instances of harassment and aggression while in college (Berrill, 1992; Waldo, Hesson-McInnis, & D'Augelli, 1998), compared to their heterosexual peers.

Rankin's (2003) study of the experiences of LGBT students, faculty and staff, their perceptions of climate, and their perceptions of institutional response is the most extensive research documenting the distinctive experiences of the population. Rankin showed that over one-third of 1,669 participants faced some type of harassment throughout the course of the academic year. The primary source of the harassment came from students on campus (over two-thirds of identified harassers). Over half of the respondents did not share their sexual orientation for fear of negative consequences; three-quarters of respondents explained their campuses as homophobic; and, 41% said their institution was not doing an adequate job addressing issues of sexual orientation (Rankin, 2003, 2005). Other researchers (e.g., Tomlinson & Fassinger, 2003) confirm the heightened levels of discrimination within this population and have attempted to understand how campus climate influences outcomes like career development and identity development. Tomlinson and Fassinger's (2003) study concluded that "the relationship between lesbian identity development, campus climate, and vocational development is complex and as of yet, incompletely understood" (p. 859). Their study is an example of how little is still known about the effects of campus climate on understudied populations like LGBT students.

Religion

There is a dearth of literature that connects campus climate to one's religious beliefs and affiliation (Stamm, 2003). Bryant (2008) stated that "the campus climate of colleges and universities has been studied extensively in recent years…yet, dimensions of religious and ideological diversity have been largely absent from the extant research literature" (p. 2). Bryant pointed to the body of research on racial and gender climates to suggest that scholars examine: (a) structural religious and ideological diversity, (b) religious and ideological conflict, (c) perceptions of prejudice and discrimination on the basis of religion/ideology, (d) forms and

freedom of spiritual expression in and out of the classroom, (e) quality of interactions with peers and faculty around religious and spiritual issues, and (f) attitudes about religious/ideological differences and commonalities.

Bryant (2011) published empirical evidence documenting how college students develop their ecumenical worldview, which is also a measure of pluralistic competence. Her structural equation model of 14,274 college students showed contact with challenging co-curricular experiences (measured by items like involvement in religious organizations and with friends who shared similar and different views or going on a religious mission trip) and academic encounters (measured by items like faculty serving as spiritual role models or faculty encouraging personal expression of spirituality). Additionally, Bryant discussed that students who sense a warm spiritual climate have a greater sense of self-expression and feel fewer religious/spiritual struggles. However, a more positive spiritual climate shows a reduced ecumenical worldview suggesting that a stable, warm climate likely does not create struggle (i.e., cognitive dissonance) which promotes perspective taking and critical thinking (2011). Similarly, interactions across religions and political views increase perspective taking and critical thinking (Bowman, 2010; Pascarella, Palmer, Moye, & Pierson, 2001).

A review of literature on religion and spiritual climate underscores a noticeable gap in research in order to understand the full context and power of a campus climate. Bryant's work suggests potential for linking religious campus climates with deeper spirituality and a more refined ecumenical worldview, which can ultimately elevate one's ability to understand diverse perspectives and become more critical of the world around them.

Ability

College students with a broader range of ability are entering postsecondary education. Huger (2011) highlighted that "students with disabilities are entering college at increasingly high rates due to legal mandates, sophisticated assistive technology, and improved access to educational accommodations" (p. 3). While access has increased, the climate for students with disabilities is more negative compared to the experiences of their peers without a disability (Katz, Huss, & Bailey, 1998); and, students with disabilities graduate at rates significantly lower than their peers without a disability (Bruck, 1987; Durlak, Rose, & Bursuck, 1994; Sitlington & Frank, 1990). Several scholars and practitioners articulated the need to develop welcoming, supportive climates for this population (Fine & Asch, 1988; Jones, 1996), but there is little to no empirical evidence to demonstrate the unique needs of this population in addition to how students with a disability benefit from a positive climate (e.g., increases in cognitive complexity, stronger relationships with peers and faculty, higher rate of retention). Similar to the previous section on religion, the evidence for connections between a student's ability status and climate is underdeveloped (Taylor, 2011). Students with disabilities are often a *forgotten minority* (Henderson, 1999), and research in other areas, such as race and gender, suggests that non-majority members have more negative climate experiences which can lead to lower rates of persistence, involvement, and success. Further, students' demographic characteristics can intersect (e.g. a student of color who is lesbian) to create more complexities in understanding climate experiences for college students.

Summary of Demographic Characteristics and Climate

Extant empirical research on campus climate specific to race and gender is more fully formed than other demographic characteristics like sexual orientation, religion, and ability status.

Taken together, these areas illuminate the general trend that minority group members have more negative perceptions and experiences within the climate on their campus. Further, negative feelings and incidents can produce unfavorable changes in student's academic and personal outcomes (Fisher, 2007; Locks et al., 2008). While many climate studies are focused on a particular population of college students (see, for example, Hart & Fellabaum, 2008), some research has approached the measurement of climate from a more macro perspective. Measuring feelings and perceptions for a diverse group of college students is challenging to do. The next section explores how previous research has measured college climates.

Measuring the Construct

Climate is a broad construct that is not measured uniformly within higher education. This section highlights approaches to measuring climate from the broadest viewpoint. Worthington (2008) supported this saying, "Given the complexity of institutions of higher education, as well as the intricacy of the concept of diversity, the study of campus climate can seem overwhelming and laden with significant challenges" (p. 202). Worthington further explained that there is little scientific validity for measures of campus climate; bias exists within current measures because most data are self-reported; and the dearth of qualitative approaches does not allow for proper assessment of construct quality (2008). Some studies have emerged that analyze the climate construct with multiple combinations of variables at the individual- and institutional-level. For example, Hurtado and Carter (1997) developed a complex, robust factor analysis including constructs of ease of transition, hostile climate, sense of belonging, gender, selectivity, and academic self-concept. In this study of Latino students, Hurtado and Carter found that ease of transition, hostile climate, and sense of belonging explained 6%, 28%, and 25% of the model's variance respectively. Taken together, climate measures of hostile climate

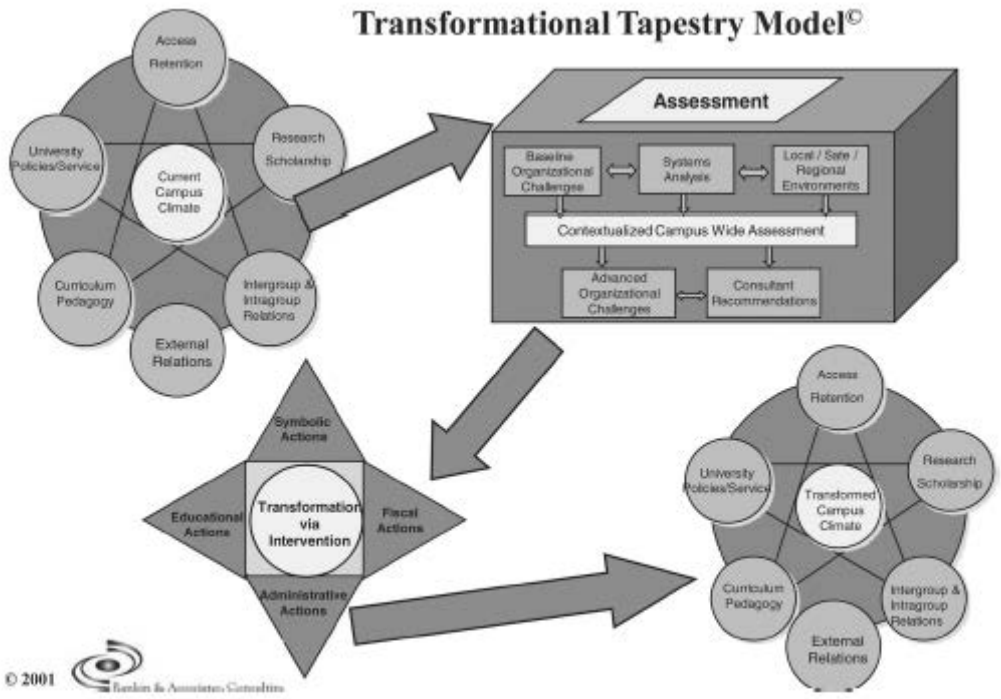
and sense of belonging explain over half of the model's variance, which directly influences Latinos' ease of transition and cognitive mapping while indirectly influencing academic self-concept. Hurtado and Carter's use of two separate climate constructs, sense of belonging and hostile climate, provided the opportunity to assess the construct from a multiple angles, an approach that has been replicated by later research (Hurtado & Ponjuan, 2005; Mounts, 2004). Hurtado and Carter's research relied on constructs that are based on psychological components of climate and measured with positive items (i.e., sense of belonging) and negative items (i.e., hostile climate) to create their model to measure climate.

Hutchinson, Raymond, and Black (2008) looked at factorial invariance of campus climate measures across race, gender, and student classification. Their instrument contained measures of faculty support, university commitment to diversity, race- and gender-based relations, climate for diverse groups, unfair treatment, experiencing insensitive remarks and materials, and fair treatment. Again, like Hurtado and Carter (1997), Hutchinson et al. developed measures that consider positive and negative sides of climate, including variables of race/ethnicity, gender, religion, ability status, age, sexual orientation, and socioeconomic status. Findings indicated that the same measures significantly differed across demographics. Hutchinson et al. discovered that "campus climate is not being measured in an equivalent way for undergraduate males and females, students of different racial groups, and graduate versus undergraduate students" (p. 245). The nonequivalence of factor loadings across these demographics indicates that responses do not have the same value across groups. Their study reminds researchers to test for non-equivalence and to account for, as much as possible, sample heterogeneity within the research design.

Much campus climate research design is driven by Hurtado et al.'s (1998; 1999) campus racial climate framework (Milem et al.'s, 2005). Prior to that framework, campus climate research did not necessarily account for an institution's legacy or external forces. Today's scholarship is more comprehensive due to Hurtado and Milem et al.'s encompassing framework. Arguably, studies that solely examine perceptions or only account for compositional diversity should not claim to be a campus climate assessment, because they fail to interconnect the compounding variables shown to be influencers and outcomes of a campus' climate (e.g., faculty tenure processes, governmental policy, and an institution's mission) (see Hurtado et al., 1998, 1999; Milem et al., 2005).

One promising model that integrates climate assessment, planning, and intervention is The Transformational Tapestry Model (Rankin & Reason, 2008). The model was developed to help campuses lead climate assessments that are relevant and responsive to their particular communities. Figure 2.2 shows the model which includes measures of access/retention, curriculum/pedagogy, external relations, policies, research, and group relations to measure the current campus climate. The assessment process outlines a campus wide assessment plan that feeds into recommendations for action and transformation. Transformation includes financial, administrative, educational, and symbolic changes. Ultimately, the interventions create a transformed campus climate that can be measured and benchmarked against the campus' original metrics. Unfortunately, there are no published details regarding the implicit metrics of the model. The Transformational Tapestry Model seemingly is the most complete approach to looking at campus climate, including but not limited to racial climate, with the intent and ability to create positive, systemic change.

Figure 2.2: Transformational Tapestry Model



(Rankin & Reason, 2008)

Measuring climate is an exacting process to understand an omnibus construct. Examining the collective research on campus climate (including hostile climate, sense of belonging, campus environment, campus racial climate, and diversity climate) does not produce a clear pathway to measure and assess this holistic construct. The Transformational Tapestry Model provides some clarity to that path, but without knowing the specific measures within the various stages of the five-step model, it is premature to suggest that the model is the best way to measure the campus climate construct.

Campus Climate Summary

Campus climate and, more specifically, campus racial climate are complex constructs that have been measured and assessed by a number of scales and frameworks. As a whole, the empirical climate research emphasizes the idea that one's climate perceptions are a result of personal characteristics, previous experiences, and real and perceived feelings of support or discrimination. Milem et al.'s (2005) campus climate framework is a robust structure to understand an institutional-level assessment of climate, but it is not an exacting approach to estimating individuals' perceptions within that institution. To dig deeper into an individual-level perspective on the campus environment, the next section of the literature review considers various facets of sense of belonging scholarship.

Sense of Belonging

Research on college students' sense of belonging has garnered more attention over the last decade (Johnson et al., 2007). The next portion of the literature review will provide a general overview of the sense of belonging literature. Then, I will describe the connections between sense of belonging with one's transition to college, peer relationships, interactions across difference, faculty/staff mentorship, and general persistence through college.

Overview

Humans have a basic need for belonging to others, groups, and surrounding environments (Hagerty, Williams, Coyne, & Early, 1996; Kohut, 1977; Maslow, 1962). Whereas campus climate can be explained as a measurement of distinct institutional dimensions, sense of belonging can be described as a measure of fit between individuals and those institutions. In Maslow's (1954) hierarchy of human needs, belonging (e.g., love, family, friendship) is third to safety (e.g., security of property and resources) and physiological needs (e.g., breathing, food,

and water). Without a strong sense of belonging, Maslow's theory of needs would suggest that one's esteem and self-actualization could not be fully realized.

A close examination of the last six decades of literature related to one's belonging does not produce a clear approach to appropriately measuring belongingness and its attributed effects. Hagerty et al. (1996) and Hausmann et al. (2007) called for more systematic consideration of sense of belonging since it appears to be a critical component to how one develops and maintains relationships with others and to how one feels valued within a given community. Like campus climate, sense of belonging lacks an agreed upon definition. Anant (1966) described belonging to mean a "sense of personal involvement in a social system so that persons feel themselves to be an indispensable and integral part of the system" (p. 21). Anant's research began a strong line of inquiry within the psychiatric and nursing scholarship to understand how feeling valued and connected to a community can support one's physical, spiritual, and psychological health (Jordan, Kaplan, Miller, Stiver, & Surrey, 1991; Kestenberg & Kestenberg, 1988). Generally, individuals who feel they belong, either measured locally or globally, have more positive relationships with peers and romantic partners (Hagerty et al., 1996). Similarly, sense of belonging is higher for those individuals involved in community activities who also have lower levels of depression, anxiety, and loneliness.

In higher education scholarship, sense of belonging's definition is analogous to definitions found in other disciplines. Students' sense of belonging is "their psychological sense of identification and affiliation with the campus community" (Hausmann, Ye, Schofield, & Woods, 2009, p. 650). Hausmann and colleagues aligned their definition with an earlier study by Hurtado and Carter (1997), and, like the nursing literature, higher education research has shown lower levels of stress, suicide intentions, and loneliness for students who have good perceptions

of campus climate (Baumeister & Leary, 1995; Freeman, Anderman, & Jensen, 2007). The study of sense of belonging within higher education has broader connections to outcomes that are not solely psychological (e.g., transitions, intentions to persist, actual persistence, social integration, and specific measures of efficacy) that have not been measured within other disciplines (Bowman, 2010; Cabrera, Nora, & Castaneda, 1993; Maestas, Vaquera, & Zehr, 2007).

Sense of belonging has been described in different ways by different scholars. Bollen and Hoyle (1990) studied perceived social cohesion, which was an extension of psychology literature focused on social cohesion and its effects on task performance, group therapy, and interpersonal relationships, among others (Durkheim, 1951; Festinger, Back, Schachter, Kelley, & Thibaut, 1950; Helmreich, Bakeman, & Scherwitz, 1975). Bollen and Hoyle offered this definition of perceived cohesion: "Perceived cohesion encompasses an individual's sense of belonging to a particular group and his or her feelings of morale associated with members in the group" (p. 482). This definition encompasses the construct of sense of belonging and also includes one's morale due to group association. Their study tested the two factors of sense of belonging and feelings of morale to explain social cohesion, explaining most between-group differences. The authors found high degrees of correlation between the two factors but explained them to be conceptually different. The two have direct effects on one another, but in certain circumstances they act differently; for example, the authors explained that a family surviving a natural disaster could have high levels of sense of belonging with their family, yet very low morale.

Hurtado and Carter (1997) measured sense of belonging by asking to the extent students felt they were a "member of the campus community," "part of the campus community," and had

a “sense of belonging to the campus community.” These items were extracted from Bollen and Hoyle’s (1990) study and were subsequently used in Hausmann et al.’s (2007) examination of sense of belonging. The three items had high factor loadings (α = .99, .91, and .93) in Hurtado and Carter’s study and high internal consistency with a Cronbach’s alpha of .94. Factor loadings and reliability were not reported in Hausmann et al.’s study.

Bowman (2010) used psychological well-being (PWB) to understand the transition and developmental needs of first-year students. Where sense of belonging is relative to the campus environment and influences dropout decisions, Bowman explained PWB as relevant to all contexts and life transitions. Other scholars have used well-being as a proxy for measuring one’s belongingness, positive relations with others, positive feelings about oneself, and having a sense of purpose (Gloria, Castellanos, Scull, & Villegas, 2009; Iwamoto & Liu, 2010; Loundsbury & Deneui, 1996). Like other studies, the researchers showed differential effects on outcomes like persistence, identity salience, and race-related stress based on changes in psychological well-being.

While sense of belonging has been considered under a variety of terms and measures in existing higher education literature, most studies include items of how closely one feels to others in an environment, how connected they feel to the entire community, and how they would describe their perceived membership within groups and the community. The next sections examine particular areas within higher education’s sense of belonging literature, including transition to college, peer relationships, interactions across difference, faculty/staff mentorship, and persistence. Each of the following sections explores the potential relationships that happen within and across groups as well as their relative contributions to one’s affiliation to and connection with a greater community.

Transition to college

The transition to college can be a challenging process for undergraduate students. Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, and Jalomo (1994) explained that students must feel validated throughout that transition, particularly by feeling welcomed into different community and cultural environments. Other researchers have demonstrated that this is especially important for students of color attending traditionally white institutions who tend to report lower levels of satisfaction and belonging compared to their White peers (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Hurtado, 1992; Johnson et al., 2007; Locks et al., 2008). Some studies on students of color have found that lower sense of belonging is connected to other components of the college experience. For example, in their study of first-year undergraduates from different racial and ethnic groups, Johnson and colleagues (2007) found that African American, Hispanic/Latino, and Asian American students reported significantly lower sense of belonging than White/Caucasian students. Contributing to these groups' sense of belonging were the social dimensions of transition to college, the social environment of their residential living, and their campus racial climate perceptions.

The overall sense of belonging to one's campus environment can affect other critical perceptions and behaviors during the transition and first year of college. Pittman and Richmond (2008) studied the transition for freshman college students at a regional state university. The 21 men and 58 women in the study were surveyed at two time points, one at the beginning of the fall semester and the other in the spring semester. Positive changes in university belonging correlated with positive changes in self-perceptions (e.g., self-worth) and reductions in internalization of problem behavior. In a broader study of nineteen colleges and universities, Bowman (2010) explored the background, pre-college experiences, and college experiences that

influence first-year students' psychological well-being (PWB). Research on PWB is typically focused on specific adjustment processes (Bowman, Bradenberger, Hill, & Lapsley, 2011), like developing a sense of belonging; Bowman's research on PWB is inclusive of sense of belonging in its measurement of a host of other transition processes, too (e.g., adjustment from home, adapting to new cultural norms). The study yielded 3,081 students who completed the survey at two time points, one at the beginning of freshman year and the second at the end of freshman year. The researcher found that "being female, Latino/Hispanic, traditional age, and having high academic achievement and aspirations are associated with greater PWB upon entering college" (p. 193). Additionally, gains during college can be attributed to non-first generation status, older age, and higher academic achievement. College experiences that were found to produce higher PWB were: (a) positive experiences with diversity, (b) interactions with faculty, (c) in-class challenge, and (d) meaningful social interactions with other students. Significant decreases in PWB were explained by: hostile or negative interactions with others on campus and drinking alcohol.

Peer relationships

Bowman's study highlights a number of factors that strengthen one's psychological well-being, and in his implications for practice, he highlights the critical role that quality peer relationships play across many dimensions of the collegiate experience. Other researchers also have emphasized the power of peers during college developmental processes. People are a significant component of the higher education environment. For college students, their peers are a group that receives a significant amount of their time and attention. Astin (1993) explained that one's peer group "is the single most potent influence on growth and development during the undergraduate years" (p. 398). Students see themselves in their friends and roommates; peer

groups create a feeling of membership that helps normalize new, challenging experiences (Johnson et al., 2007). Several existing studies support Astin's assertion regarding the critical effect of peers (Hoffman, Richmond, Morrow, & Salomone, 2002; Hurtado, Griffin, Arellano, & Cuellar, 2008; Meeuwisse, Severiens, & Born, 2010; Strayhorn, 2008).

Hurtado et al. (2008) provided a rather comprehensive synthesis of the progress and future of climate assessments using Hurtado et al.'s (1998) elements influencing the climate for racial/ethnic diversity. The behavioral dimension of their model is based on both informal and campus-facilitated interaction with others. Hurtado et al. (2008) highlighted a number of studies that link one's connection to a broader, diverse community to increased interactions with diverse peers (Chang, 1999; Saenz, 2005; Pike & Kuh, 2006). Strayhorn (2008) in his study of Black men at predominantly white institutions found that "African American males who interacted with diverse peers reported higher levels of sense of belonging than those who did not interact with diverse others" (p. 513). Meeuwisse et al.'s (2010) study of ethnically diverse student groups supported the findings of previous research; ethnic minority students felt more "at home" when they indicated good formal relationships with fellow students and teachers. For majority students, informal relationships with fellow students were the primary indicator for a higher level of sense of belonging. Although the formality of the relationships differed, both groups valued relationships with peers as a means to enhance their belongingness on campus.

For college students, peers can be a large source of support for feeling that they belong and fit within their educational environment (Eccles & Midgley, 1989; Freeman, Anderson, & Jensen, 2007). Based on their study of college freshman, Freeman et al. (2007) suggested that institutions can enhance students' developmental needs as well as their fit within the educational environment by facilitating peer interactions that help students explore others' opinions and

identities. In an earlier study, Hoffman et al. (2002) found that students' "perception of 'valued involvement' appears predicated on…establishing functionally supportive peer relationships…" (p. 251). The authors defined functional to mean relationships that directly support students as they face challenges and changes in their new environments. The researchers developed a five factor sense of belonging instrument within their study. The five factors (Perceived Peer Support, Perceived Faculty Support/Comfort, Perceived Classroom Comfort, Perceived Isolation, and Empathetic Faculty Understanding) explained a total of 63.3 of the observed variance among 25 items. Perceived peer support explained the majority of that variance (38.8%) with the other four factors only explaining between 4.2-9.0% of the remaining variance. Hoffman et al.'s study demonstrated the vital role that peer interactions and relationships play in one's need for support and connection during college.

In summary, peer relationships are essential to the development of one's sense of belonging within the collegiate environment. Interactions with peers promote satisfaction, increase participation in academic experiences, reduce feelings of isolation, and build a general sense of belonging. These findings are amplified when students have the opportunity to interact with others who come from different genders, races, religions, or cultures.

Interactions across Difference

As illustrated in the previous section, many of the studies on peers and sense of belonging underscore the importance of interactions and relationships across difference, specifically across racial or ethnic differences (Meeuwisse et al., 2010; Strayhorn, 2008). The body of scholarship for interactions across difference generally shows higher gains in cognitive complexity, multicultural awareness, reduced intergroup anxiety, and more interracial friendships (Shook & Fazio, 2008; Van Laar et al., 2005). Non-majority students who perceive their campus

environments as negative or hostile are less likely to interact with others who are of different races/ethnicities and have a more negative sense of belonging (Hurtado & Carter, 1997; Reid & Radhakrishnan, 2003). Other studies contradict these findings, showing perceptions of discrimination did not predict sense of belonging for Chicano students or first-year Hispanic students which does not limit their interactions with peers who are racially or ethnically different from them (Johnson et al., 2007; Velasquez, 1999).

Understanding the true impact of diverse peer interactions has been a challenge within existing literature. More recent work has looked at positive and negative campus racial interactions (see, for example, Yosso et al., 2009, or Saenz, 2010 for the negative influences of racial microagressions). While scholars have established that more diverse interactions occur when there are higher rates of demographic diversity, there has not been a comprehensive understanding of the quality and frequency of interaction across difference (Hurtado et al., 2003). In their review of existing empirical literature on college environments, diversity, and student learning, Hurtado et al. (2003) were unable to conclude that students experience greater educational outcomes due to interactions with peers who are different from themselves since previous research did not control for other factors (e.g., institutional types, length of interaction, ages of peers). Hurtado et al.'s findings suggest that a closer look at the power of peers is important to consider, particularly how different types and qualities of interaction can shape outcomes like sense of belonging.

Other than race and ethnicity, there is an absence of literature that looks at interactions across other demographic difference (e.g., gender, religion, ability status) to see how that might influence one's sense of belongingness. While extant studies include and control for the aforementioned demographic variables, none examine the interactions that peers have across

religious or political viewpoints, for example, and how those conversations across differing perspectives shape belonging in distinct ways.

Faculty/Staff Mentorship

Formal and informal relationships with faculty/staff have been studied for their effects on satisfaction, persistence, and academic achievement of college students (Bordes & Arredondo, 2005; Campbell & Campbell, 1997; Liang, Tracy, Taylor, & Williams, 2002). While the literature on mentorship is connected to a number of educational outcomes, the relationship with one's sense of belonging has not been empirically studied. Nora and Crisp (2007) described the assorted types of mentoring that exists between students and faculty/staff:

> In response to a large number of college students failing to persist to graduation, mentoring programs have been established at colleges and universities across the county. The makeup of many of these mentoring programs varies by institution, as, for example, some provide formal training to mentors; others simply provide guidelines for meeting times, locations and frequency of interaction, while still others include students and/or staff as mentors. (p. 338)

Faculty/staff mentorship of students is also common for certain populations (e.g., racial/ethnic minorities, women) (Jacobi, 1991; Nora & Crisp, 2007). Liang (2002) examined a relational approach to mentoring for college women and found that highly relational mentoring relationships resulted in higher levels of self-esteem and decreased feelings of loneliness. Liang also found that the degree of contact with a mentor only slightly predicts loneliness, and the duration of the relationship and match with a mentor are not predictors of esteem or loneliness. Thus, it is the type of mentorship and relational experience that were relevant for the 296 women included in the study, not the quantity of time or similarities in personality.

Campbell and Campbell (1997) compared students involved in a faculty/student mentor program to students who were not involved with the program. They found that students who participated in the mentoring program had significantly higher GPAs and lower dropout rates. Students for mentor and non-mentor groups were matched based on GPA, ethnicity, gender, and enrollment status. Non-mentored students had an average GPA of 2.29 and a dropout rate of 25.3%, while mentored students had a higher average GPA of 2.45 and a much lower dropout rate at 14.5%. The greater the amount of contact with a mentor was also positively correlated to one's GPA. Another study by Gloria and Robinson Kurpius (2001) examined nonpersistence decisions for American Indian undergraduates. Social support, or the perception of being mentored, was the strongest of three constructs that explained the nonpersistence decisions of the 83 American Indian undergraduate participants. Participants who reported higher perceptions of mentoring were less likely to make nonpersistence decisions. The other two constructs that followed mentorship were comfort in the university environment, and self-beliefs such as confidence and efficacy. Gloria and Robinson Kurpius' study demonstrated that perceived mentorship is more powerful than the global university climate or one's current level of confidence.

Mentoring exists within a variety of forms and structures, yet overall, research shows varying types of mentoring and measurement have rather significant effects on self-esteem and academic achievement, among other outcomes (Nora & Crisp, 2007). However, other researchers have uncovered outcomes that have potentially negative relationships with mentoring relationships. Inkelas, Daver, Vogt, and Leonard (2007) found that students who were first-generation and in living-learning programs were significantly more likely to have a difficult social transition to college. The authors explained that this could be due to a variety of factors,

including students who seek out mentors may be doing so because they are having trouble acclimating to the collegiate social environment. Therefore, mentoring may not be hindering students' social adjustment; instead, it is an indicator for students who are already struggling with the social adjustment.

The research on faculty/staff mentorship of students yields a number of relationships with educational outcomes, but absent within the literature is a direct connection to a student's sense of belonging. Because of mentorship's positive relationship with self-esteem and confidence, implicit linkages between sense of belonging and self-esteem suggest that significant relationships therefore could exist between mentorship and sense of belonging.

Persistence

Persistence, or staying in school and working towards one's degree, is a perennial concern of higher education scholars and practitioners (Berger & Milem, 1999; Milem & Berger, 1997; Pascarella & Terenzini, 2005). Multiple studies have highlighted the relationship between sense of belonging and persistence (Hoffman, Richmond, Morrow, & Salomone, 2002). For example, Hausmann et al. (2007) concluded that students' intentions to persist were described by two significant predictors, sense of belonging and institutional commitment. In a study of 220 White students and 145 African American students, the authors employed an experimental design to test if interventions could bolster sense of belonging and persistence for both racial groups. The sample was split into three groups: (1) enhanced sense of belonging group (ESB) received messages from academic leadership and gifts with the university's insignia on them after the initial survey; (2) gift control group (GC) received the same gifts as the ESB group without insignia or messages from academic leadership; and, (3) no-gift control group (NGC) did not receive gifts or messages. For sense of belonging, White students in the ESB and GC groups

reported higher levels of belonging, compared to the NGC group. This finding did not hold for African American students with no significant differences across the three experimental groups, but were lower than their White peers.

The authors explained that their basic intervention may have been too small to adjust for a group who report higher levels of discrimination and alienation. The second layer of their study looked at sense of belonging's effects on institutional commitment, intentions to persist, and actual persistence. Both White and African American groups showed significant differences between each other on the direct effects of sense of belonging on institutional commitment and indirect effects of sense of belonging on intentions to persist and actual persistence, mediated through institutional commitment. Other variables that influenced persistence in their study were encouragement from family and friends, peer-group interactions, college GPA, and goal commitment. Their findings confirmed earlier studies by Cabrera, Nora, and Castaneda's (1993) model explaining the role of finances in the persistence process and Bean (1980, 1985) models of undergraduate student attrition and dropout, both of which did not include sense of belonging as a separate construct.

Students who feel that they belong demonstrate a greater likelihood to remain enrolled in college and graduate (Hoffman et al., 2002). Sense of belonging is an important predictor for persistence as an outcome, indicating that the institutions can enhance their persistence and retention rates by focusing on interventions that increase one's feelings of belongingness within the campus community.

Sense of Belonging Summary

Sense of belonging has been studied as a predictor for outcomes like persistence (Hausmann et al., 2007) and for its significant relationships with other environmental variables

like transition to college (Johnson et al., 2007). While extant research has demonstrated specific relationships that are connected with sense of belonging, little research explores a complex set demographic and environmental variables to understand what influences sense of belonging as an outcome. In particular, other than Hurtado and Carter (1997), no empirical studies of sense of belonging examine the relationship between measures of negative climate experiences and one's belongingness. An analysis of factors, including discriminatory climate, that contribute to one's sense of belonging will add to the literature on sense of belong and campus climate. In order to appropriately define this study, the next section describes the conceptual framework guided by previous theories and research.

Campus Climate and Sense of Belonging Summary

Campus climate and sense of belonging within higher education's research and literature are unique constructs that have not been completely teased apart. Where the construct of sense of belonging is focused on individuals' perceptions of their connection to an institution, campus climate is a macro-level approach to understand historical and group-level dynamics. The two constructs, while complimentary, are not necessarily on the same spectrum or continuum of measurement. Students' feelings of belongingness can be high or low regardless of whether their campus climate experiences are high or low. Factors, like demographic characteristics and mentorship, which influence both constructs suggests significant connections between belonging and climate. Thus, studies like this one should account for both constructs and carefully consider the unique nature of the constructs as well as their inherent interdependence.

Conceptual Framework

As the literature and empirical studies demonstrate, there is no single, common approach to understanding campus climate or a student's sense of belonging. Previous researchers have

examined diverse conceptions of constructs associated with climate and belonging on college campuses, and their work has shown that students' experiences with a campus' climate can affect their feelings and actions. In this section, I will introduce a set of theories and models that inform the hypothesized model for this study. First, because sense of belonging is dependent on one's interaction within an environment, I will discuss Lewin's (1936) early work on behavior as a product of individual and environmental interactions. I then will build on Lewin's formula using the interactionist theories of Durkheim (Allan, 2005), Spady (1970), and Tinto (1987) to show how interactions with an environment can enforce or reinforce involvement in or isolation from a community. The final model used to build this study's conceptual framework is Hurtado and Carter's (1997) sense of belonging model which incorporates principles of the aforementioned theories and integrates a number of the variables of interest within this study. Using the works of Lewin, Durkheim, Spady, Tinto, and Hurtado and Carter, I will end the chapter by presenting my hypothesized path model which will include each of the variables and scales to be tested.

Person in Environment

Studies about human behavior were transformed by the work of Kurt Lewin. Lewin (1936) proposed a novel formula to depict the formation of human behavior: $B = f(P \times E)$, or behavior is a function of interaction between an individual and the environment. Prior to Lewin's work, the predominant view within psychology was "the causes of behavior were sought not in the present but in the past" (Balkenius, 1995, p. 81). Lewin expressed that in order to understand one's momentary behavior, one has to look at the momentary situation. While the intent behind Lewin's formula was a measurement of immediate behavior, other researchers and interpretations have used this formula to suggest that people's behavior – past, present, and

future – is dependent on and in reaction to their previous and current environments (Evans, Forney, & Guido-DiBrito, 1998). Regardless of a strict or liberal interpretation of the formula, Lewin's work emphasized the direct effects that occur when one interacts with his or her environment. This thread or of research is apparent within subsequent psychology, sociology, and educational theories. Other theorists have considered specific outcomes, like college dropout, through a lens of how individuals interact with components of their environment. The next few sections will show the thread of interactionist theories that established Tinto's (1987) departure theory.

Integration, Dropout, and Departure

Theories of integration, dropout, and departure evolved over the last century and are frequently used within higher education's satisfaction and persistence research. The sections that follow bring attention to selected prominent theories that demonstrate the reciprocal effects that individuals and environments can have on each other, starting with an early theory of Durkheim's.

Durkheim's Theory of Integration

Emile Durkheim, a notable sociologist from the late 1800s and early 1900s, explained the importance of social integration. Kenneth Allan (2005) described "Durkheim's Law":

> It's a law of interaction: Individuals come together and interact as there is an initial attraction. What the attraction is isn't important to Durkheim. What is important is what happens afterward. Attraction leads to interaction, which leads to formation of a 'limited group,' and the individuals will 'be taken up with it and reckon it in their conduct.' In other words, every time we interact with other people, we form a temporary sense of a social group. (p. 109)

As Allan summarized, individuals find some source of attraction in others which creates shared experiences, understandings, and values. As those individuals interact, they develop a distinctive group culture, even if for a brief period of time, that contains mutual norms and values. Durkheim explained that social integration can occur between two people or within broader society, and out of this work, Durkheim developed a more nuanced concept of collective consciousness. As explained by Allan (2005), collective consciousness occurs when large groups of individuals interact; culture emerges and becomes something of its own: "[Culture] becomes an object, a social fact, that is external to and coercive of the individual" (p. 110).

Durkheim understood that cultures were an amalgamation of individual interactions that became normalized, stabilized, and then expected within the community. Even though he is most known for his explanation of suicide as a rejection of social life, Durkheim's theories can be applied to less extreme actions and ideas. Durkheim explained that social integration and collective consciousness emerge from the interaction between individuals, cultures become more than the sum of the interactions; cultures become a code that is separate and self-enforcing (Allan, 2005). The collective consciousness of a group defines membership and culture; it can affirm or challenge one's feeling of acceptance and belonging (i.e., integration). "Durkheim's Law" has been used implicitly within college student development theories and explicitly as the foundation for new theories, like Spady's (1970) work on college dropout and Tinto's (1987) theory of departure.

Spady's Theory of Dropout

Spady (1970) introduced a model of the dropout process to explore the factors that contribute to a college student's dropout decision. Within that model, factors like academic potential, intellectual development, friendship support, and grade performance contribute to

one's social integration which in turn influences satisfaction, commitment with the institution, and ultimately one's dropout decision. Spady placed the ideas of social integration centrally within his model and concluded that satisfaction and institutional commitment are predicted by one's social integration. Spady used Durkheim's explanation of suicide to draw on similarities for student dropout decisions:

> Although dropping out is clearly a less drastic form of rejecting social life than is suicide, we assume that the social conditions that affect the former parallel those that produce the latter: a lack of consistent, intimate interaction with others, holding values and orientations that are dissimilar from those of the general social collectivity, and lacking a sense of compatibility with the immediate social system. (1970, p. 78)

According to Spady, an individual's sense of connection with others leads to a stronger connection to the social system and a decreased likelihood of dropping out or discontinuing a connection with that system.

Tinto's Theory of Departure

Building upon Spady and Durkheim's theories and research, Tinto's (1975, 1987, 1994) model of student departure includes individual and institutional factors that drive both academic and social integration. Tinto's model has been used frequently in studies of persistence and satisfaction for more than thirty years. Central to Tinto's model are one's goal commitment and the commitment from the institution, and increased feelings of academic integration and social integration are necessary to decreasing dropout decisions. Tinto extends Spady's work by placing responsibility on the institution to share in the commitment for student success. Tinto modified his model to respond to critiques and criticisms, particularly that integration was assuming that non-majority groups must adjust their norms and values to that of the dominant

group (see, for example, Tierney, 1999). Included in later iterations are formal and informal social and academic experiences. Faculty/staff interactions with students or experiences in extracurricular activities are factors that the institution can help shape to adjust one's departure decision. Like Spady and Durkheim, Tinto explained the critical nature of relationships and interactions and demonstrated how those experiences can directly or indirectly influence one's decision to remain or depart from an educational community.

Integration, dropout and departure theory is not without its critiques. Bollen and Hoyle (1990) explained that "despite the accumulation of an extensive literature on group or social cohesion…there is still considerable ambiguity surrounding its definition and measurement" (p. 480). Other scholars have highlighted the apparent confusion in understanding previous researchers measures and definitions of social and academic integration (Hurtado & Carter, 1997) and the lack of inclusion of external factors' role in shaping outcomes and commitments (Cabrera, Nora, & Castaneda, 1993). While more contemporary studies have validated the majority of Tinto's model (Rhee, 2007), other studies have shown that the interactionist models were developed using traditionally-aged college students at elite institutions and do not always translate to diverse communities (Tierney, 1992). "Perhaps what is most important is that integration can mean something different to student groups who have been historically marginalized in higher education" (Hurtado & Carter, 1997, pp. 326-327). Using integration models for minority student populations has been met with criticism due to the principal concept of acculturation, or lessening oneself to be more like the dominant group's culture. Tinto (1993) retorted that the model of integration is inherently built on multiple communities. Regardless of the debate, both viewpoints prove the need to pay particular attention to understanding the differences that exist between members of the majority and non-majority groups.

The theoretical work of Durkheim, Spady, and Tinto highlights the interactions between individuals and their environments. Such interaction can influence one's satisfaction as well as decisions to persist or depart from a given community. A core challenge to this line of theory is the ability to isolate and measure how individual interactions within a group inform the development of culture and collective consciousness and vice versa. Accordingly, deeper academic and social integration is highly dependent on commitment from both the individual and institution. Interactionist theories argue for empirical research that includes measures of both individual actions and perceptions in addition to assessments of institutional level factors like selectivity, size, climate, and faculty/student ratio.

Belonging within a Racial Climate

The final work used to build the conceptual framework for this study is that of Hurtado and Carter (1997). Hurtado and Carter's (1997) study of Latino students offers the most encompassing model of understanding how students of color's college transition and perceptions of campus racial climate influence their sense of belonging. The researchers built their model upon careful consideration and critique of the earlier integration theories and models of Durkheim (Allan, 2005), Spady (1970), and Tinto (1987); they highlighted the ideas of social cohesion and how perceived cohesion can be as powerful as objective measures of cohesion. Bollen and Hoyle's (1990) perceived cohesion dimension of sense of belonging was used because of "it is suited to understanding a variety of collective affiliations, formed in large environments, that contribute to an individual's sense of belonging to the larger community" (Hurtado & Carter, p. 328). Environments are complex and individuals within those environments hold multiple, distinct affiliations. For students of color, those environments can

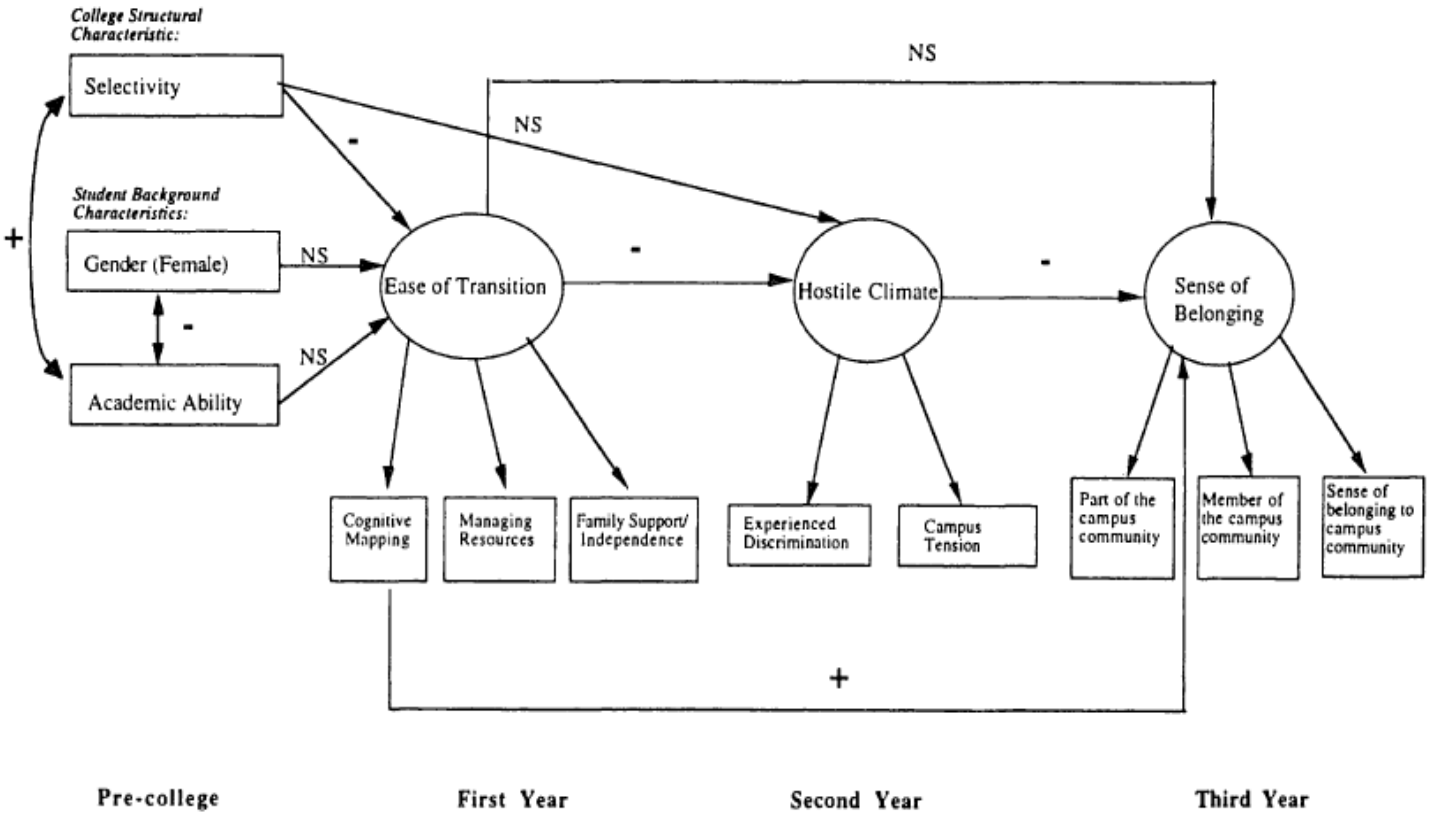
be further complicated by underlying racial tension and perceptions of prejudice and discrimination.

Hurtado and Carter's (1997) final model is Figure 2.3 below. In the model, ease of transition is measured by cognitive mapping, managing resources, and family support/independence. Hostile climate is explained by measures of campus tension and experienced discrimination. The outcome of sense of belonging is measured by one's perceptions of being a part of the campus community, being a member of the campus community, and having a sense of belonging to the campus community. Cognitive mapping is measured by four items on a four point scale from "very difficult"=1 to "very easy"=4: (a) seeking help when I needed it, (b) getting to know my way around, (c) communicating with instructors, and (d) making new friends. Other variables considered within their study were institutional selectivity, gender, and academic ability (a self-rating of academic self-concept).

The findings of non-significance for the effects of gender and academic ability on ease of transitions suggest that these characteristics are not determinants of a smooth transition for Latinos. Instead, it appears that the level of selectivity of an institution can produce a significant negative effect on the transition process. While significant, the model only accounted for 6% of the variance observed in ease of transition. Hostile climate described 28% of the variance and was significantly explained by one's ease of transition. Selectivity had no direct effect on hostile climate, indicating no relationship between an institution's selectivity and discriminatory climate. Finally, sense of belonging accounted for 25% of the explained variance which was explained by a significantly negative relationship with the measure of hostile climate and a positive significant relationship with one's cognitive mapping. These measures appear to tap

one's help seeking behaviors and ability to settle into a new social community, thus not surprising that one would see a strong, positive correlation with a measure of sense of belonging.

Figure 2.3: Hurtado and Carter (1997) Final Model of Sense of Belonging



(Hurtado and Carter, 1997)

Hurtado and Carter (1997) discovered findings that diverged from Tinto's (1987) and Spady's (1970) earlier studies (e.g., second and third year Latino students' GPA did not influence their sense of belonging). In their discussion for future research, the authors acknowledged the usefulness of Tinto's (1993) model but reminded researchers to test his model

and others against diverse populations. Hurtado and Carter also called for more empirical studies on student group membership and transition and how membership and transition intersect with cohesion and belonging for students of color. Such research "may provide an interesting path for research on college students who develop multiple affiliations to meet their various needs in multicultural contexts" (p. 341). This study will extend the earlier work of Hurtado and Carter, which is limited to Latino students, by testing multiple racial/ethnic student populations.

Conceptual Framework Summary

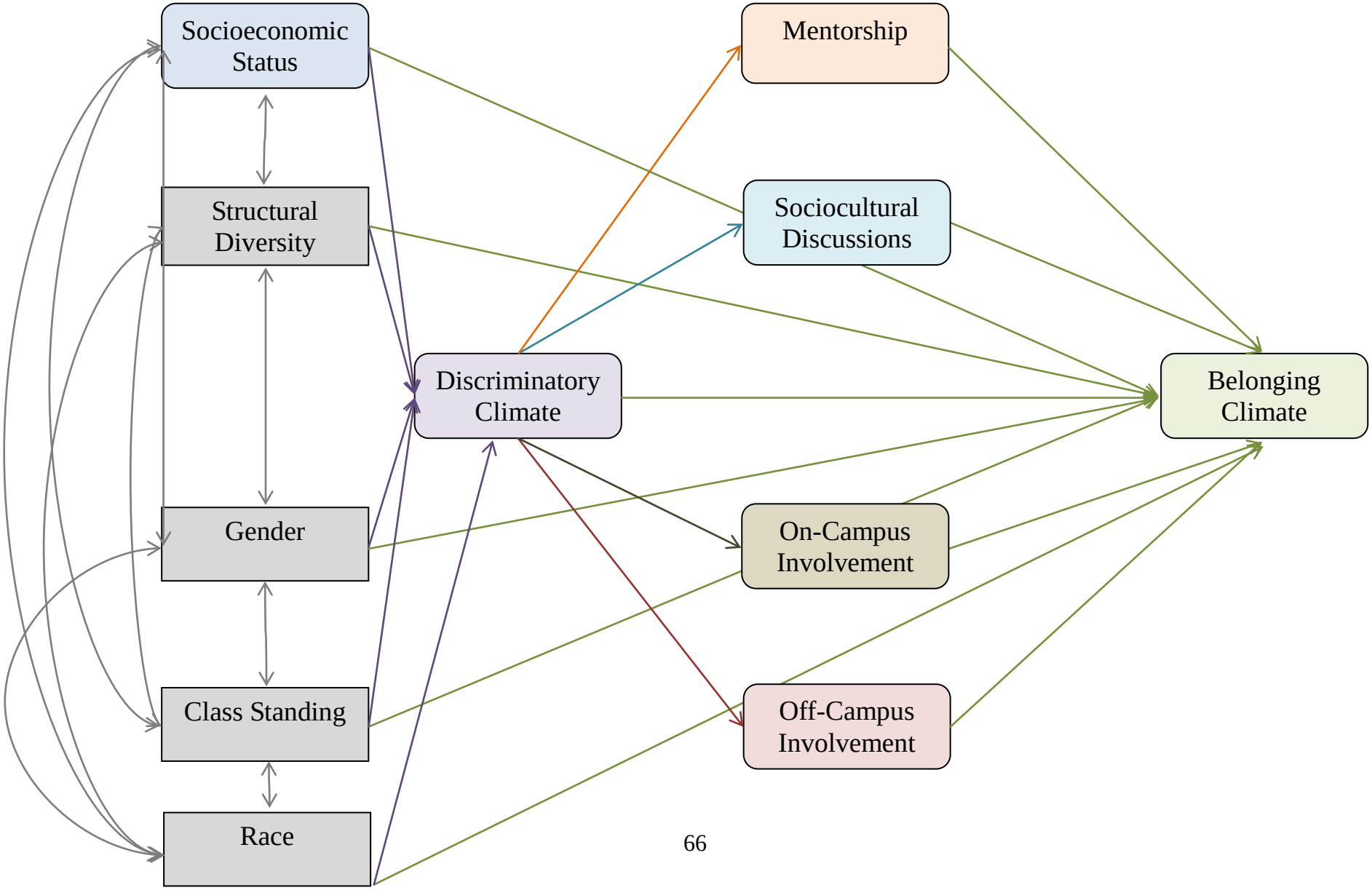
The earlier theories of behavior and interaction of Lewin (1936), Durkheim (Allan, 2005), Spady (1970), and Tinto (1987), as well as Hurtado and Carter's (1997) belonging within a racial climate, build the framework and hypothesized model for this study. Individuals' interactions with their environments are included in each of the existing models and theories in order to describe outcomes and behaviors. The hypothesized path model for this study controls for demographic characteristics while attempting to understand a number of environmental factors that possibly account for individuals' environmental experiences.

Hypothesized Path Model for Sense of Belonging

The outcome measure of sense of belonging is understudied within higher education's literature (Hausmann et al., 2007). This study will look at the demographic and environmental factors that are found within the research to influence one's development of sense of belonging. The key environmental variables considered in this study are: (a) faculty staff mentorship (Nora & Crisp, 2007), (b) conversations across difference with peers (Shook & Fazio, 2008), and (c) involvement in on- and off-campus activities (Dugan, 2006). A number of demographic variables will serve as controls within the model, including: (a) gender (Allan & Madden, 2006), (b) class standing (Bowman, 2010), (c) structural diversity (Chang, 2000), and (d)

socioeconomic status (Hutchinson, Raymond, & Black, 2008). Because of the documented influence of race/ethnicity within existing empirical studies (Ancis, Sedlacek, & Mohr, 2000; Suarez-Balcazar, Orellana-Damacela, Portillo, Rowan, & Andrews-Guillen, 2003), the sample will be divided into four racial/ethnic groups (i.e., White, Black, Asian, and Latino) to test for similarities and differences observed across race/ethnicity which builds on earlier empirical studies of belonging for racial groups within discriminatory collegiate environments (Hurtado & Carter, 1997). Due to limitations of using pre-existing data for this study, I will not include Hurtado and Carter's variables for ease of transition, cognitive mapping, or institutional selectivity. See Figure 2.4 for the illustration of the hypothesized path model for this study.

Figure 2.4: Hypothesized Path Model for Sense of Belonging



Conclusion

The factors that contribute to one's sense of belonging within college are not fully understood within existing literature. While this chapter highlighted a number of demographic and environmental factors that are influenced or have influenced sense of belonging in previous studies, no study has examined institutional- and individual-level variables like socio-cultural discussions or mentorship to see how they relatively influence changes in sense of belonging. This clear void within sense of belonging research, particularly for students of color, offers a distinct opportunity for this study. Building on the literature and framework from this chapter, Chapter three will describe the methodology of this study's analysis of sense of belonging.

CHAPTER 3: METHODOLOGY

The purpose of this study is to establish sense of belonging models for Black, Latino/a, Asian/Asian American, and White students in order to uncover racially/ethnically specific predictors for each population. Based on the review of literature and conceptual framework, this study will test the following variables' contributions to sense of belonging: (a) discriminatory climate, (b) mentorship growth, (c) sociocultural discussions, (d) on-campus involvement, (e) off-campus involvement, (f) structural diversity, (g) class standing, (h) gender, and (i) socioeconomic status. Structural equation modeling will be used to test individual and collective relationships within the model.

This chapter will detail the study's design and methodology, including research questions and associated hypotheses, design, instrumentation, and analyses

Research Questions and Hypotheses

The research questions that guide this study are:

(1) What are the relationships among sense of belonging and (a) discriminatory climate, (b) mentorship, (c) sociocultural discussions, (d) on-campus involvement, (e) off-campus involvement, (f) structural diversity, (g) class standing, (h) gender, and (i) socioeconomic status?

(2) Do the observed relationships between the variables of interest differ across four racial/ethnic groups: (a) Black, (b) Latino/a, (c) Asian/Asian American, and (d) White?

I will use null hypotheses for this study based on the conventions of traditional quantitative design. Null hypotheses are used since they cannot be proven. If I reject the null hypotheses, the data indicate a significant finding that should be tested further by future research. If I fail to

reject the null, the data indicate that while there may be some relationship, there is not enough evidence to claim a relationship. The following hypotheses will be tested by this study:

(1) Discriminatory climate will not predict scores on the sense of belonging scale.

(2) Mentorship will not predict scores on the sense of belonging scale.

(3) Socio-cultural discussions will not predict scores on the sense of belonging scale.

(4) On-campus involvement will not predict scores on the sense of belonging scale.

(5) On-campus involvement will not predict scores on the sense of belonging scale.

(6) Structural diversity will not predict scores on the discriminatory climate or sense of belonging scales.

(7) Class standing will not predict scores on the discriminatory climate or sense of belonging scales.

(8) Gender will not predict scores on the discriminatory climate or sense of belonging scales.

(9) Socioeconomic status will not predict scores on the discriminatory climate scale.

(10) Race/ethnicity models will not show significant changes against the omnibus model.

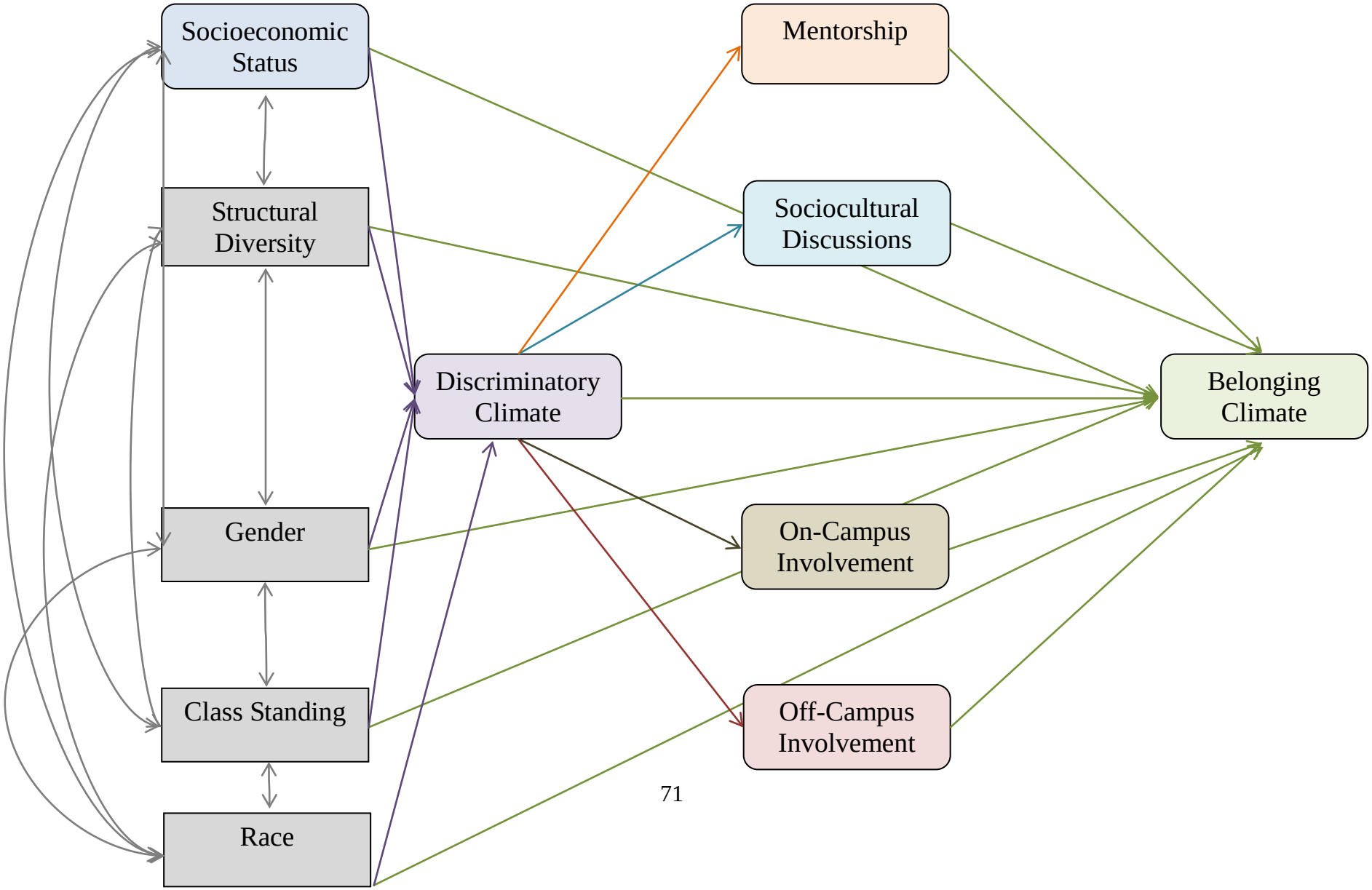
Figure 3.1 illustrates the hypothesized path model.

Design and Survey Instrument

This quantitative study uses Structural Equation Modeling (SEM) to explore the factors and scales that influence one's sense of belonging on a college campus. It uses secondary data collected in 2009 across 101 institutions. Using a multi-institutional approach enhances the likelihood that results are representative of college students in general. A single institution study is limited by the specific contexts of that institution's structures and history. The Multi-

Institutional Study of Leadership (MSL) is the data source for this study (see Appendix 2 for complete instrument). This *ex post facto* research design was chosen because of the richness of existing contemporary data and the availability of reliable scales and variables directly related to the questions guiding this research study. MSL is a nationwide college student leadership development quantitative study using causal comparative, cross-sectional design using survey methodology (Groves, Fowler, Couper, Lepkowski, Singer, & Tourangeau, 2004). Since the students completed the survey at only one point in time and the pre-tests were only one of the scale's response items, their responses are a quasi-pre-test / post-test design and not a true pre-test / post-test design.

Figure 3.1: Hypothesized path model



Quasi-pre-tests (i.e., asking retrospective questions that are included in environmental scales later in the questionnaire) used only one item from the scale to assess one's pre-college perceptions. Rather than having students reflect on pre-college experiences, Astin (1991) indicates that a true pre-test collecting data points prior to college, necessitating the collection of student longitudinal data, is a more rigorous way to assess and compare student experiences. Cross-sectional data limits the accuracy when measuring previous experiences and perceptions, but controls for inputs can help mitigate some of the observed error.

The survey instrument consists of scales for the Socially Responsible Leadership Scale (SRLS), leadership efficacy, belonging climate, and discriminatory climate, as well as 14 demographic variables, and 23 pre-college variables, in addition to other variables and scales. For the present study, six scales will be utilized: sense of belonging climate, discriminatory climate, mentorship (personal development), socio-cultural discussions, on-campus involvement, and off-campus involvement. Demographic variables for gender, class standing, and socioeconomic status also will be used in this study. The overall MSL study contained a number of substudies that randomly were administered to only a portion of the respondents. This study will include items from the mentoring substudy, thus only participants that were randomly selected and completed this substudy will comprise the sample.

Design of MSL National Study

The 2009 Multi-Institutional Study of Leadership student survey was developed by a joint research team led by faculty at University of Maryland and Loyola University Chicago. The team of doctoral and master's students built on earlier iterations of the MSL instrument, refining previous scales and adding additional items and scales. The 2009 version of the MSL instrument included new scales for campus climate, mentoring, and social perspective taking,

among several others. Small workgroups on the research team developed potential items using existing literature and research. The team conducted factor analyses using responses from the study's pilot tests and subsequently tested the reliability and validity of the new scales.

Pilot Test

In October 2008, researchers sent an electronic pilot test to a random sample of 3,000 at a single mid-Atlantic research-extensive university. Of the total, 660 students responded (22% response rate). The goals of the 2008 pilot tests were to test and develop potential scales and analyze any patterns of survey stop-out and completion rates for different sections and the instrument as a whole. Based on the pilot tests, the research team identified key areas to reduce items and create more parsimonious scales. The pilot test also allowed the research team to critically examine the instrument's construct and content validity. Pilot tests revealed strong construct and content validity with the scales; those results are presented within the instrumentation section of this chapter.

Sample

Student respondents and their respective institutions are two distinct samples within the Multi-Institutional Study of Leadership (MSL).

Institutional sample: Of the 101 participating institutions, almost half were public (48%), 43% research (both extensive and intensive), 36% masters, 19% baccalaureate, and 2% associates. Seven of the institutions had a special focused designation: three women's colleges; two Historically Black Colleges or Universities, and two Hispanic-serving institutions. See Table 3.1 for institutional characteristics.

Table 3.1

Institutional Characteristics

(n=101 institutions)	Percentage
Control	
Public	48%
Private	52%
Carnegie Classification	
Research Institutions	43%
Masters Institutions	36%
Baccalaureate Institutions	19%
Associates Institutions	2%
Undergraduate Population Size	
Small (0 to 3,000 students)	18.5%
Medium (3,001 to 10,000)	44.1%
Large (10,001 and above)	37.4%

Student Sample: A total of 337,482 students were invited to participate in the 2009 administration of MSL, which yielded a 34% response rate (n=115,582). To create sampling consistency at the 101 selected institutions, the research team used the following criteria for creating each institution's sample:

1. Institutions with fewer than 4,000 students in the entire undergraduate population administered the survey to their entire student body.

2. A simple random sample was drawn for institutions with an undergraduate population that exceeded 4,000 students. The simple random sample was selected to maximize the research's generalizability based on the sample. For each of these larger institutions, total sample size was calculated using a 95% confidence level with a ± 3 confidence interval.

Finally, the researchers purposefully oversampled student participants by multiplying this number by 70% to identify the total number of cases for each institution's sample. Oversampling was conducted with the goal of yielding a 30% response rate, at minimum.

Analytic sample: This study's analytical sample was all survey respondents from the 2009 MSL study (n=115,582). The omnibus sample of 115, 582 respondents was divided into four racial groups: White (n=66,718), Black (n=4,898), Asian (7,059), and Latino (3,776).

Instrumentation

The complete 2009 MSL instrument contains 41 questions. The 101 participating institutions also were permitted to include ten custom questions specific to their institutions. Institution-specific questions were not included in this study. The research team developed the study and its components using Astin's (1991) I-E-O framework. Astin's framework accounts for pre-college inputs, environments which can be changed throughout college, and outcomes that result for a college student's experience. Data were gathered regarding students' demographics, pre-college involvement and experiences, college involvement and experiences, leadership outcomes, and other college outcomes. What follows is information regarding the development of scales and measures used for the purposes of this study.

Sense of Belonging Scale

The sense of belonging scale began as a general factor analysis of 37 campus climate items that were developed and captured from other sources and studies. Three items factored together to form *sense of belonging*: (a) I feel valued as a person at this school, (b) I feel accepted as a part of the campus community, and (c) I feel I belong on this campus. The response options ranged from strongly disagree (1) to strongly agree (5). The Cronbach's alphas of this

scale for the first pilot, second pilot and full study were .83, .93, and .87, respectively. For this study, the scale was found to be reliable for the sample (.866).

Discriminatory Climate Scale

Like the sense of belonging scale, the discriminatory climate scale emerged from the general analysis of campus climate items. Five items comprise the *discriminatory climate* scale: (a) I have observed discriminatory words, behaviors or gestures directed at people like me, (b) I have encountered discrimination while attending this institution, (c) I feel there is a general atmosphere of prejudice among students, (d) Faculty have discriminated against people like me, and (e) Staff members have discriminated against people like me. Response options for these items ranged from strongly disagree (1) to strongly agree (5). This scale was also consistently reliable within the first pilot, second pilot, and full study (α = .83, .84, and .85). When measured for this study's sample, the reliability was reliable (.84).

Mentorship

For mentorship, four items created the scale for this study. The question's prompt was: "Since you started at your current college/university, how often have the following types of mentors assisted you in your growth or development?": (a) faculty/instructor, (b) student affairs professional staff, (c) parent/guardian, and (d) other. For each item, respondents could indicate one of four responses: never (1), once (2), sometimes (3), or often (4). The mentoring scale was not included in the two pilot tests but had a Cronbach's alpha of .87 in the full study.

On-campus Involvement Scale

The on-campus involvement scale was created for this study using two items within the prompt: "Since starting college, how often have you": (a) Been an involved member in a college organization(s), and (b) Held a leadership position in a college organization(s). This specific

scale was not included in the initial MSL pilot tests but had a Cronbach's alpha of .899 for this study's omnibus sample.

Off-campus Involvement Scale

The off-campus involvement scale was created for this study using two items within the prompt: "Since starting college, how often have you": (a) Been an involved member in an off-campus community organization, and (b) Held a leadership position in an off-campus community organization. This scale was not specified in the initial MSL pilot tests but had a Cronbach's alpha of .841 for the omnibus sample of this study.

Socio-cultural Discussions Scale

The socio-cultural discussions scale originated within the National Study of Living Learning Programs (NSLLP) with a reliability of .86. The initial 2006 MSL instrument included the scale in one pilot study and the full study with reliabilities of .90 for each. The socio-cultural discussions scale had Cronbach's alphas of .92, .89, and .90 for the first pilot, second pilot, and full 2009 MSL study. The scale was developed to measure and understand the power of conversations across difference. The question for this scale is: "During interactions with other students outside of class, how often have you done each of the following in an average school year?" (a) Talked about different lifestyles/customs, (b) Held discussions with students whose personal values were very different from your own, (c) Discussed major social issues such as peace, human rights, and justice, (d) Held discussions with students whose religious beliefs were very different from your own, (e) Discussed your views about multiculturalism and diversity, and (f) Held discussions with students whose political opinions were very different from your own. The response spectrum ranged from never (1) to very often (4).

Analysis

Structural Equation Modeling (SEM) will be used to analyze the study's data (Byrne, 2006; Hancock & Mueller, 2006; Mueller & Hancock, 2008). SEM allows researchers to test theoretically derived models through confirmatory methods, and it is appropriate because it allows for the flexibility to include several exogenous variables. SEM can account for multiple pathways of interest and can show the researcher, through additional testing, other potential pathways that were not originally tested.

Unlike Hierarchical Linear Modeling (HLM) or OLS Regression, SEM accounts for measurement error. Because this study is built on respondents' perceptions, there is inherent error which should be considered. Since the students completed the survey at the same point in time, their responses are a quasi-pre-test / post-test design and not a true pre-test / post-test design. The limitations of this study's design will be addressed in more detail within the limitations section.

Data Analysis

Data were collected in the spring of 2009 after approval from the Institutional Research Board (IRB) at the University of Maryland – College Park. I was listed as an original research team member and filed an addendum to use the pre-existing data set for the purposes of this study. I cleaned the dataset and removed any extraneous variables not associated with this study's research questions.

Descriptive statistics were run to observe the means, N's, and standard deviations for each construct's items across the omnibus and race-specific groups (see Table 4.1). Next, using the analytic sample for the study, reliabilities were run for each of the scales included in the study. While the selected scales have very strong reliability in multiple pilot tests and the full

study, it is possible that the reliability, measured by Cronbach's alphas, could drop below an acceptable level due to the nuances within the specific sample of interest. The specific Cronbach alphas for this study were all very strong, ranging from .829 to .907. See Table 3.2 for the specific Cronbach alpha levels for each of the study's scales by racial/ethnic category.

Table 3.2

Scale Cronbach's Alphas for Omnibus and Racial/Ethnic Groups

n=	**Omnibus** *(115,582)*	**Black** *(4,898)*	**Latino** *(3,776)*	**Asian** *(7,059)*	**White** *(66,718)*
Sense of belonging climate	.866	.873	.870	.863	.863
Discriminatory climate	.839	.867	.857	.848	.829
Mentorship	.869	.896	.866	.891	.859
On-campus involvement	.899	.912	.913	.910	.895
Off-campus involvement	.841	.854	.853	.861	.840
Socio-cultural discussions	.902	.911	.907	.896	.900

After completing tests for reliability, I conducted multicollinearity tests between the study's variables to see if any of the measures are highly correlated, indicating that there is significant overlap between independent variables. If any problematic correlations ($r > .80$) were present (Licht, 1995), I would have have needed to drop one of the variables or combined them

in some way. The highest correlations for this study were .76 and .78, and these correlations were between the scale measure of mentoring and its individual items. Only the scale measure was included in the study, so I explored the individual items within the scale to ensure that none of the items were correlated with other independent variables. The sections that compare the scale and individual items are highlighted within the table of Appendix 1. Once I remove the individual items, no items were highly correlated for this study.

Data Coding

Variable coding is listed within Table 3.3. The data includes both observed and latent constructs. The table lists the total number of items within latent constructs, the full range of response options, the stem of the questions, individual items within the construct, and the variable codes for each item.

Table 3.3

Variable Coding and Missing Cases

Variable	Definition	Missing cases
Sense of Belonging	Three items (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) *Indicate your level of agreement with the following statements about your experience on your current campus.* (a) I feel valued as a person at this school (ENV11a_1) (b) I feel accepted as a part of the campus community (ENV11a_2) (c) I feel I belong on this campus (ENV11a_5)	(a) 23,769 (b) 23,782 (c) 23,782
Discriminatory Climate	Five items (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) *Indicate your level of agreement with the following statements about your experience on your current campus.* (a) I have observed discriminatory words, behaviors, or gestures directed at people like me (ENV11a_4) (b) I have encountered discrimination while attending this institution (ENV11a_11) (c) I feel there is a general atmosphere of prejudice among students (ENV11a_12) (d) <u>Faculty</u> have discriminated against people like me (ENV11a_15) (e) <u>Staff</u> have discriminated against people like me (ENV11a_16)	(a) 23,780 (b) 23,787 (c) 23,794 (d) 23,775 (e) 23,777
Mentorship	Four items (1 = never, 2 = once, 3 = sometimes, 4 = often) *Since you started at your current college/university, how often have the following types of mentors <u>assisted you in your growth or development</u>?*	

	(a) Faculty/Instructor (ENV8b1) (b) Student Affairs Professional Staff (ENV8b2) (c) Parent/Guardian (ENV5) (d) Other Student (ENV6)	(a) 14,524 (b) 14,485 (c) 14,530 (d) 14,544
Sociocultural Discussions	Six items (1 = never, 2 = sometimes, 3 = often, 4 = very often) *During interactions with other students outside of class, how often have you done each of the following in an average school year? (Select <u>one</u> for each)* (a) Talked about different lifestyles/customs (ENV 9a) (b) Held discussions with students whose personal values were very different from your own (ENV 9b) (c) Discussed major social issues such as peace, human rights, and justice (ENV 9c) (d) Held discussions with students whose religious beliefs were very different from your own (ENV 9d) (e) Discussed your views about multiculturalism and diversity (ENV 9e) (f) Held discussions with students whose political opinions were very different from your own (ENV 9f)	(a) 16,021 (b) 16,031 (c) 16,038 (d) 16,042 (e) 16,046 (f) 16,039
On-Campus Involvement	Two items (1 = never, 2 = once, 3 = sometimes, 4 = many times, 5 = much of the time) *Since starting college, how often have you:* (a) Been an involved member in a <u>college</u> organization(s) (ENV6a) (b) Held a leadership position in a <u>college</u> organization(s) (ENV6b)	(a) 12,935 (b) 12,928
Off-Campus Involvement	Two items (1 = never, 2 = once, 3 = sometimes, 4 = many times, 5 = much of the time) *Since starting college, how often have you:*	

	(a) Been an involved member in an off-campus community organizations (ENV6c) (b) Held a leadership position in an off-campus community organization(s) (ENV6d)	(a) 12,935 (b) 12,928
Structural Diversity	*Merge data from the Integrated Postsecondary Education Data System (IPEDS). Percentage of non-White enrolled undergraduate students. (a) One item (continuous variable from 0-100%) (% of non-White)	 2,387
Class Standing	One item (1 = first year, 2 = sophomore, 3 = junior, 4 = senior, 5 = other, 9 = missing) (PRE_5)	4,466
Gender	One item (1 = male, 2 = female) (GENDER)	23,845
Socioeconomic Status	Two items (**note: consider combing into one measure*) *What is the HIGHEST level of formal education obtained by any of your parent(s) or guardian(s)? (Choose one)* (1 = less than a high school diploma or less than a GED, 2 = High school diploma or a GED, 3 = Some college, 4 = Associates degree, 5 = Bachelors degree, 6 = Masters degree, 7 = Doctorate or professional degree (ex. JD, MD, PhD), [8 = Don't know – recoded as missing data]) (DEM14) *What is your best estimate of your parent(s) or guardian(s) combined total income from last year? If you are independent from your parent(s) or guardian(s), indicate your income. (Choose one)*	 23,927 23,979

	(1 = Less than $12, 500, 2 = $12,500-$24,999, 3 = $25,000-$39,999, 4 = $40,000-$54,999, 5 = $55,000-$74,999, 6 = $75,000-$99,999, 7 = $100,000-$149,999, 8 = $150,000-$199,999, 9 = $200,000 and over, [10 = Don't know, 11 = Rather not say – recoded as missing data]) (DEM 15)	
Race/Ethnicity	One Item *Please indicate your broad racial group membership. (Mark all that apply).* 1 = White / Caucasian 3 = African American / Black 5 = Asian American / Asian 6 = Latino / Hispanic (DEM 10a)	23,933

Missing Data

Table 3.3 provides the total number of missing cases for each item within the total sample of 115,582 respondents. While a number of items contain a sizeable amount of missing cases, the missing data is random across the variables. I considered removing all cases that contained missing variable data, but I balanced that against losing pertinent data that could be controlled for with appropriate estimations without compromising the integrity of the data and findings. I used maximum likelihood (ML) estimation to approximate the parameter's value based on the observed data (Byrne, 2010). Based on the robust sample size, ML estimation was appropriate for this study since it independently computes separate likelihoods for cases with complete data and those with missing variable data.

Structural Equation Modeling

I then tested the structural equation model (SEM) for direct and indirect relationships between sense of belonging, discriminatory climate, mentorship experiences, socio-cultural discussions, on-campus involvement, and off-campus involvement, while simultaneously considering respondents' gender, class standing, and socioeconomic status (see Figure 3.1 for complete path illustrations). SEM is a used to test theoretical hypothesis, to test latent and observed constructs, and to explore conceptualized relationships between variables (Byrne, 2010). After performing confirmatory factor analyses (CFA) on each of the latent constructs (i.e., discriminatory climate, mentorship experiences, sociocultural discussions, on-campus involvement, off-campus involvement, and sense of belonging), I completed the path analysis which measured the goodness-of-fit between the observed data and my hypothesized model. The model shows paths of significance and non-significance based on residuals.

Summary

This chapter outlined the methodology for this study's research questions examining relationships between sense of belonging, campus climate, demographic characteristics, and interaction variables for four different racial/ethnic groups. The design, instrumentation, analysis procedures, and limitations were discussed. The findings from this study will provide new sense of belonging models for different racial/ethnic groups. The results of this study have the potential to add significant findings to existing climate and belonging literature within higher education, particularly filling a noticeable gap that tests the relationship between climate and sense of belonging for non-majority racial groups.

CHAPTER 4: RESULTS

Chapter Overview

This chapter describes the results of the study, including an overview of the descriptive statistics and a synthesis of the omnibus and race-specific structural equation models. The results of the study are organized around the descriptive and structural equation modeling (SEM) data and are driven by two research questions:

(1) What are relationships among sense of belonging and (a) discriminatory climate, (b) mentorship, (c) sociocultural discussions, (d) on-campus involvement, (e) off-campus involvement, (f) structural diversity, (g) class standing, (h) gender, and (i) socioeconomic status?

(2) Do the observed relationships between the variables of interest differ across four racial/ethnic groups: (a) Black, (b) Latino, (c) Asian, and (d) White?

Descriptive Results

Table 4.1 presents the means, Ns, and standard deviations of each construct's item for the omnibus and race-specific models. The descriptive statistics provide an exact value of each item that is not confounded by additional variables. This allows for an unbiased assessment of the relative contributions of each item on the overall factor. For example, sense of belonging in the omnibus sample has three items, with "I feel I belong on this campus" with the highest observed mean (3.78). The other two items have relatively similar means and all three items have standard deviations that narrowly range between 0.878 and 0.935. This table provides a cursory view to ensure that each of the items are aligned similarly, and, more importantly, it allows for a quick identification of any items that appear extreme or skewed when compared to the remaining items within the scale.

Comparing means across racial groups also allows for initial observations of potential differences between groups. For example, in the Asian model, each of the three items for the sense of belonging factor have lower means than their respective values across other racial groups. Thus, Asian students report lower average scores on sense of belonging than other racial groups. The items within the discriminatory climate factor are inverted from the other factors since this is a measure of negativity, so higher scores equal less discrimination and lower scores equal greater instances of discrimination. Each of the items for discriminatory climate has a higher mean, or less reported discrimination, for the White model than the other three race-specific models. Additionally, other interesting findings by race are observed within the items of social cultural discussions. White students have higher means for discussions regarding politics, but Asian, Black, and Latino students report higher means for discussions involving multiculturalism and different lifestyles. Latino students report the lowest levels of on-campus involvement, and Asian students report the lowest levels of off-campus involvement.

The means and standard deviations for mentorship show that parent/guardian mentorship is the item with the highest mean for all models and student affairs staff mentorship has the lowest mean for all groups with standard deviations for all items across all models ranging from 1.001 to 1.352. For sociocultural discussions, each of the items means for each model is within a tight band with a narrow standard deviation. This shows a very tight scale with items that are tapping the construct. Finally, for on- and off-campus involvement, there is less involvement off-campus than there is on-campus across the omnibus and race-specific models. And, the means for general involvement are greater than the means for holding a distinct leadership position within a group.

Table 4.1

Constructs' item means for omnibus and race-specific models

Construct | Items		Omnibus			Asian			Black			Latino			White		
		Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.
Sense of Belonging	I feel valued as a person at this school (ENV11a_1)	3.58	91,813	0.935	3.49	7,049	0.900	3.61	4,891	0.958	3.56	3,770	0.953	3.61	66,637	0.925
	I feel accepted as a part of the campus community (ENV11a_2)	3.76	91,800	0.878	3.63	7,048	0.854	3.71	4,890	0.922	3.66	3,770	0.923	3.79	66,629	0.861
	I feel I belong on this campus (ENV11a_5)	3.78	91,800	0.916	3.61	7,047	0.874	3.69	4,889	0.948	3.69	3,770	0.941	3.82	66,628	0.902
Discriminatory Climate	I have observed discriminatory words, behaviors, or gestures directed at people like me (ENV11a_4)	3.40	91,802	1.208	3.06	7,049	1.120	2.96	4,889	1.295	3.21	3,770	1.250	3.51	66,629	1.183
	I have encountered discrimination while attending this institution (ENV11a_11)	3.50	91,795	1.208	3.32	7,045	1.135	3.33	4,889	1.288	3.45	3,770	1.245	3.55	66,627	1.197
	I feel there is a general atmosphere of prejudice among students (ENV11a_12)	3.70	91,788	1.088	3.31	7,048	1.089	3.43	4,889	1.160	3.48	3,768	1.155	3.79	66,620	1.053
	Faculty have discriminated against people like me (ENV11a_15)	4.20	91,807	0.990	3.98	7,047	1.004	3.84	4,888	1.125	4.10	3,770	1.042	4.27	66,635	0.949
	Staff have discriminated against people like me (ENV11a_16)	4.23	91,805	0.952	3.99	7,047	0.995	3.88	4,889	1.096	4.14	3,770	1.009	4.30	66,632	0.908
Mentorship	Faculty/Instructor (ENV8b1)	2.59	101,058	1.187	2.43	7,056	1.183	2.47	4,895	1.246	2.52	3,769	1.199	2.64	66,689	1.175
	Student Affairs Professional Staff (ENV8b2)	1.67	101,097	1.021	1.74	7,053	1.041	1.88	4,891	1.157	1.79	3,770	1.098	1.64	66,690	1.001
	Parent/Guardian (ENV5)	3.01	101,052	1.259	2.68	7,053	1.314	2.85	4,893	1.352	2.86	3,771	1.327	3.09	66,690	1.223
	Other Student (ENV6)	2.52	101,038	1.268	2.53	7,053	1.246	2.43	4,893	1.267	2.41	3,772	1.273	2.54	66,676	1.268

Construct | Items		Omnibus			Asian			Black			Latino			White		
		Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.
Sociocultural Discussions	Talked about different lifestyles/customs (ENV 9a)	2.90	99,561	0.872	2.92	7,054	0.849	2.96	4,892	0.906	3.01	3,772	0.889	2.87	66,686	0.865
	Held discussions with students whose personal values were very different from your own (ENV 9b)	2.85	99,551	0.881	2.76	7,053	0.883	2.90	4,890	0.926	2.88	3,772	0.927	2.84	66,681	0.870
	Discussed major social issues such as peace, human rights, and justice (ENV 9c)	2.63	99,544	0.953	2.47	7,053	0.917	2.71	4,891	0.976	2.66	3,772	0.997	2.62	66,676	0.948
	Held discussions with students whose religious beliefs were very different from your own (ENV 9d)	2.59	99,540	0.967	2.49	7,052	0.945	2.58	4,892	1.016	2.57	3,772	1.006	2.58	66,677	0.959
	Discussed your views about multiculturalism and diversity (ENV 9e)	2.56	99,536	0.958	2.67	7,049	0.924	2.79	4,891	0.992	2.78	3,771	0.978	2.49	66,678	0.943
	Held discussions with students whose political opinions were very different from your own (ENV 9f)	2.73	99,543	0.951	2.38	7,052	0.944	2.60	4,891	1.002	2.62	3,772	0.995	2.78	66,678	0.930
On-Campus Involvement	Been an involved member in a college organization(s) (ENV6a)	3.14	102,647	1.452	3.10	7,054	1.384	3.01	4,897	1.508	2.83	3,774	1.500	3.21	66,695	1.443
	Held a leadership position in a college organization(s) (ENV6b)	2.15	102,654	1.498	2.22	7,056	1.480	2.09	4,898	1.504	2.00	3,774	1.466	2.17	66,701	1.509
Off-Campus Involvement	Been an involved member in an off-campus community organizations (ENV6c)	1.95	102,647	1.321	1.90	7,056	1.293	2.35	4,893	1.507	1.95	3,773	1.340	1.91	66,700	1.297
	Held a leadership position in an off-campus community organization(s) (ENV6d)	1.52	102,649	1.085	1.56	7,054	1.098	1.83	4,896	1.339	1.60	3,774	1.160	1.47	66,700	1.035

Model Testing

Structural equation modeling (SEM) using AMOS 16.0 software was used to test the direct and indirect effects of the observed indicators and latent factors. One SEM model was built and then tested against the omnibus sample and each race-specific sample. Several fit indices for each of the SEM models (Table 4.2) were used and revealed that the hypothesized models fit the data well. Root-mean-square error of approximation (RMSEA) values ranged from .050 (.050,.050) to .056 (.055,.057); NNFI values ranged from .901 to .907; IFI values ranged from .905 to .924; and, CFI values ranged from .904 to .924. Kline (1998) confirmed that values equal to or greater than .90 for NNFI, IFI, and CFI demonstrate good fit. Similarly, Hu and Bentler (1999) identified RMSEA values less than .08 as indicators for good fit. Thus, all fit indices for each of the testing models fall within the acceptable fit ranges.

Table 4.2

Fit Indices for Omnibus and Racial/Ethnic Groups

	RMSEA	**NNFI**	**IFI**	**CFI**
Omnibus *(115,582)*	.049 (.049, .050)	.905	.905	.905
Asian *(7,059)*	.056 (.055, .057)	.901	.905	.904
Black *(4,898)*	.056 (.055, .057)	.908	.913	.913
Latino *(3,776)*	.052 (.050, .053)	.918	.924	.924
White *(66,718)*	.054 (.053, .054)	.908	.908	.908

Model specification. Four observed indicators, structural diversity, gender, class standing, and race are included in the model. The remaining indicators were constructed as latent factors built using multiple data points. The latent factors, socioeconomic status, discriminatory climate, mentorship, sociocultural discussions, on-campus involvement, off-campus involvement, and belonging climate, have two to six individual items that comprise the latent factor. See Table 3.3 for the specific items that are associated with each latent factor. I conducted confirmatory factor analyses to ensure the individual items were aligned, had strong factor loadings, and provided the most parsimonious model.

Figure 4.1 illustrates the overall factors and constructs with the associated items for each latent construct. Figure 4.2 delineates the hypothesized relationships and directionality of the variables' influences. As seen in Figure 4.2, the relationships between variables were start with key demographic variables, including socioeconomic status, gender, class standing, and race. Additionally, structural diversity, or the percentage of non-White students, was added. These first variables can be considered "controls" for the purpose of this study; they are included to account for the observed variance due to demographic differences. The remaining variables of interest are then situated between discriminatory climate and belonging climate (i.e., mentorship, sociocultural discussions, on-campus involvement, and off-campus involvement); these variables are built as "pathways" between discriminatory climate and the outcome variable of this study, sense of belonging. The key difference between the controls and pathways is that higher education professionals can help influence the pathways (e.g., increase mentorship) but cannot change controls (e.g., alter someone's race). Therefore, the results and discussion for each hypothesis are first focused on the pathway's effects on belonging; the effects of the control variables are presented in the latter half of this chapter and are included within Chapter 5.

Figure 4.1: Constructs with Indicators

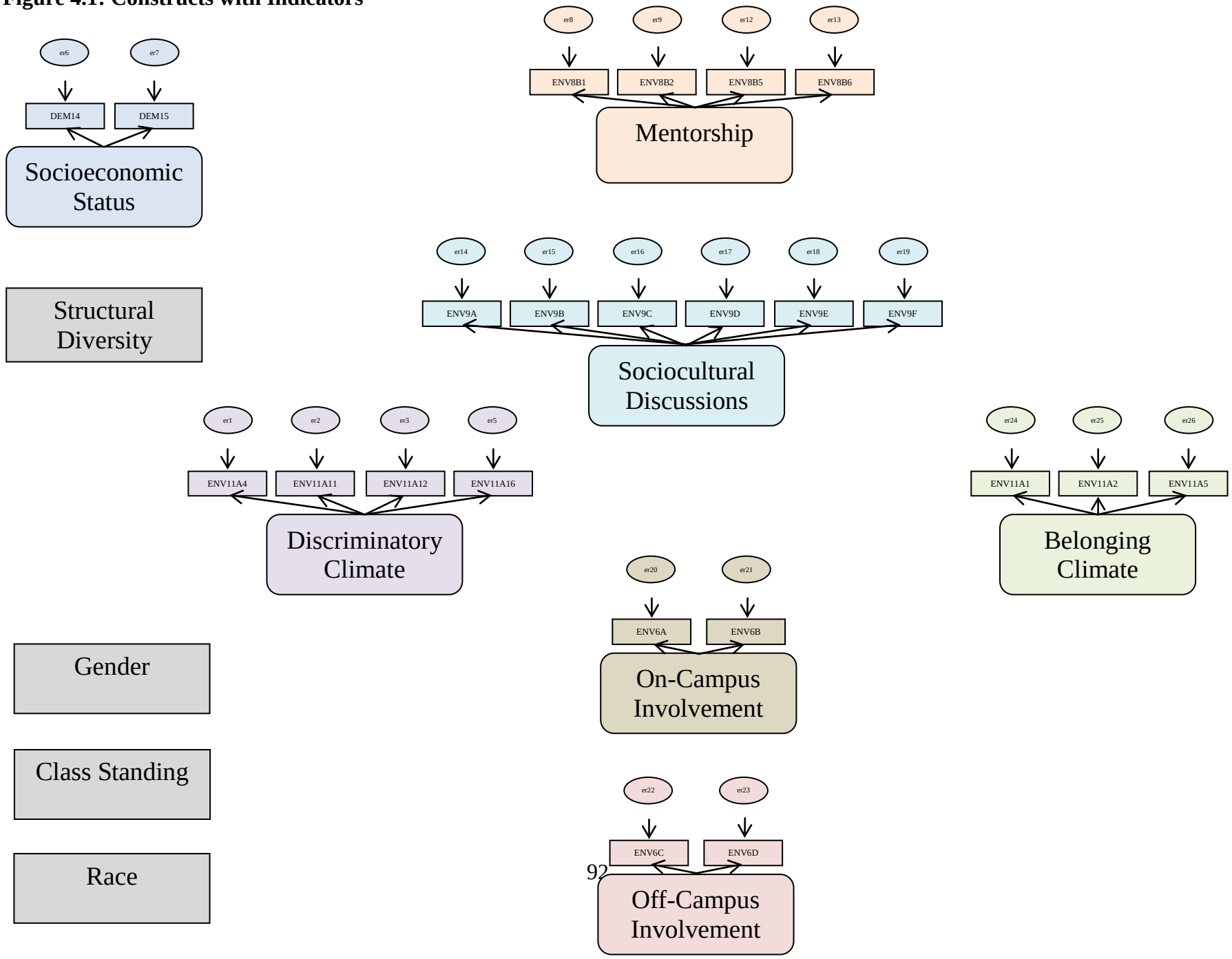
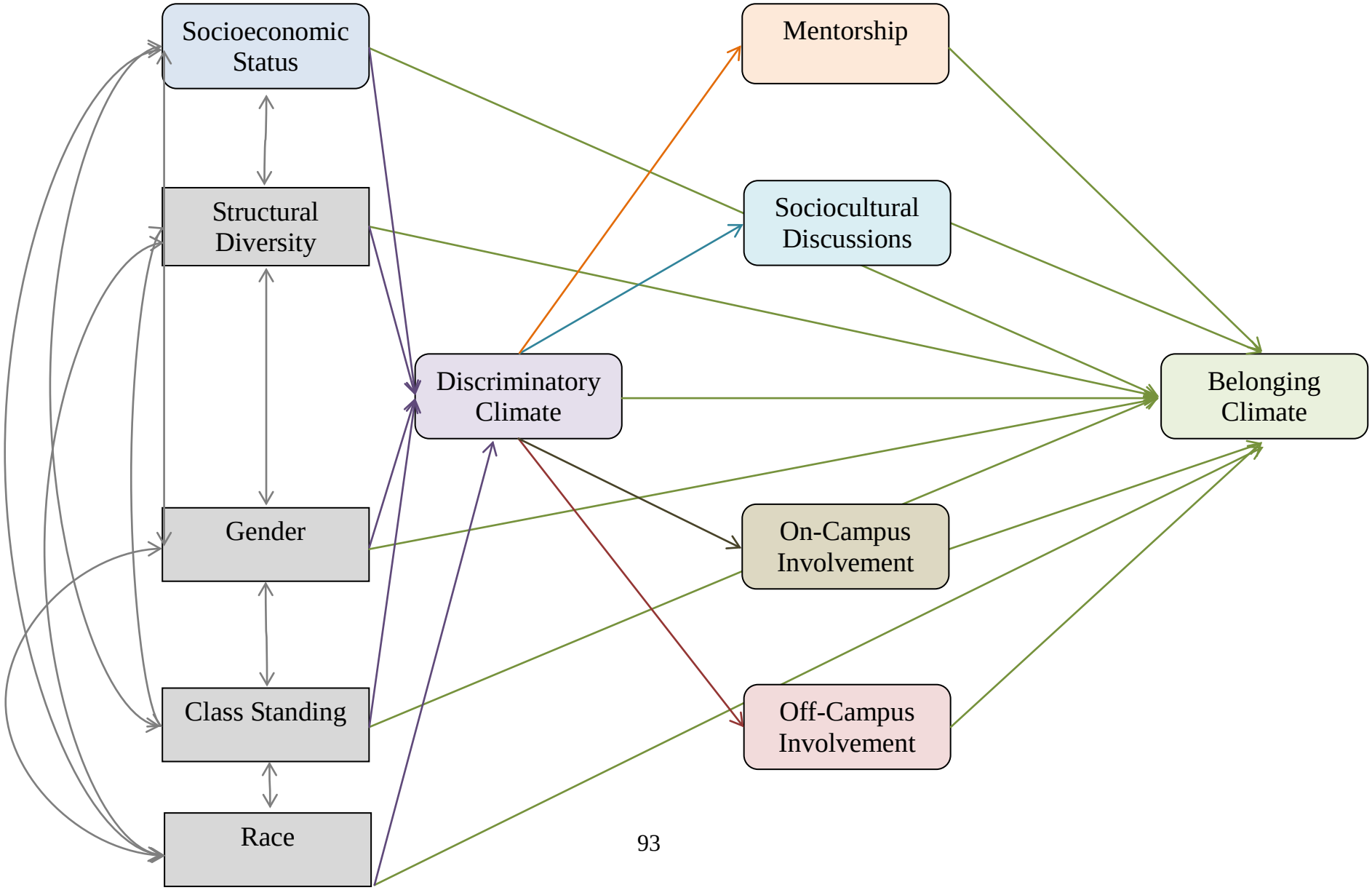


Figure 4.2: OMNIBUS WITH PATHWAYS

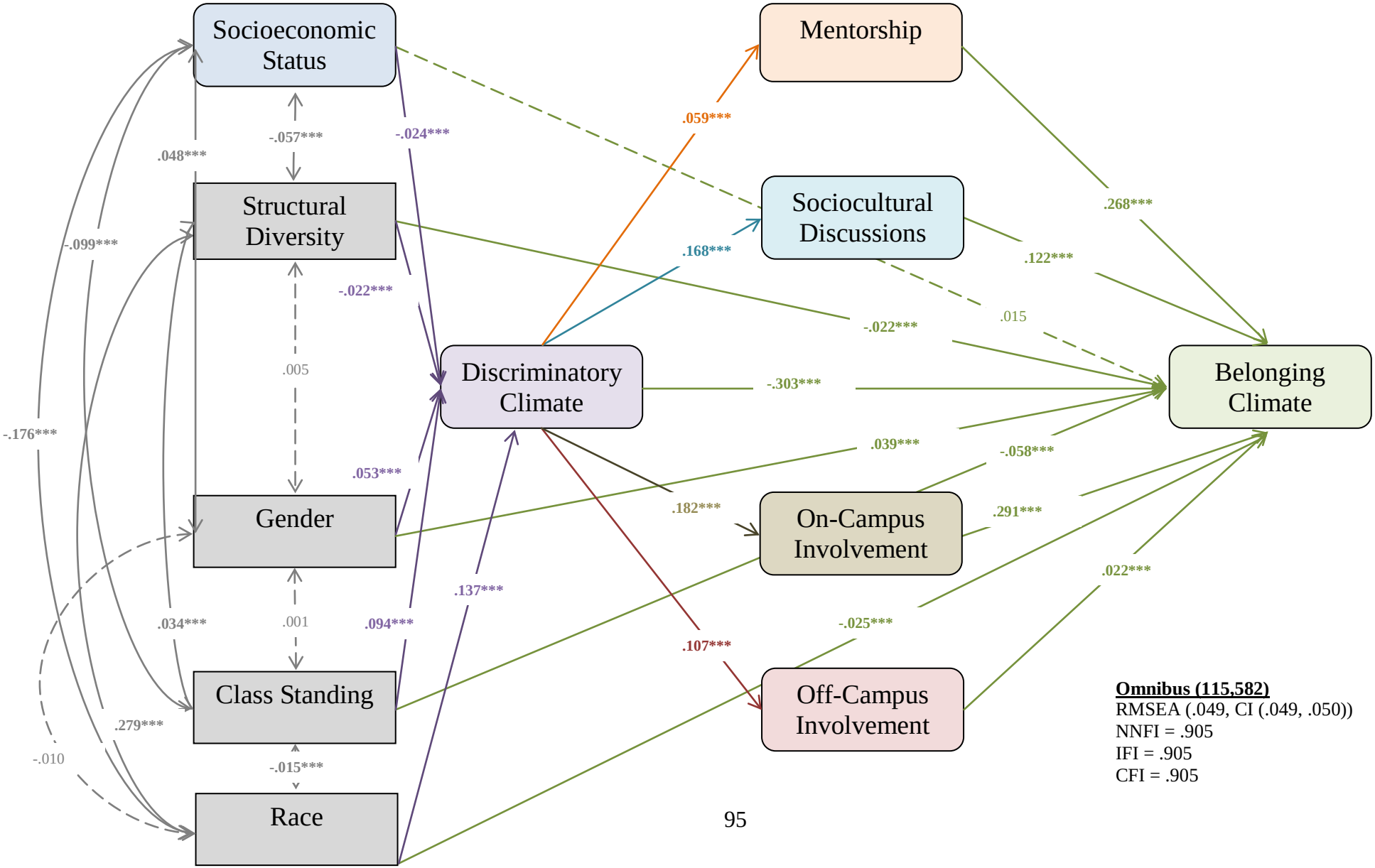


Hypotheses Testing

Hypothesis 1: *What are relationships among sense of belonging and (a) discriminatory climate, (b) mentorship, (c) sociocultural discussions, (d) on-campus involvement, (e) off-campus involvement, (f) structural diversity, (g) class standing, (h) gender, and (i) socioeconomic status?*

Using the omnibus model, inclusive of each racial/ethnic group, Figure 4.3 was used to test hypothesis one and illustrates the significant and non-significant direct and indirect relationships among the factors. See also Table 4.3 for the standardized regression weights and their respective p-values.

Figure 4.3: Omnibus with Regression Weights



Omnibus (115,582)
RMSEA (.049, CI (.049, .050))
NNFI = .905
IFI = .905
CFI = .905

Table 4.3

Standardized Regression Weights and Significance

			Omnibus
Disc Climate	←	SES	.024***
Disc Climate	←	Struct Div	-.022***
Disc Climate	←	Gender	.053***
Disc Climate	←	Class Stand	.094***
Mentorship	←	Disc Climate	.059***
SocioCult Dis	←	Disc Climate	.168***
OnCampus Inv	←	Disc Climate	.182***
OffCampus Inv	←	Disc Climate	.107***
Belong Climate	←	Class Stand	-.058***
Belong Climate	←	Gender	.039***
Belong Climate	←	Struct Div	-.015***
Belong Climate	←	SES	.001
Belong Climate	←	Mentorship	.268***
Belong Climate	←	SocioCult Dis	.122***
Belong Climate	←	OnCampus Inv	.291***
Belong Climate	←	OffCampus Inv	.022***
Belong Climate	←	Disc Climate	-.303***
Disc Climate	←	Race	.137***
Belong Climate	←	Race	-.025***

p<.001

The omnibus model shows the most direct effect to be a negative relationship between discriminatory climate and belonging climate (-.303), followed by on-campus involvement on belonging climate (.291) and mentorship on belonging climate (.268). Therefore, the negative relationship between discrimination and belonging is the most potent relationship within the model; this is the only inverse relationship in the model and is described in greater detail in Chapter 5. Second to that, on-campus involvement, then mentorship, have a positive influence on how one develops sense of belonging. The next level of significant direct effects include discriminatory climate on on-campus involvement (.182), discriminatory climate on socio-cultural discussions (.168) and socio-cultural discussions on belonging climate (.122). Thus, discrimination has a significant positive influence on key factors including involvement and dialogue, and, in turn, that dialogue has a direct, positive influence on one's belonging. In all, fifteen of the seventeen direct effects were significant within the omnibus model. The relationship between socioeconomic status and discriminatory climate and the relationship between socioeconomic status and belonging climate were not significant within the omnibus model.

The strongest pathway (both direct and indirect effects) within the omnibus model is the on-campus involvement pathway between discriminatory climate and belonging climate, with a summative value of .473. The value of this pathway outpaces all other pathways significantly. Similarly, the pathways between discriminatory climate and belonging climate for mentorship (.327), sociocultural discussions (.290), and off-campus involvement (.129) prove to be cumulatively significant (see Table 4.4). The on-campus involvement and mentorship pathways have stronger, inverse standardized weights than the direct effect of discriminatory climate on belonging (-.303). As a result, both the on-campus involvement and mentorship pathways

independently negate the observed negative effect that discrimination has directly on one's belonging, in essence neutralizing the negativity of the direct effect discrimination attributes to the outcome of sense of belonging.

Table 4.4
Omnibus Model Pathways

	Discriminatory Climate → X	**X → Belonging Climate**	**Sum of pathway**
Mentorship	.059	.268	.327
Sociocultural Discussions	.168	.122	.290
On-campus involvement	.182	.291	.473
Off-campus involvement	.107	.022	.129

Hypothesis 2: *Do the observed relationships between the variables of interest differ across four racial/ethnic groups: (a) Black, (b) Latino, (c) Asian, and (d) White?*

Individual SEM models for each racial group were used to test this hypothesis, comparing the overall models to see if there are notable similarities or differences in the potency and ordering of the factors' relationships. The results are not structured to compare statistical significance of specific factors or pathways across racial groups; instead, the data and tests were organized to develop a generalized understanding of which factors and pathways are the most similar or most different when looking at the complete models for each race-specific SEM.

Table 4.4 highlights some key differences, as well as similarities, for the race-specific models. Figures 4.4, 4.5, 4.6, and 4.7, provide the full details and relationships for each race-specific SEM. Similar to the omnibus model, for the Black and Latino models, discriminatory climate's direct effect on belonging climate was the most potent significant relationship. The Asian model places this relationship as the third most potent factor when considering the absolute values. Mentorship (.246) on belonging climate is the most powerful relationship for Asian students. For the White model, on-campus involvement is the most significant absolute value followed by the effects of discriminatory climate, then the influence of mentorship.

Table 4.4

Standardized Regression Weights and Significance

			Asian	Black	Latino	White	Sig across all races
Disc Climate	←	SES	-.025	.119***	-.035	.041***	
Disc Climate	←	Struct Div	-.072***	-.199***	-.114***	-.005	
Disc Climate	←	Gender	.047***	.033	.056	.055***	
Disc Climate	←	Class Stand	.097***	.098***	.095***	.086***	*
Mentorship	←	Disc Climate	.000	.167***	.087***	.052***	
SocioCult Dis	←	Disc Climate	.104***	.197***	.175***	.159***	*
OnCampus Inv	←	Disc Climate	.153***	.325***	.286***	.157***	*
OffCampus Inv	←	Disc Climate	.121***	-.001	.077***	.087***	
Belong Climate	←	Class Stand	-.024	-.027	-.011	-.060***	
Belong Climate	←	Gender	.063***	.095***	.070***	.031***	*
Belong Climate	←	Struct Div	.025	.059***	-.008	-.047***	
Belong Climate	←	SES	-.028	.002	.022	.024***	
Belong Climate	←	Mentorship	.246***	.240***	.255***	.272***	*
Belong Climate	←	SocioCult Dis	.172***	.159***	.143***	.115***	*
Belong Climate	←	OnCampus Inv	.236***	.178***	.257***	.308***	*
Belong Climate	←	OffCampus Inv	.035	.062***	.046	.010	
Belong Climate	←	Disc Climate	-.195***	-.362***	-.319***	-.295***	*

p<.001

Figure 4.4: Asian students

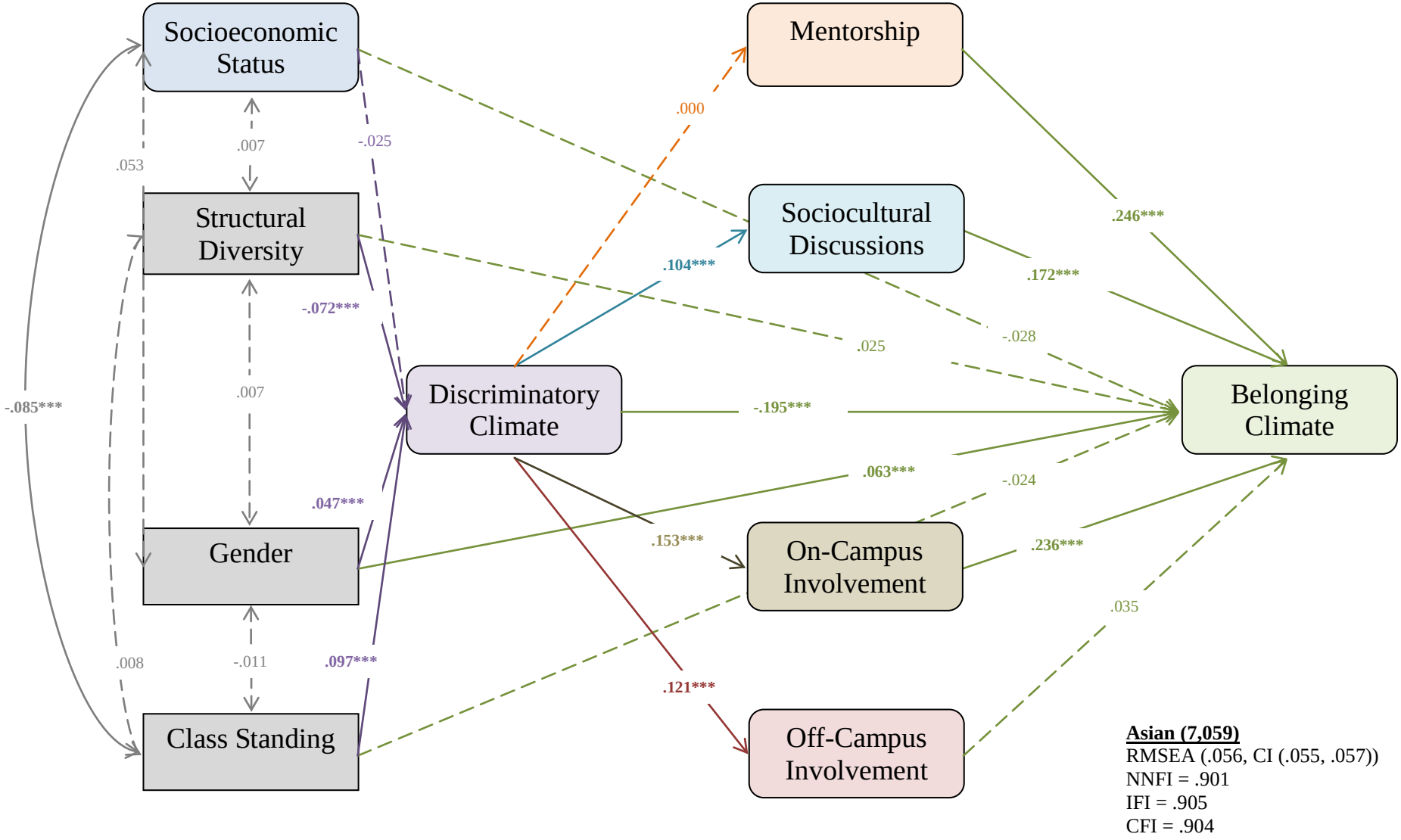


Figure 4.5: Black students

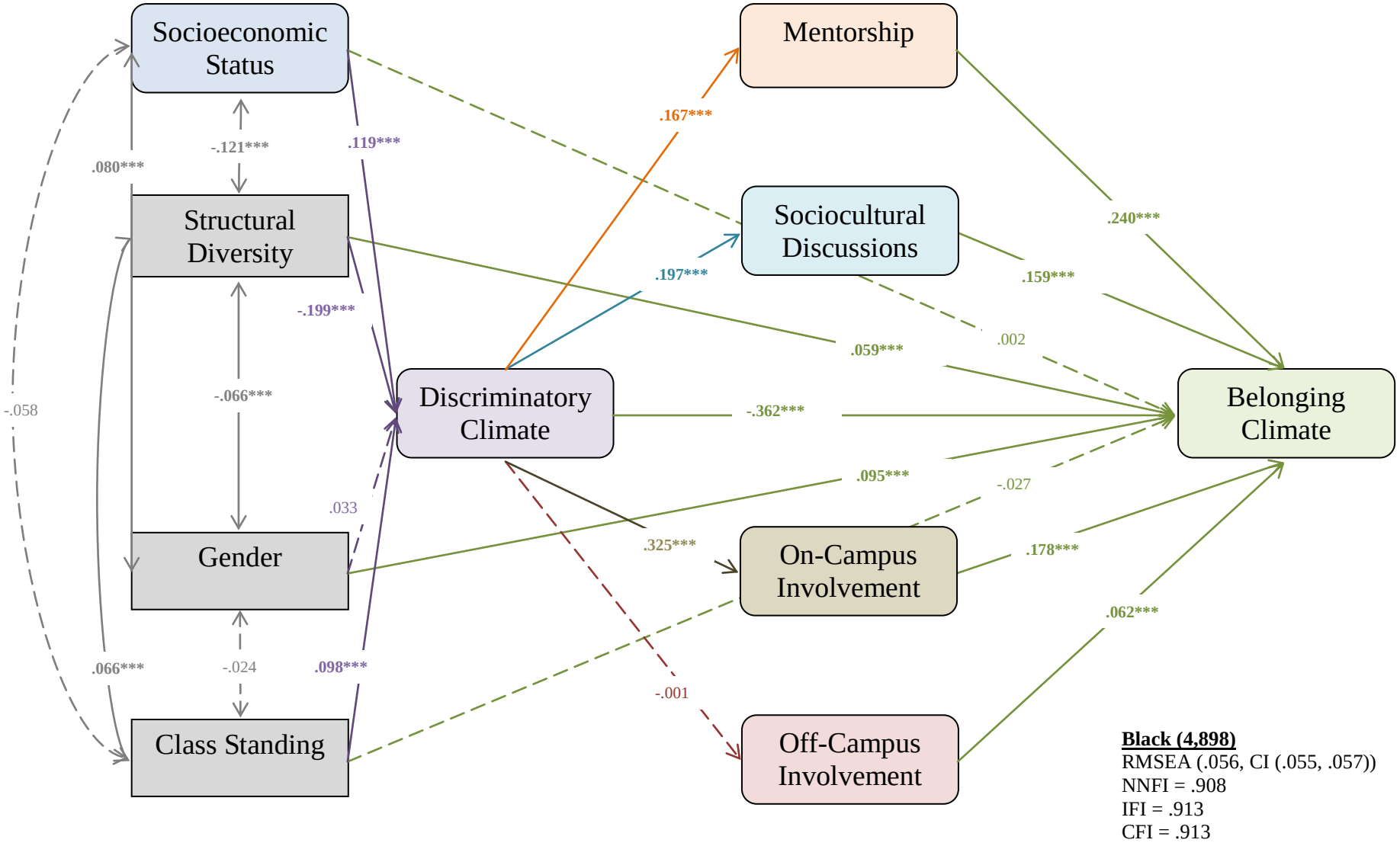


Figure 4.6: Latino students

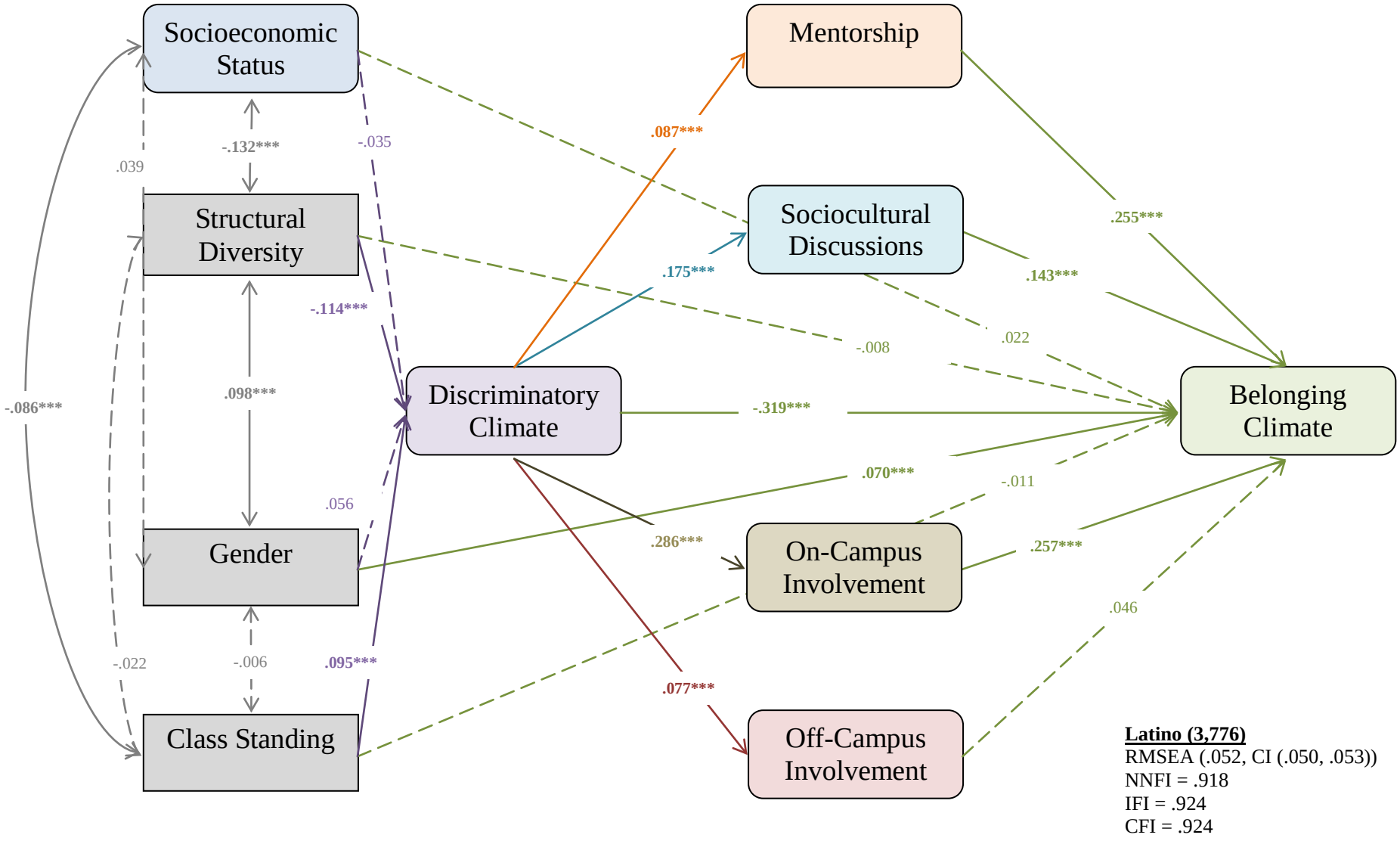
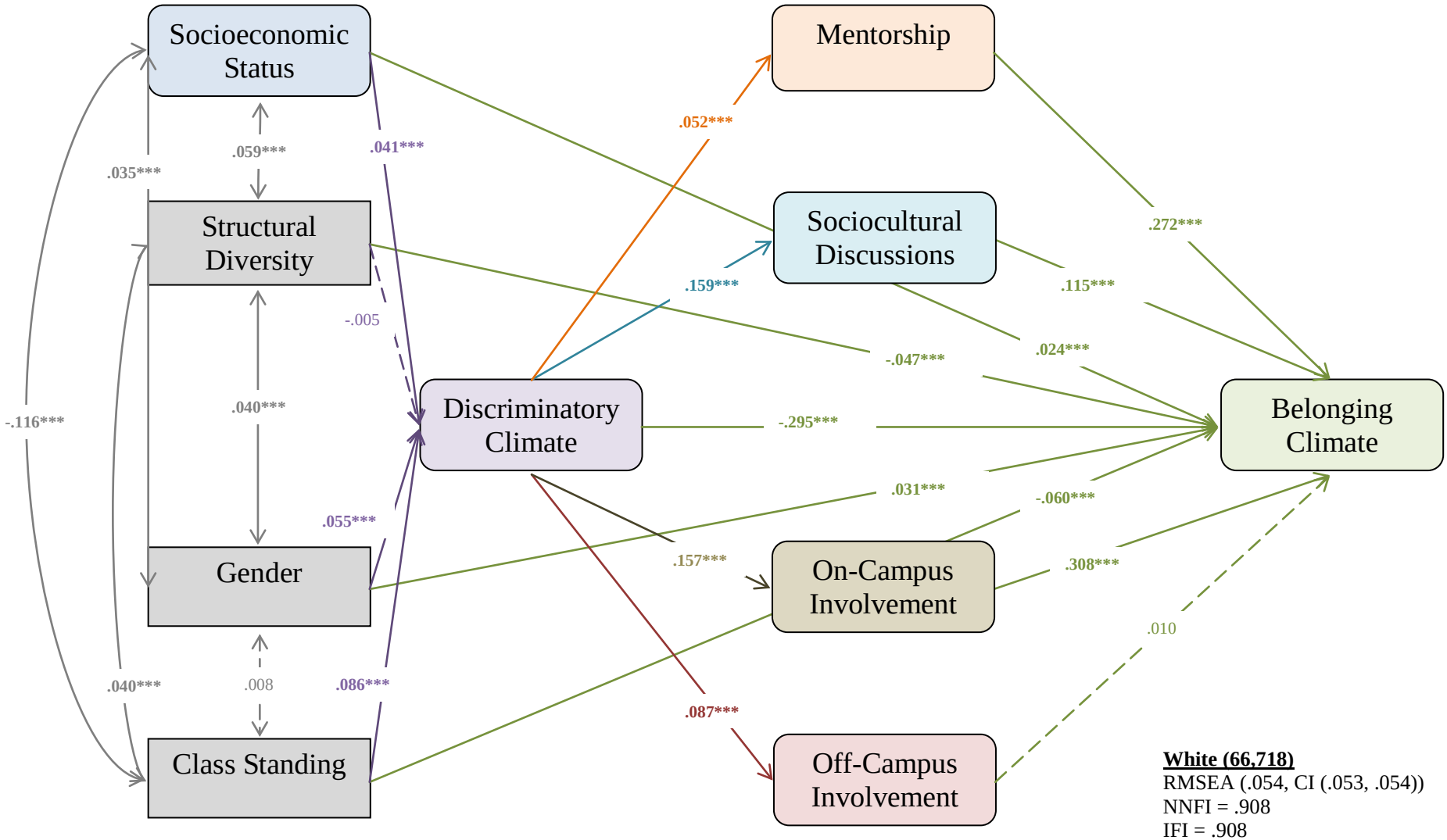


Figure 4.7: White students



For both Black and Latino students, discriminatory climate's effect on on-campus involvement was the second most powerful effect after discriminatory climate on belonging (325 and .286, respectively). For White students, on-campus involvement's effect (.308) on belonging climate was the most powerful effect, followed by discriminatory climate's negative influence on belonging. Thus, a component of the on-campus involvement pathway was most significant among the Black, Latino, and White race-specific SEMs.

Asian students indicate that mentorship and on-campus involvement are the most significant positive influencers on sense of belonging. Individually, mentorship (.246) and on-campus involvement (.236) counteract the negative pull of discriminatory climate (-.195) on sense of belonging for Asian students. The influence of sociocultural discussions (.172) on belonging climate is the next most powerful pathway within the Asian student model, a higher ranking relative to the other race-specific models.

Summing the significance of the individual components of the mediating pathways between discriminatory climate and sense of belonging, the results of the race-specific pathways (see Table 4.5) are generally similar to the omnibus model (see, Table 4.6). Table 4.6 ranks the relative significance of each pathway by race. For all race-specific models, on-campus involvement is the most potent pathway and off-campus involvement is the least powerful pathway to enhancing sense of belonging. Other than the Asian student model, mentorship is the second most powerful pathway followed by sociocultural discussions. The Asian student model indicates the sociocultural discussions pathway is stronger than the mentorship pathway. Overall, the pathway data provide a mostly analogous modeling of relative significance when compared to the omnibus model.

Table 4.5: Race-specific mediating pathways by variable

	Race	Discriminatory Climate → X	X → Belonging Climate	Sum of pathway
Mentorship				
	Asian	.000	.246***	.246***
	Black	.167***	.240***	.407***
	Latino	.087***	.255***	.342***
	White	.052***	.272***	.324***
Sociocultural discussions				
	Asian	.104***	.172***	.276***
	Black	.197***	.159***	.356***
	Latino	.175***	.143***	.318***
	White	.159***	.115***	.274***
On-campus involvement				
	Asian	.153***	.236***	.389***
	Black	.325***	.178***	.503***
	Latino	.286***	.257***	.543***
	White	.157***	.308***	.465***
Off-campus involvement				
	Asian	.121***	.035	.121***
	Black	-.001	.062***	.062***
	Latino	.077***	.046	.077***
	White	.087***	.010	.087***

Table 4.6: Race-specific mediating pathways by race

Race	Pathway	Sum of pathway
Asian		
	On-campus involvement	.389***
	Sociocultural discussions	.276***
	Mentorship	.246***
	Off-campus involvement	.121***
Black		
	On-campus involvement	.503***
	Mentorship	.407***
	Sociocultural discussions	.356***
	Off-campus involvement	.062***
Latino		
	On-campus involvement	.543***
	Mentorship	.342***
	Sociocultural discussions	.318***
	Off-campus involvement	.077***
White		
	On-campus involvement	.465***
	Mentorship	.324***
	Sociocultural discussions	.274***
	Off-campus involvement	.087***

Control Variables

The results presented earlier in this chapter are primarily focused on the relationship and pathways between discriminatory climate and belonging climate. There are additional variables included in both original hypotheses that provide additional observations to note. In essence, the model is built with its initial demographic variables (e.g., socioeconomic status, structural diversity, gender, and class standing) serving as controls for the other variables that are entered later within the model.

Each of the factors and pathways' observed effects between discriminatory climate and belonging are strengthened by the initial variables within the model, including socioeconomic status, structural diversity, gender, and class standing. Also, race is included as a control within the omnibus model but not in the race-specific models since those models include only one racial group. By introducing each of these controls at the beginning of the overall model, any significant influence from the control is removed from the effects reported within each of the pathways between discriminatory climate and belonging. In some models, the control variables have significant direct or indirect effects on the outcome of sense of belonging. For example, in the omnibus model, gender, class standing, and structural diversity each have a significant, direct influence on sense of belonging. The variance associated with those variables is parsed out of the pathways since the variables are included directly within the overall model.

While there are significant findings alone with these control variables, their relative value compared to the described pathways is generally much less and not a direct mediator between discrimination and belonging. Table 4.4 provides a summary of the direct effects of the controls on the remaining variables within the study across racial groups. Two demographic variables are consistently significant across each of the four racial groups: class standing's

influence on discriminatory climate and gender's influence on sense of belonging. Thus, regardless of race, individuals report lower levels of discrimination as they increase seniority on campus and women consistently report higher levels of belonging than their male peers.

The inclusion of the control variables provides a more complete picture of the relationships among the variables, but since demographics cannot be changed by higher education professionals, their effects are not described in the same level of detail in Chapter 5 as the key pathways identified within the structural equation models. However, the influence of key control variables related to specific racial groups are included in the race-specific discussions in Chapter 5.

Summary

In response to the two research questions of this study, this chapter presented descriptive statistics and the results of the omnibus and four race-specific structural equation models. The results confirmed the significance of key pathways between discriminatory climate and belonging after controlling for a number of demographic characteristics. Certain pathways were significant and consistent in their relative ranking across the omnibus and race-specific models (i.e., on-campus and off-campus involvement) while other pathways fluctuated based on race (i.e., mentorship and sociocultural discussions). Overall, the results rejected the null hypotheses that the variables of interest would have no significant influence on the outcome of belonging. The next chapter provides a closer examination and discussion of the key findings, discusses limitations of the study, and offers suggestions for practice and future research based on this study's outcomes.

CHAPTER 5: DISCUSSION

This chapter situates the comprehensive findings of the study's two research questions within the extant body of related empirical literature. The results of the study's robust model, inclusive of many individual and institutional characteristics and factors, confirm the complex relationships between and among identified factors in research question one. The results further illuminate similarities and differences when examining research question two across racial groups.

To organize the study's most significant findings, I integrate the results from both research questions into broader categories that serve as the organizing framework for discussion. After highlighting the core elements of the model connected to the outcome of belonging, I describe the relative impact of discriminatory climate on the development of sense of belonging, followed by a closer examination of discriminatory climate's direct and indirect influences on other powerful pathways within the models. Next, I discuss each of the three key pathways (i.e., involvement, mentors, and dialogue) and highlight the compelling similarities across models and the nuances related to specific races. Finally, I discuss limitations, provide implications for practice and research, and offer a final summary of the entire study.

Belonging

The power of sense of belonging on other important outcomes for college students is clear within empirical literature (Hausmann et al., 2007; Johnson et al., 2007). Feeling valued and connected to one's campus helps with persistence, transitions, and academic and interpersonal efficacy (Bowman, 2010; Cabrera, Nora, & Castaneda, 1993; Maestas, Vaquear, & Zehr 2007). This study's model examined belonging as the sole dependent variable within a complex array of relationships. Using three items (i.e., (a) I feel valued as a person at this

school, (b) I feel accepted as a part of the campus community, and (c) I feel I belong on this campus), I used the existing construct for belonging within the MSL study to estimate one's self-reported feelings of connectedness and value within the campus community.

Based on earlier empirical studies, this study examined the direct and indirect effects of mentorship, dialogue, and on- and off-campus involvement as core constructs that might bolster belonging when students perceive or experience discrimination around them. Results for increased sense of belonging show the significant power of three sets of pathways across Asian, Black, Latino, and White racial groups. Mentorship, dialogue, and involvement collectively are influential in strengthening sense of belonging for college students. While these pathways have somewhat differential effects per racial group, the hypothesized structural model proposed for this study proves to be statistically important for every group studied.

In particular, on-campus involvement is the most potent pathway for increased belonging in the omnibus and every race-specific model. This is not a surprising finding based on the wealth of existing research highlighting the importance of involvement on college student outcomes (Astin, 1991; 1993, Dugan, 2006), yet it illustrates a fundamental support that helps mitigate significant levels of negativity associated with discrimination, prejudice, and bias on campus. The individual pathways are described in greater detail following a discussion of discriminatory climate's effects on belonging and the overall model.

Discriminatory Climate

This study's discriminatory climate construct includes the perceived, observed, and direct interactions with prejudice and discrimination on campus. Even though the national population of college students has continually become more demographically diverse, disparities between racial and ethnic groups within higher education still exist due to a deep

history of selectivity and systemic racism (Carey, 2004). Literature on discrimination often suggests a direct relationship with decreased involvement and connection to campus (Ancis et al., 2000; Rankin & Reason, 2005). The impact of education's legacy of inequity is profound and clearly demonstrated within this study's most significant negative relationships between discriminatory climate and sense of belonging. Students who experience increased levels of discrimination on campus consistently indicate considerably lower levels of belonging across every racial group explored in this study. By contrast, the same experiences with discrimination appear to influence more engagement with campus and off-campus organizations, more connection with mentors, and more critical conversations about individual differences which, in turn, significantly increase one's sense of belonging.

In the omnibus model, the construct of discriminatory climate is controlled by race, class standing, gender, structural diversity, and socioeconomic status. Removing the potential effects of these controls reduces the possibility of confounding effects on the true relationship between discriminatory climate and belonging climate. Even after parsing out the potential influence of the control variables, the relative significance between discriminatory climate and belonging was very strong. Other than Asian model where the relationship between discriminatory climate and belonging was the second most significant direct effect, the remaining models indicate this relationship to be the most powerful on a magnitude of one to two times greater than the next set of significant direct effects.

The direct effect between discriminatory climate and belonging only tells a small part of the study's story. Without the pathways' variables and constructs between discrimination and belonging, the results would simply present a deficit model leaving no opportunity to understand the powerful and positive developmental opportunities within a seemingly

challenging college environment. The direct and indirect effects of dissonance created due to discrimination influence all of the study's pathways that lead to a greater sense of belonging. The real and perceived experiences with discrimination consistently appear to promote increased engagement with organizations, mentors, and peers which, in turn, leads to greater feelings of connectedness to one's campus community. Previous scholarship establishes the impact that the dissonance within a challenging environment can have on increased involvement and mentorship during college (Campbell, Fincher, Fink, Zhang, Komives, & Dugan, 2011; Dugan, 2006; Nora & Crisp, 2007). Similarly, students who experience discrimination are more likely to begin critical dialogues with peers which results in a greater understanding of self and others (Reid & Radhakrishnan, 2003; Velazquez, 1999).

Discrimination's Positive Effects on Pathways to Belonging

Unlike the negative influence of discrimination on belonging, the same feelings of discrimination have consistent positive effects on almost every component of each pathway to developing a deeper sense of belonging across racial groups. Why might discrimination play a positive role in involvement and engagement, leading to a deeper sense of belonging? Other research suggests a few possibilities including cognitive complexity and being the "other." Torres and Baxter Magolda (2004) found that students who observe and experience dissonance appear to have higher levels of cognitive complexity. Hurtado and Carter's (1997) model, one of the primary foundations for this study, includes a factor for cognitive complexity (i.e., cognitive mapping) which has a significantly positive effect on sense of belonging for Latino students. Hurtado's work shows the direct and indirect negative effects of transition and hostile climate with the only positive pathway to belonging being one's cognitive development. The current study's dataset did not have a direct measure for cognitive complexity, so future

research could build on this by overlaying the findings of this study with earlier research to develop a more nuanced set of questions around the influence of cognitive development on involvement, mentorship, and dialogue's impact on belonging.

Historically marginalized racial groups, like Black and Latino students in this study, experience a feeling of being the "other" which encourages earlier awareness, coping, and action due to discrimination within our racialized nation (Baker & Robnett, 2012; Fisher, 2007; Nora & Cabrera, 1996). Jane Pizzolato's (2003, 2004) research on high-risk college students explained the process of self-authorship to begin prior to the collegiate experience. Being a student with a relatively low level of privilege encourages, or even forces, interactions across difference to occur prior to college. When students are the only Black person in his high school classroom or the only Latina on her college debate team, they must represent their race within every conversation. A longitudinal study of Latino college students by Torres and Hernandez (2007) further supported this notion describing a "Crossroads" phase between "External Formulas" and "Becoming Author of One's Life" as the point where students "recognized and sometimes experienced a racist event that promoted their development" (p. 571). Further, Nunez (2009) in her longitudinal study of Latino students found that even as Latino students report higher levels of a hostile campus climate, they experience greater levels of belonging when they are more engaged and more familiar with diversity issues. Pre-college experiences for minority groups propel the self-authoring process and increase the willingness of students from racial minorities to engage in challenging discussions and interactions in college (Pizzolato, 2003). Growing up being the "other," may prepare college students from a racial minority to avoid retreat and instead leverage negative climate experiences for personal growth.

The effects of discrimination as a catalyst for growth and belonging appear to be important within the unique pathways to belonging.

For this study, the direct effects of discriminatory climate on the mediating variables (i.e., mentorship, sociocultural discussions, on-campus involvement, and off-campus involvement) is statistically, positively significant within the omnibus and race-specific model with only two exceptions – discriminatory climate's influence on mentorship for Asian students and influence on off-campus involvement for Black students. Based on earlier research, real and perceived discrimination's positive effects on involvement and dialogue could be associated with a higher level of cognitive complexity or possibly feeling forced to engage as a way to understand or combat discrimination. In other words, this study's findings could suggest that college students, regardless of their race, who are able to observe and report discrimination within their environment are more cognitively developed, and it is those students with increased cognitive development who are generally more likely to become more involved and engaged in their campus anyway. Or, students who report higher levels of discrimination seek out mentorship, involvement, and dialogue to cope with, make sense of, or actively change their campus' discriminatory climate. Since discrimination's effect on the mediating variables was not the primary focus of this study, further research would be needed to clarify the direct relationship discriminatory climate has on increased mentorship, dialogue, and involvement.

Pathways

To further understand the indirect positive effects of discrimination on sense of belonging, as well as the direct effects of several mediating constructs, a closer examination of each pathway is described next. Included in this section are discussions of the involvement, mentorship, and dialogue's positive effects on belonging.

Involvement's Positive Effects on Belonging

The single most potent pathway for belonging in every race-specific model and the omnibus model is on-campus involvement. Students who are involved in or hold a leadership role in at least one campus club or organization are more likely to report an increased level of belonging in college. This study did not explore particular types of involvement, just the frequency (ranging from "never" to "much of the time") of involvement and leadership in college organizations. This overall finding is intuitive and aligned with a deep line of research on the positive power of involvement on one's development in college (Astin 1991, 1993). Looking at the complete pathway for on-campus involvement, students who report higher levels of discrimination within their campus environment are more likely to get involved on-campus which increases their sense of belonging in college.

The on-campus pathway within the omnibus model highlights the last component of the pathway, on-campus involvement's direct effect on belonging, as relatively stronger than the first part of the pathway, discrimination on on-campus involvement. A closer look at each of the race-specific models highlights that this same finding holds true for Asian and White students but is reversed for Black and Latino students. For these two historically marginalized racial groups, the strong effects of on-campus involvement are first amplified by the higher levels of negative experiences in the environment. Without accounting for acts or perceptions of discrimination, on-campus involvement may not have as strong as an effect as it does in this pathway. In essence, the model controls discrimination showing the isolated influence that involvement has on belonging. This finding suggests that Black and Latino students need more support to overcome discrimination's challenges relative to their peers of other races, and they have to do more (e.g., involvement and mentorship) to alleviate discriminatory climate's

negative effects on sense of belonging. It would be implausible to assume that professionals within higher education could eliminate all forms of discrimination on campus; instead, it is how one is supported in contextualizing, understanding, and acting on it which matters most, and to an even greater degree for Black and Latino students.

Off-campus involvement, while not as relatively strong as on-campus involvement's impact on belonging, is still significant and apparent in the omnibus model. The race-specific models provide a different set of findings on the interplay between discrimination, off-campus involvement, and belonging in college. For Asian, Latino and White students, only the first part of the pathway (i.e., discrimination's effect on off-campus involvement) proves significant; the latter half of the pathway to belonging is not significant. Thus, for these students, increased discrimination appears to increase time spent off-campus and that external involvement does not directly contribute to their sense of belonging. The sum of the pathway is positive, yet the particular specifics of the pathway's components indicate another potentially negative effect that discrimination exerts on sense of belonging. On-campus tension or hostility increases the likelihood of off-campus involvement for Asian, Latino, and White students, and more students engage in substantive activities off-campus due to their college's discriminatory climate. Off-campus engagement for these students does not support a deeper sense of belonging in college.

For Black students, the findings related to off-campus involvement are different from the omnibus and other race-specific models. Discrimination does not have an effect on off-campus involvement, but meaningful off-campus involvement has a direct effect on one's sense of belonging on-campus. When Black students are involved in off-campus experiences that are not significantly influenced by discrimination on-campus, those experiences provide additional opportunities to better understand oneself and feel more connected in college. Why would on-

campus discrimination not have a significant effect on Black students' pursuit of off-campus involvement like their peers in other racial groups? The explanation could be attributed to a number of possibilities, but based on existing literature, Black students may not be as strongly swayed to retreat from campus when faced with discrimination since they have likely faced similarly strong, negative experiences prior to college (Strayhorn & Terrell, 2010), and high achieving Black students may demonstrate even greater abilities to persist through the challenges (Fries-Britt & Griffin, 2007; Griffin, 2006). Additionally, finding involvement opportunities within the broader off-campus community (e.g., church, cultural organizations) has been shown to support the development and success of Black students during college (Fisher, 2007). The off-campus pathway in this study has the most differential effects across race and, when comparing the four racial groups, the most unique findings are observed for Black students. While the overall off-campus involvement pathway for Black students is positive, the results are due to the isolated positive direct effects of off-campus experiences and not due to mediation of Black students' discriminatory experiences on campus. Off-campus involvement does not serve as mediating pathway for belonging within a discriminatory college climate for Black students. It is only the direct effect of off-campus involvement that supports a greater sense of belonging for Black college students.

Overall, this study's findings related to involvement's effects on belonging suggest that researchers and practitioners need to understand both how discrimination drives involvement patterns and how those involvements support a greater sense of belonging. Looking at these factors independently and sequentially in this study produced rich, differential results by race that should be considered carefully within future practice and research.

Mentorship's Positive Effects on Belonging

The importance of a mentor who supports one's growth and development was significant in the omnibus and each race-specific model. The individual parts of each pathway for every model were significant with the exception of discrimination's effect on mentorship for Asian students. The categories of mentors within this study were somewhat broader than traditional studies of mentorship within college student development literature. Mentors often are distinctly defined as the relationship between a student and faculty/staff member or between a student and a peer (Nora & Crisp, 2007). Peer and faculty/staff mentorship are usually described and studied separately within the literature (Campbell & Campbell, 1997; Jacobi, 1991). Additionally, mentorship received from a parent or guardian is not typically connected to peer and/or faculty/staff mentorship. However, this study built a singular construct inclusive of faculty, staff, peers, and parents/guardians to understand the collective effect of students' potential mentoring community on their feelings of belonging to campus.

The general results indicate that having at least one significant mentor, regardless of type, is a powerful pathway to increased belonging. More specifically, for each the omnibus and race-specific model, the positive absolute value of the mentorship pathway's sum was greater than the negative value of discriminatory climate's effect on belonging. This overall finding demonstrates the importance of considering the full picture of belonging, rather than just discrimination's adverse effects. Having a mentor in college can help students develop a deeper understanding of differing perspectives, build supportive relationships, persist through challenging developmental milestones, and enhance their sense of personal value (Crisp & Cruz, 2009). In every model, the direct effect of mentorship on belonging is much greater than the first part of the pathway, discrimination's effect on mentorship. Thus, the primary driver for

belonging within this pathway is the presence of a mentor who contributes to one's development and growth, not a challenging environment with perceived, observed, and real instances of discrimination.

The only model that illustrates a pathway unique to the others is for Asian students. While the overall mentorship pathway between discriminatory climate and belonging is positive, discriminatory climate has no effect on one's engagement with mentors who support growth. However, the second component of the pathway highlights the positive effect that mentorship independently has on one's sense of belonging. Thus, it seems that Asian students do not seek out mentorship relationships due to observations of or experiences with discrimination, but mentorship does have a direct, positive effect on enhancing sense of belonging for Asian students. Kim, Chang, and Park (2009) found that Asian undergraduates have lower rates of interaction with faculty members and fewer high-quality faculty relationships when compared to White, Black, and Latino peers. Since this finding is unique when compared to other racial groups, future research should dig deeper to understand if the findings here are truly a result of a specific cultural value or a symptom of higher education not providing the right types of mentorship experiences for Asian students.

It is important to note that this study was not intended to research particular types of formal mentorship programs. Some scholars challenge the conventional wisdom and suggest that formal mentorship programs add no to little value for students' development (Inkelas, Daver, Vogt, & Leonard, 2007) and that mentorship should be more organic and driven by the student. Potentially, practitioners should be cautious in continuing to invest significant resources in building specific, structured programs. The importance of this study indicates that the simple identification of a mentor, regardless of type or formality, who the student believes

supports his or her growth, further enhances a deeper sense of connectedness to the campus. Ensuring students simply can identify a supportive mentor in their lives is the fundamental first step to strengthening a belonging climate on campus. Who the mentor is, how often they meet, or what is the content of these relationships are all secondary questions and concerns about mentorship based on the findings within this study.

Dialogue's Positive Effects on Belonging

Sociocultural discussions, or conversations across differences, proved to be another significant pathway for the omnibus model and each racial group. The ability to engage with peers who have different views about politics, religion, or war, for example, increases the likelihood for students to report higher scores on the belonging scale. The direct effect of discriminatory climate on sociocultural discussions is the primary driver within this pathway in all models except for Asian students. This finding suggests a natural connection between observing challenges within one's environment and engaging in challenging discussions at an increased frequency. A greater number of difficult dialogues occur in discriminatory climates with inherit negative interactions that are due to some sort of difference. While the effect of those dialogues on sense of belonging is still significant and positive, the overall pathway for sociocultural discussions would not be as strong if it were not situated within a college environment with incidents of bias, prejudice, or discrimination. Like the findings from involvement, a challenging environment seems to influence students' understanding of how they can belong within a complex community.

For Asian students, the findings paint a slightly different model than that of the overall findings and those specific to other races. In the Asian model, the direct effects of sociocultural discussions on belonging are relatively stronger than discriminatory climate's influence on

those discussions. Pathway analysis within structural equation modeling allows a researcher to control for the variance of direct relationships at the end of the pathway with those variables entered earlier in the pathway. In this example, the direct effect of sociocultural discussions on belonging is controlled for by any effects of the discriminatory climate, thus not confounding the two. Therefore, the effect of dialogue on belonging is stronger than discriminatory climate's effect on belonging for Asian students and should be explored by future researchers to understand the deeper subtleties within dialogue that matter most to enhancing Asian students' belonging on campus.

Collegiate environments do not always mirror a college student's hometown or high school, and college students often can find themselves engaging with others from different races or cultures for the first time on campus (Minikel-Lacocque, 2013). The ability to engage in conversations across difference helps to mitigate the potentially negative impact that a discriminatory climate can have on sense of belonging in absence of those meaningful discussions. This finding supports other research with this particular measure that emphasizes the importance of sociocultural discussions on a number of critical outcomes for college students including leadership development, leadership efficacy, critical thinking, application of knowledge, and commitment to civic engagement (Dugan, 2006; Inkelas, 2007). Previous studies, though, have not linked the significance of conversations across difference with the development of a greater sense of value and connectedness with campus. The process of dialogue with peers around hard, differentiating issues likely helps college students make new peer connections and encourages feelings of belonging in a diverse environment where everything may not align directly with his or her existing views.

Key Findings by Race

The previous sections describe the generalized findings for the items, constructs, and pathways, including specific differences for the unique racial groups. This section separates the findings per racial group and synthesizes the observations for Asian, Black, Latino, and White students.

Asian Students

The Asian student model in this study includes 7,059 respondents. When comparing the means and standard deviations for the items of the sense of belonging construct, Asian students reported the lowest scores on each of the three items (3.49, 3.63, 3.61); the items' respective standard deviations (0.900, 0.854, 0.874) were also the smallest of any other racial group or the omnibus model, meaning the responses were more concentrated around the average mean with fewer scores at the extremes of the response options. This study supports previous research indicating lower belonging scores for Asian students when compared to other racial groups (Lee, 2003) and an increased likelihood for Asian college students to select middle options when selecting responses from Likert scales (Lee, Jones, Mineyama, & Zhang, 2002; Wang, Hempton, Dugan, & Komives, 2008).

While Asian students report the lowest level of belonging in the study, they also report relatively high levels of discrimination compared to other racial groups. In particular, Asian students report the highest levels of discriminatory climate for two key items: "encountering discrimination" and "feeling a general atmosphere of prejudice." Feelings of or experiences with discrimination have a direct, negative effect on Asian students' sense of belonging according to this model. Other than a differential in gender, none of the remaining control variables (i.e., socioeconomic status, structural diversity, or class standing) had a direct effect

on belonging; this further supports the idea that race is a key factor for feelings of discrimination and lower reported belonging, not confounded by other demographics for Asian students (Kim, 2001). According to this current study, Asian students have a lower sense of belonging and higher perceptions of discrimination than their White peers, but Asian students report less overall discrimination than the other historically marginalized racial groups in this study (i.e., Black and Latino students).

Three key mediators appear to enhance levels of belonging for Asian college students. Mentorship has the strongest direct effect on belonging. Unlike all the other models, there is no relationship between discriminatory climate and mentorship, suggesting that negative climate experiences do not influence Asian students to seek out new mentor relationships on-campus. However, Asian students who do report high levels of mentorship have significantly higher levels of belonging on campus. Mentorship matters for Asian students' sense of belonging. Similarly, being involved in on-campus experiences supports increased belonging, as well as dialogue with peers who are different from them. Finally, Asian students who are involved off-campus do not show any change in their levels of belonging to the campus community. Further research should focus on the distinctly strong relationship mentorship has on belonging for Asian students, including particular types of relationships (e.g., faculty, peer), formal versus informal programs, and the overall content of those relationships in order to develop a more complete picture for this racial group.

Black Students

A total of 4,898 respondents comprised the Black student structural model of this study. The outcome of belonging was influenced by a number of control variables and pathways with the most significant direct effect being discriminatory climate's negative influence on sense of

belonging for Black students. Further, discriminatory climate experiences had a relatively stronger effect on on-campus involvement and sociocultural discussions than the latter part of their respective pathways. Thus, for Black students, experiences with discrimination are a substantive influence for this particular model. Experiences with discrimination appear to increase Black students likelihood to seek out involvement and leadership experiences within on-campus organizations. According to this study, the overall on-campus involvement pathway is the most significant intervention to increase sense of belonging for Black students. Extant research points to involvement in Black student organizations as a way for Black students to build a deeper sense community, feel more connected to their home environment, and find mentors and peers who have similar experiences and backgrounds (Guiffrida & Douthit, 2010). However, since the on-campus involvement factor was broad and did not include specific involvement categories, additional studies would need to confirm if particular types of on-campus involvement have a greater effect for Black students' belonging.

A finding unique to only the Black student model was structural diversity's positive influence on belonging. Black students reported higher levels of belonging when they were a part of a college campus with a greater percentage of students of color. This study supports previous measures and frameworks that demonstrate the importance of structural diversity for racial minorities (Hurtado, Milem, Clayton-Pedersen, & Allen, 1998, 1999; Milem, Chang, & Antonio, 2005, Milem, Dey, & White, 2004; Rankin & Reason, 2008). According to this study, structural diversity is particularly salient for Black students' belonging. Future analyses could be conducted to further study the demographic composition of institutions that are the most ideal environments for Black students to feel valued and connected to their overall campus community.

A final unique finding within the Black student model that was not observed in the other racial groups was the relationship between discriminatory climate and off-campus involvement was not significant. However, Black students who reported higher levels of involvement and leadership in off-campus experiences indicated higher levels of belonging. Thus, for Black students, experiences with discrimination on-campus were not associated with them seeking involvement off-campus. This might be attributed to PWI's existing within similarly white communities where the off-campus opportunities are the same as those on-campus (Guiffrida, 2005). According to this study's findings, Black students who are engaged in substantive off-campus experiences, unrelated to any experiences with discrimination on-campus, are more likely to report higher levels of belonging to campus. Feeling connected to experiences around campus translates to a deeper feeling of being connected on-campus for Black students, a finding highlighting the relevance of higher education educators working closely with local communities to connect resources and create shared outcomes for Black student involvement.

Latino Students

This study's Latino student model includes 3,776 respondents. The conceptualization and framework for this overall study across racial groups was built upon Hurtado and Carter's (1997) previous study of Latino students and the factors that support their sense of belonging. Like Hurtado et al.'s model, this study's model demonstrates a clear, negative relationship between discriminatory or hostile experiences and sense of belonging. Other than cognitive mapping, Hurtado's study did not identify any other positive supports of belonging. This study adds a robust set of additional findings that highlight several positive supports for belonging, including on-campus involvement, dialogue, and mentorship. While Hurtado was primarily

focused on transition into college, the significant pathways found within this study could apply to one's transition or entire college experience as a Latino student.

Latino students, like Asian students, were more likely to seek out off-campus experiences when faced with campus-based discrimination, and the resulting off-campus involvement did not have an effect on the overall development of belonging on-campus. This finding suggests that practitioners should be aware of Latino students who devote significant time immersed in off-campus experiences. Based on this model, this might be attributed to considerable feelings of discrimination which could ultimately lower Latino students' sense of connectedness to campus; on the other hand, similar experiences that are based on-campus have a significant positive effect for Latino students. In fact, the on-campus pathway has the highest cumulative value of any pathway across any of the study's model. On-campus involvement is particularly powerful for Latino students as they develop a deeper sense of belonging within the campus community.

The important earlier research by Hurtado and colleagues highlights additional variables to consider for potential negative effects on belonging for Latino students other than cognitive mapping, including controls for ease of transition, institutional selectivity, gender, and academic ability. Each of these had indirect negative effects on belonging within their original model. Gender was the only control included in this study and had a direct effect on sense of belonging, indicating that Latinas are more likely to indicate higher levels of belonging when compared to Latinos. The data from this study and Hurtado and colleagues' previous work pose a number of additional research questions that could be explored within future students, including the differences among Latino and Latina experiences with belonging or how mentorship can

positively intervene during potentially negative transition experiences for Latino college students.

White Students

The White student model of this study contained the largest sample of 66,718 respondents. Due to the disproportionate sample size compared to the other racial groups which ranged from 3,700 to 7,000, one might expect the omnibus model to be skewed to match the White model. While there are a number of similarities and differences between the White and omnibus models, there are three key observations that present unique findings: the effect of socioeconomic status on belonging, the components of the off-campus involvement pathway, and the influence of structural diversity.

In the omnibus model, socioeconomic status has no direct effect on the sense of belonging outcome; however, in the White student model, socioeconomic status has a significant positive effect on increased levels of belonging. Therefore, White students from higher socioeconomic statuses report higher levels of connectedness to campus. Students from lower socioeconomic backgrounds often struggle to acclimate and connect on campus (Goldrick-Rab & Won Han, 2011), and this study supports earlier research and suggests a more critical look at the interplay between race and socioeconomic status for White students.

Like the previous descriptions of off-campus involvement for Asian and Latino students, White students who report discrimination are more likely to get involved off-campus which does not, in turn, create a greater sense of campus connectedness. The omnibus model shows both parts of the off-campus pathway as significant even though only one portion of the pathway is significant in each of the race-specific models.

Finally, structural diversity for the White model shows a direct, negative influence on belonging, a finding consistent with the omnibus model. The effects of structural diversity were not significant for the Asian or Latino models and were positive within the Black model. These results suggest that White students report higher levels of belonging in campus environments that have a higher percentage of White students. The results of structural diversity within the omnibus model are only consistent with the results in the White model, indicating a level of caution in suggesting that students across races indicate higher levels of belonging on campuses with higher percentages of White students based on the omnibus model. Additional studies should be conducted to analyze the effects of institutional characteristics and demographic characteristics on White students and students of other races.

Limitations of the Study

Limitations are inherent in every research design, and this study has a few key limitations that warrant attention. First, the data used for this study are cross-sectional. All data were collected at one point in time and retrospective questioning was used to assess previous feelings and experiences. Cross-sectional design eliminates multiple time points for data collection, unlike longitudinal research which captures feelings and behaviors in the moment versus relying on one's memory and reflections.

Second, the measures of this study are based on one's self-perceptions and not based on an individual's actual behaviors or actions. Self-perception measures can introduce error because one's perceptions might be skewed or respondents might answer questions in a socially desirable way (Worthington, 2008). Social desirability is particularly important to consider in this study because it was administered as a study of college student leadership, and respondents were asked a number of questions about their leadership capacity and skills.

Next, missing data within certain variables (e.g., mentorship sub-scales) or small sub-sample sizes (e.g., Native American racial group) limited the possibility of including certain factors or groups. In comparing the omnibus model to any of the race-specific models presented in this study, key differences by race were observed. Thus, the findings of the omnibus model should not be assumed for races that were not detailed within this study.

Finally, this study is *ex post facto* design (i.e., the questions and hypotheses emerged out of pre-existing data). Thus, I was limited by the opportunity to include variables or questions that did not already exist within the data. The MSL instrument is robust with a number of variables and measures, including measures for all of my interests. If I had designed my own study, I could have included additional measures or adjusted some of the questions to be more tailored to this study's purpose, including integrating key items within Hurtado and Carter's (1997) earlier study.

Implications for Practice

This study found key pathways that support the development of a belonging climate even when bias, prejudice, and discrimination are present on-campus. Campus educators have the opportunity to build powerful interventions and environments that further enhance students' belonging and learning. The results suggest a number of critical implications for practice, including: (a) getting involved in at least one activity on-campus enhances one's feeling of connection; (b) off-campus involvement influenced by discrimination does not support belonging; (c) mentoring at all levels, even informal relationships, bolster belonging; and, (c) engaging in dialogues across difference build a deeper sense of belonging.

First, this study showed that on-campus involvement is the most significant support of belonging for every racial group in this study. If practitioners were to focus on a single

intervention based on this study's results, they should ensure that every student identifies at least one campus-based organization in which he or she is frequently involved. According to this research, it does not necessarily matter what type of involvement (e.g., academically-based club, intramurals, or student government) or the total number of campus organizations with which the student participates. Building a sense of community through involvement can mitigate feelings of isolation, fear, or low confidence particularly for students of color (Johnson et al., 2007). Tinto's (1975, 1987, 1994) model of student departure reminds scholars of the importance of both the individual and institutional factors that support academic and social integration. Further critique and expansion of Tinto's earlier models of integration call for research and interventions that do not assume that non-majority groups must acculturate and adjust their values and norms to fit that of the dominant culture (Tierney, 1999). Instead, non-majority groups, like the Asian, Black, and Latino racial groups within this study, may develop a deeper sense of belonging within one particular aspect of campus (e.g., a mentor relationship or involvement in a particular student group) without lessening one's identity to fit into the institution's dominant culture. Nunez (2004), in her application of segmented assimilation theory for Latino college students, highlighted that students of color have a deeper sense of connectedness to campus when they are able to find specific positive experiences and supports but not necessarily completely integrate within the dominant culture. The data observed in the current study support Nunez's findings since students within non-majority groups who experience discrimination (i.e., lack of complete integration) still have increased levels of belonging when they engage in specific activities on-campus. Students can feel like they belong within a diverse community without diminishing who they are or what they value. Through surveys or other processes, campus educators could identify students who do not

indicate any level of campus organizational involvement and work individually to match a student's interests with existing opportunities or find ways to create new experiences.

Second, the stimulus for off-campus involvement is a critical differentiator for practitioners to understand. If off-campus involvement is influenced by significant discriminatory campus experiences, like the findings within the Asian, Latino, and White models, then that involvement does not support a greater sense of belonging. However, if off-campus involvement is independent of experiences with campus discrimination, then that involvement supports a deeper sense of campus connectedness based on the findings for Black students. To better inform practice, additional information and data is needed. Is it the differences within the pathway that provide different results on belonging? Or, are the observed results of this study solely dependent on the unique experiences across race? If practitioners were to simply look at the omnibus model, you would assume that off-campus involvement is a wholly positive pathway to belonging; however, the specific results for every racial group of this study show a more nuanced depiction of the pathway that suggests caution. If students are seeking off-campus experiences due to discrimination, they do not report higher levels of belonging to their campus community. Higher education's practitioners should continue to explore integrative strategies to involve community organizations and leaders in the holistic learning and curriculum for students on their campus.

Next, since mentorship was defined by the respondent and not tied to specific mentoring programs or formal relationships, the implications from this study suggest the importance of building collective mentoring communities that are not only tied to structured programs that pair students with only faculty or staff. The key implication is that having a mentor, regardless of it being a faculty member, student affairs staff, parent or guardian, or peer, is critical support

for one's sense of belonging in college. College students benefit by having a least one individual who provides support and counsel. While many higher education institutions have robust faculty, staff, or peer mentoring programs for students, most institutions do not have a broader framework that connects those three discrete areas together and even fewer institutions involve parent or guardian relationships in their understanding of college mentorship. Administrators in higher education should focus on ensuring every student can identify a powerful mentor and focus less on who that particular mentor is. Peers and parents can assist with one's growth and development during college in similar and different ways than faculty and staff. Understanding the overall mentor support network for a student is the first step to then developing specific ways to help individual students feel a greater sense of belonging. First-year advisors or academic counselors can play an important role in helping students identify and leverage their mentorship network to become more involved and valued by their campus community. Other than advisors and counselors, it is important that members of campus see their potential role as a mentor, including current students and all levels of staff. If higher education took a broader view of mentorship, how would this change the current generalized approach to creating formal mentoring programs for targeted at-risk or marginalized groups?

Finally, conversations with other students who hold different political or personal views around topics such as diversity, religion, human rights, or family customs contribute to a deeper sense of belonging regardless of a student's race. This study's findings support a growing line of research that calls for practitioners to consider the importance of critical dialogue within the full complement of a student's college experience (Dugan & Komives, 2010). Like the practical implications for mentorship, the results of this study suggest the broad importance of

critical dialogues within a student's college experience. Having meaningful dialogue with others is a primary contributor to outcomes like belonging, and dialogue is central to deeper learning (Zuniga, 2003). The positive effects of sociocultural discussions on one's feelings of belonging are not dependent on particular types of religious or political discussions; instead, students would benefit from higher education professionals who integrate dialogic opportunities with peers whenever possible within a supportive and safe environment. Regardless of race or other demographic differences, students with any degree of engagement in conversations across difference benefit from an increased sense of belonging. Professionals in higher education might consider stepping back and understanding where these conversations are and are not currently happening on their campus. How can higher education build a deeper and broader curriculum of classroom and co-curricular experiences that exposes peers to meaningful conversations with others who have diverse perspectives? Further, what additional training and development do higher education professionals need in order to model these important behaviors with other professionals and students to support a broader campus culture of critical dialogue?

Recommendations for Future Research

This study's findings, as well as its limitations, provide a seemingly countless number of potential directions for future research. Due to the breadth of variables and exploration of numerous pathways across many groups, the findings uncovered in this study pose significantly more questions than the two original questions that initiated the inquiry. To build a deeper understanding of the unique, powerful contributors to a deeper sense of belonging, I offer five core lines of future inquiry, including a closer examination of: (a) specific experiences or individual items within each pathway of this study; (b) types of institutional variables and

programmatic interventions not included in this study; (c) influence of cognitive development and academic efficacy; (d) application of the model using other demographic characteristics; and, (e) advancing the study of sense of belonging.

Deeper understanding of individual pathways

Each of the pathways within this study proved significant in almost every instance. Since those pathways are based on constructs that contain multiple variables, future research could examine the unique contributors within each pathway in order to assess the relative importance of each item with respect to race or other characteristics. For example, are there particular types of mentors that matter more for Asian students' sense of belonging? Or, do conversations about differing religious beliefs have a stronger influence on Latino students or White students? More specific questions, like these, can be answered using the data within this study; these specific questions were not within the scope of this broader study but could explain the pathways in more detail and sharpen the focus on an even more parsimonious model explaining the most fundamental contributors to belonging by race. Further, each of the pathways could be examined for additional items or factors not included in the existing pathways. This study, for instance, uses a generalized measure for on-campus involvement and does not differentiate between typologies of involvement (e.g., academic, cultural, sport) which other research suggests could have differential effects on certain groups of students (Dugan, 2013). Further refinement of each of the study's pathways could enhance the practical understanding of what matters most when trying to strengthen a sense of belonging for college students.

Institution- and Program-Level Effects

The primary purpose of this study was to understand an individual's change in belonging based on changes at the individual level (i.e., involvement and dialogue). While the models included a control for an institution's structural diversity, there were no other institution- or program-level measurements to explore the effects of different types of environments or programs. Every institution of higher education is different from the next, and within each institution, there are different types of programmatic interventions that have the potential of influencing the outcome of belonging. Future research could consider the types of higher education institutions that have the most dramatic effects on the development of students' belonging. Do smaller institutions provide a more intimate experience to increase belonging compared to larger institutions? Or, do larger institutions provide a more diverse array of experiences that strengthen belonging when compared to smaller institutions? Do formal intergroup dialogue programs promote greater belonging when compared to peers not in the program who engage in similar discussions? Researchers can build upon this study's individual models by exploring organizational variables that could further support or challenge the general findings. The omnibus and race-specific models might look different when considering additional variations at the organizational level.

Cognitive Development and Academic Efficacy

Earlier research by Hurtado and Carter (1997) suggests the importance of cognitive mapping on increased levels of belonging in college. Due to this study's *ex post facto* design, there were no existing factors within the dataset to directly measure the effects of cognitive development on the outcome of belonging. Additional research could overlay changes in cognitive development to see if any of the observed significance is actually due to one's

cognitive development and not necessarily the direct effects of variables like growth from mentorship or outcomes from critical dialogue. Similarly, without a scale or variables for academic efficacy, this study could not discern the potential influence of one's academic confidence on feelings of belonging. Previous research shows a strong connection between one's confidence to be academically successful and the ability to seek out support and get more involved on campus (Gore, 2006). Similarly, research also highlights a strong, positive relationship between cognitive development and increased dialogue (King, 2010), as well as mentorship (Barnett, 1995). A further understanding of additional constructs like cognitive development and academic efficacy within the existing model could offer a stronger understanding of the overall supports for sense of belonging and the connections to other crucial variables like dialogue and mentorship.

Application to Additional Demographics

This study of particular racial groups provided a more specific understanding of sense of belonging for college students, yet there are numerous other characteristics that could be considered to extend this model. Does the model change for other racial groups whose sample size was too small to include in this study (e.g., Native American, Middle Eastern)? Are there differences in sense of belonging when comparing students who are from in-state versus out-of-state? Do LGBT students have different pathways that enhance their sense of connection to the campus community? When comparing first-generation students to their peers, are there observed differences in how students develop their sense of belonging? Each of these questions could strengthen the application of this model for practitioners and scholars to understand how different students form a deeper connection to campus given their particular identities.

Advancing the Study of Sense of Belonging

This framework and findings of this research provide a unique contribution to the study of sense of belonging within higher education's scholarship. Where previous scholars have explored particular racial groups' sense of belonging in depth (e.g., Hurtado, Nunez), this study accounted for multiple racial groups using the same framework. Within the study of sense of belonging, it is critical to continue to build a systematic framework that can be tested against different groups. The study's framework also accounts for a significant number of positive contributors to sense of belonging (i.e., involvement, mentorship, and dialogue) that are not consistently accounted for within previous empirical studies. This research is a significant extension of Hurtado and Carter's (1997) foundational work, and it illuminates a future line of inquiry into other racial groups as well as a broader exploration of additional positive supports that can mitigate discrimination's negative influence on sense of belonging.

Conclusion

Nevitt Sanford's (1967) guiding work within the field of higher education reminds educators to carefully consider the balance of challenge and support within their environment in order to ensure students' optimal growth. Students grow when challenges disrupt their sense of equilibrium, but too much dissonance can cause harm. To find the right tension level, challenge must be balanced by the right support. The study of sense of belonging within difficult campus environments is directly connected to the observations within Sanford's original work. The outcomes from this study demonstrate the considerable opportunities for higher education's leaders to provide better support for students and increase their feelings of connectedness to their campus community.

This study builds on previous climate and belonging research and illuminates three key pathways to bolster students' sense of belonging within discriminatory collegiate experiences. On-campus involvement is the most powerful pathway to a deeper sense of belonging across Asian, Black, Latino, and White students. Additionally, sociocultural discussions and mentorship prove to be positive supports for belonging and counteract the significant negative effects of discrimination. The pathway for off-campus involvement is not a powerful mediator between a discriminatory climate and belonging, but off-campus experiences that are not connected to discrimination appear to support a greater sense of belonging for some students. Researchers and educators within higher education can use the results of this study to build more complex studies, construct more effective interventions, and raise the level of discourse about students' sense of belonging in college.

While some students may overcome bias or discrimination on their own, this study provides clear evidence of institutional interventions that matter for students who observe or experience inequities within their environment. The success of higher education is built upon the success of each diverse student, and students who feel that they belong on their campus are more likely to learn and become engaged within their community. Thus, it is imperative for higher education's leaders, practitioners, and scholars to continue to build environments and opportunities that are responsive to the increasingly diverse student population while promoting belonging and ending discrimination.

Appendix 1:
Correlations

		Discriminatory Climate	Belonging Climate	Socio-Cultural Discussions	Mentoring Outcomes: Personal Development	Social Change Behaviors	GENDER	Class Standing	Gender	Sexual Orientation	SUB1B: Empower myself to engage in leadership	SUB1C: Empower others to engage in leadership	SUB1D: Engage in ethical leadership	SUB1J: Live up to my potential	SUB1K: Be a positive role model	SUB1N: Mentor others	SUB1O: Value working with others from diverse backgrounds	SUB1P: Be open to new experiences	SUB1Q: Develop problem-solving skills	SUB1R: Identify areas for self-improvement	DEM15: Parent(s) or guardian(s) combined total income from last year2	DEM14: Highest level of formal education obtained by any of your parent(s) or guardian(s)
Discriminatory Climate	Pears	1																				
	Sig. (2-																					
	N	39056																				
Belonging Climate	Pears	.243**	1																			
	Sig. (2-	0.000																				
	N	39051	39071																			
Socio-Cultural Discussions	Pears	-.046**	.165**	1																		
	Sig. (2-	.000	.000																			
	N	39020	39035	42274																		
Mentoring Outcomes: Personal	Pears	.042**	.262**	.309**	1																	
	Sig. (2-	.000	0.000	0.000																		
	N	39011	39026	42217	42741																	
Social Change Behaviors	Pears	-.136**	.181**	.335**	.281**	1																
	Sig. (2-	.000	.000	0.000	0.000																	
	N	38999	39013	42202	42666	42945																
GENDER	Pears	.005	-.012*	.000	-.011*	-.001	1															
	Sig. (2-	.285	.015	.946	.025	.784																
	N	39056	39071	42274	42741	42945	43023															
Class Standing	Pears	-.071**	-.011*	.066**	.112**	.178**	-.008	1														
	Sig. (2-	.000	.035	.000	.000	.000	.079															
	N	38780	38795	41970	42432	42637	42714	42714														
Gender	Pears	-.036**	.013*	-.026**	-.059**	-.048**	-.135**	.012*	1													
	Sig. (2-	.000	.012	.000	.000	.000	.000	.018														
	N	38970	38985	38989	38983	38969	39031	38756	39031													
Sexual Orientation	Pears	-.088**	-.053**	.027**	-.012*	.056**	-.003	.006	.028**	1												
	Sig. (2-	.000	.000	.000	.016	.000	.604	.218	.000													
	N	38995	39010	39011	39005	38991	39053	38779	39003	39053												
SUB1B: Empower myself to	Pears	.001	.234**	.221**	.621**	.309**	.000	.110**	-.027**	-.011*	1											
	Sig. (2-	.906	0.000	0.000	0.000	0.000	.980	.000	.000	.034												
	N	39056	39071	42274	42741	42945	43023	42714	39031	39053	43023											
SUB1C: Empower others to	Pears	-.015**	.214**	.207**	.604**	.290**	-.010*	.102**	-.017**	-.009*	.790**	1										
	Sig. (2-	.002	0.000	0.000	0.000	0.000	.034	.000	.001	.086	0.000											
	N	39045	39060	42260	42731	42930	43008	42699	39020	39043	43008	43008										
SUB1D: Engage in ethical	Pears	-.028**	.182**	.245**	.584**	.305**	-.006	.120**	.000	.001	.659**	.689**	1									
	Sig. (2-	.000	.000	0.000	0.000	0.000	.220	.000	.956	.777	0.000	0.000										
	N	39044	39059	42260	42729	42930	43007	42698	39019	39042	43007	42996	43007									
SUB1J: Live up to my potential;	Pears	.087**	.199**	.226**	.730**	.167**	-.007	.075**	-.063**	-.025**	.472**	.417**	.423**	1								
	Sig. (2-	.000	0.000	0.000	0.000	.000	.172	.000	.000	.000	0.000	0.000	0.000									
	N	39053	39068	42270	42741	42939	43017	42708	39028	39050	43017	43004	43002	43017								
SUB1K: Be a positive role model;	Pears	.054**	.222**	.204**	.761**	.195**	-.012*	.062**	-.059**	-.021**	.529**	.516**	.496**	.694**	1							
	Sig. (2-	.000	0.000	0.000	0.000	0.000	.012	.000	.000	.000	0.000	0.000	0.000	0.000								
	N	39052	39067	42268	42741	42937	43015	42706	39027	39049	43015	43002	43001	43010	43015							
SUB1N: Mentor others;	Pears	-.033**	.215**	.222**	.711**	.283**	-.013**	.107**	-.006	-.014**	.526**	.533**	.462**	.356**	.454**	1						
	Sig. (2-	.000	0.000	0.000	0.000	0.000	.006	.000	.242	.004	0.000	0.000	0.000	0.000	0.000							
	N	39034	39049	42246	42741	42699	42775	42466	39005	39028	42775	42764	42763	42771	42770	42775						
SUB1O: Value working	Pears	-.018**	.173**	.263**	.744**	.257**	-.002	.088**	-.053**	.017**	.472**	.498**	.521**	.356**	.442**	.552**	1					
	Sig. (2-	.000	.000	0.000	0.000	0.000	.719	.000	.000	.001	0.000	0.000	0.000	0.000	0.000	0.000						
	N	39034	39049	42247	42741	42699	42775	42466	39005	39028	42775	42763	42762	42771	42770	42769	42775					
SUB1P: Be open to new	Pears	.070**	.206**	.253**	.789**	.189**	.002	.058**	-.087**	-.002	.441**	.412**	.406**	.520**	.506**	.427**	.576**	1				
	Sig. (2-	.000	0.000	0.000	0.000	0.000	.742	.000	.000	.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
	N	39033	39048	42246	42741	42698	42774	42465	39005	39026	42774	42761	42760	42770	42769	42766	42767	42774				
SUB1Q: Develop problem-	Pears	.051**	.184**	.217**	.768**	.186**	-.011*	.124**	-.023**	-.015**	.420**	.400**	.385**	.484**	.461**	.433**	.468**	.586**	1			
	Sig. (2-	.000	.000	0.000	0.000	0.000	.022	.000	.000	.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
	N	39037	39052	42250	42741	42701	42777	42468	39008	39030	42777	42764	42763	42773	42772	42770	42771	42769	42777		
SUB1R: Identify areas for	Pears	.033**	.175**	.237**	.763**	.172**	-.013**	.068**	-.028**	-.008	.393**	.372**	.359**	.525**	.488**	.414**	.430**	.575**	.636**	1		
	Sig. (2-	.000	.000	0.000	0.000	.000	.008	.000	.000	.095	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
	N	39036	39051	42250	42741	42700	42775	42466	39007	39029	42775	42762	42761	42771	42770	42767	42768	42767	42770	42775		
DEM15: What is your best	Pears	.028**	.046**	-.003	-.040**	-.014**	.016**	-.071**	.015**	-.010*	-.020**	-.030**	-.036**	-.013**	-.023**	-.019**	-.063**	-.024**	-.034**	-.026**	1	
	Sig. (2-	.000	.000	.595	.000	.007	.001	.000	.002	.051	.000	.000	.000	.009	.000	.000	.000	.000	.000	.000		
	N	38972	38987	38987	38981	38967	39029	38754	38976	39008	39029	39019	39018	39026	39025	39004	39004	39002	39006	39005	39029	
DEM14: What is the highest	Pears	.024**	.055**	.067**	.018**	.068**	.013**	-.028**	.048**	-.018**	.000	-.027**	.000	.016**	-.019**	-.005	-.048**	-.010*	-.010*	-.009	.340**	1
	Sig. (2-	.000	.000	.000	.000	.000	.009	.000	.000	.000	.964	.000	.987	.001	.000	.295	.000	.047	.041	.062	0.000	
	N	38991	39006	39009	39002	38988	39050	38775	38995	39022	39050	39039	39038	39047	39046	39025	39025	39024	39028	39027	39026	39050

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 2: Instrument

MULTI-INSTITUTIONAL STUDY OF LEADERSHIP 2009

NOTE:
This is a paper and pencil version of what will be presented as an on-line web survey.

- **Skip patterns will automatically take the respondent to the appropriate section.**
- **Shaded sections/ items will be used in sub-samples and will not be asked of all participants.**

COLLEGE INFORMATION

1. Did you begin college at your current institution or elsewhere? (Choose One)

Started Here = 1 Started Elsewhere = 2

2. How would you characterize your enrollment status?
(Choose One)

Full-Time = 1 Less than Full-Time = 2

3. What is your current class level? (Choose One)

Freshman/First-year	1
Sophomore	2
Junior	3
Senior (4th year and beyond)	4
Graduate Student	5
Unclassified	6

4. Are you currently working OFF CAMPUS in a position unaffiliated with your school?

1 = Yes 2 = No

If NO, skip to #5

4a. **Approximately how many hours do you work off campus in atypical 7-day week?**

5. Are you currently working ON CAMPUS?
(Circle one)

Yes No

If NO, skip to #6

5a. Approximately how many hours do you work on campus in a typical 7-day week?

6. In an average month, do you engage in any community service?

1 = Yes 2 = No

If NO, skip to #7

6a-e. In an average month, approximately how many hours do you engage in community service? (Choose one from each category).

1 = None **5 = 16-20**
2 = 1-5 **6 = 21-25**
3 = 6-10 **7 = 26-30**
4 = 11-15 **8 = 31 or more**

As part of a class	1 2 3 4 5 6 7 8
As part of a work study experience	1 2 3 4 5 6 7 8
With a campus student organization	1 2 3 4 5 6 7 8
As part of a community organization unaffiliated with your school	1 2 3 4 5 6 7 8
On your own	1 2 3 4 5 6 7 8

7. Check all the following activities you engaged in <u>during your college experience:</u>

1 = Yes 2 = No

Study abroad	1 2
Practicum, internship, field experience, co-op experience, or clinical experience	1 2
Learning community or other formal program where groups of students take two or more classes together	1 2
Living-learning program (ex. language house, leadership floors, ecology halls)	1 2
Research with a faculty member	1 2

First-year or freshman seminar course 1 2

Culminating senior experience (ex. capstone course, thesis) 1 2

YOUR PERCEPTIONS BEFORE ENROLLING IN COLLEGE

8. Looking back to *before you started college*, how confident were you that you would be successful in college at the following: (Select one for each response)

1 = Not at all confident **3 = Confident**

2 = Somewhat confident **4 = Very confident**

Handling the challenge of college-level work	1 2 3 4
Analyzing new ideas and concepts	1 2 3 4
Applying something learned in class to the "real world"	1 2 3 4
Enjoying the challenge of learning new material	1 2 3 4
Appreciating new and different ideas, beliefs	1 2 3 4
Leading others	1 2 3 4
Organizing a group's tasks to accomplish a goal	1 2 3 4
Taking initiative to improve something	1 2 3 4
Working with a team on a group project	1 2 3 4

9. Looking back to *when you were in high school*, how often did you engage in the following activities: (Select one response for each)

1 = Never **3 = Often**

2 = Sometimes **4 = Very Often**

Student council or student government	1 2 3 4
Pep Club, School Spirit Club, or Cheerleading	1 2 3 4
Performing arts activities (ex. band, orchestra, dance, drama, or art)	1 2 3 4
Academic clubs (ex. science fair, math club, debate club, foreign language club, chess club, literary magazine)	1 2 3 4
Organized sports (ex. Varsity, club sports)	1 2 3 4
Leadership positions in student clubs, groups, sports (ex. officer in a club or organization, captain of athletic team, first chair in musical group, section editor of newspaper)	1 2 3 4

10. Looking back to *before you started college*, how often did you engage in the following activities:
(Select one response for each)

1 = Never **3 = Often**

2 = Sometimes **4 = Very Often**

Performed community service	1 2 3 4
Reflected on the meaning of life	1 2 3 4
Participated in community organizations (ex. church group, scouts)	1 2 3 4
Took leadership positions in community organizations	1 2 3 4
Considered my evolving sense of purpose in life	1 2 3 4
Worked with others for change to address societal problems (ex. rally, protest, community organizing)	1 2 3 4
Participated in training or education that developed your leadership skills	1 2 3 4
Found meaning in times of hardship	1 2 3 4

11. Looking back to **before you started college**, please indicate your level of agreement with the following items:

1 = Strongly disagree **4 = Agree**

2 = Disagree **5 = Strongly Agree**

3 = Neutral

Hearing differences in opinions enriched my thinking	1 2 3 4 5
I had low self esteem	1 2 3 4 5
I worked well in changing environments	1 2 3 4 5
I enjoyed working with others toward common goals	1 2 3 4 5
I held myself accountable for responsibilities I agreed to	1 2 3 4 5
I worked well when I knew the collective values of a group	1 2 3 4 5

My behaviors reflected my beliefs 1 2 3 4 5

I valued the opportunities that allowed me to contribute to my community 1 2 3 4 5

12. Please indicate how well the following statements describe *how you were prior to college*.

1 = Does Not Describe Me Well
2 =
3 =
4 =
5 = Describes Me Very Well

I attempted to carefully consider the perspectives of those with whom I disagreed. 1 2 3 4 5

I regularly thought about how different people might view situations differently. 1 2 3 4 5

Before criticizing someone, I tried to imagine what it would be like to be in their position. 1 2 3 4 5

13. We would like you to consider your BROAD racial group membership (ex. White, Middle Eastern, American Indian, African American/ Black, Asian American/ Pacific Islander, Latino/ Hispanic, Multiracial) in responding to the following statements. Please indicate what *your perceptions were prior to college*.

1 = Strongly Disagree
2 = Disagree
3 = Disagree Somewhat
4 = Neutral
5 = Agree Somewhat
6 = Agree
7 = Strongly Agree

My racial group membership was important to my sense of identity. 1 2 3 4 5 6 7

I was generally happy to be a member of my racial group. 1 2 3 4 5 6 7

I did not feel a strong affiliation to my racial group. 1 2 3 4 5 6 7

YOUR EXPERIENCES IN COLLEGE

14. How often have you engaged in the following activities during your college experience:

1 = Never
2 = Sometimes
3 = Often
4 = Very Often

Performed community service 1 2 3 4

Acted to benefit the common good or protect the environment 1 2 3 4

Been actively involved with an organization that addresses a social or environmental problem 1 2 3 4

Been actively involved with an organization that addresses the concerns of a specific community (ex. academic council, neighborhood association) 1 2 3 4

Communicated with campus or community leaders about a pressing concern 1 2 3 4

Took action in the community to try to address a social or environmental problem 1 2 3 4

Worked with others to make the campus or community a better place 1 2 3 4

Acted to raise awareness about a campus, community, or global problem 1 2 3 4

Took part in a protest, rally, march, or demonstration 1 2 3 4

Worked with others to address social inequality 1 2 3 4

15. Since starting college, how often have you:

1 = Never
2 = Once
3 = Sometimes
4 = Many Times
5 = Much of the Time

Been an involved member in college organizations? 1 2 3 4 5

Held a leadership position in a college organization(s)? (ex. officer in a club or organization, captain of athletic team, first chair in musical group, section editor of newspaper, chairperson of committee)? 1 2 3 4 5

Been an involved member in an off-campus community organization(s) (ex. Parent-Teacher Association, church group)? 1 2 3 4 5

Held a leadership position in an **off-campus community organization(s)?** (ex. officer in a 1 2 3 4 5

club or organization, leader in youth group, chairperson of committee)?

16. Have you been involved in the following kinds of student groups <u>during college</u>? (Respond to each item)

1 = Yes 2 = No

Academic/Departmental/Professional (ex. Pre-Law Society, an academic fraternity, Engineering Club)	1	2
Arts/Theater/Music (ex. Theater group, Marching Band, Photography Club)	1	2
Campus-Wide Programming (ex. program board, film series board, multicultural programming committee)	1	2
Identity-Based (ex. Black Student Union, LGBT Allies, Korean Student Association)	1	2
International Interest (ex. German Club, Foreign Language Club)	1	2
Honor Societies (ex. Omicron Delta Kappa [ODK], Mortar Board, Phi Beta Kappa)	1	2
Media (ex. Campus Radio, Student Newspaper)	1	2
Military (ex. ROTC, cadet corps)	1	2
New Student Transitions (ex. admissions ambassador, orientation advisor)	1	2
Resident Assistants	1	2
Peer Helper (ex. academic tutors, peer health educators)	1	2
Advocacy (ex. Students Against Sweatshops, Amnesty International)	1	2
Political (ex. College Democrats, College Republicans, Libertarians)	1	2
Religious (ex. Fellowship of Christian Athletes, Hillel)	1	2
Service (ex. Circle K, Habitat for Humanity)	1	2
Multi-Cultural Fraternities and Sororities (ex. National Pan-Hellenic Council [NPHC] groups such as Alpha Phi Alpha Fraternity Inc., or Latino Greek Council groups such as Lambda Theta Alpha)	1	2
Social Fraternities or Sororities (ex. Panhellenic or Interfraternity Council groups such as Sigma Phi Epsilon or Kappa Kappa Gamma)	1	2
Sports-Intercollegiate or Varsity (ex. NCAA Hockey, Varsity Soccer)	1	2
Sports-Club (ex. Club Volleyball, Club Hockey)	1	2
Sports-Intramural (ex. Intramural flag football)	1	2
Recreational (ex. Climbing Club, Hiking Group)	1	2
Social/ Special Interest (ex. Gardening Club, Sign Language Club, Chess Club)	1	2
Student Governance (ex. Student Government Association, Residence Hall Association, Interfraternity Council)	1	2

17a. A mentor is defined as a person who intentionally assists your growth or connects you to opportunities for career or personal development.

Since you started at your current college/university, have you been mentored by the following types of people:

1 = Yes 2 = No

Faculty/Instructor	Yes	No
Student Affairs Professional Staff (ex. a student organization advisor, career counselor, the Dean of Students, or residence hall coordinator)	Yes	No
Employer	Yes	No
Community member (not your employer)	Yes	No
Parent/ Guardian	Yes	No
Other student	Yes	No

IF NO for all of the above, skip to Question #18.

17b. A mentor is defined as a person who intentionally assists your growth or connects you to opportunities for career or personal development.

Since you started at your current college/university, how often have the following types of mentors <u>assisted you in your growth or development</u>?

1 = Never 3 = Often

2 = Sometimes 4 = Very Often

Faculty/Instructor	1 2 3 4
Student Affairs Professional Staff (ex. a student organization advisor, career counselor, Dean of Students, residence hall coordinator)	1 2 3 4
Employer	1 2 3 4
Community member (not your employer)	1 2 3 4
Parent/ Guardian	1 2 3 4
Other student	1 2 3 4

17c. When thinking of your most significant mentor at this college/university, what was this person's role?

1 = Yes 2 = No

Faculty/Instructor	1 2
Student Affairs Professional Staff (ex. student organization advisor, career counselor, Dean of Students, residence hall coordinator)	1 2
Employer	1 2
Other Student	1 2

17d. When thinking about your most significant mentor at this college/university, what was this person's gender?

Female	1
Male	2
Transgender	3

17e. When thinking about your most significant mentor at this college/university, what was this person's race/ethnicity?

White/ Caucasian	1
Middle Eastern	2
African American/ Black	3
American Indian	4
Asian American/ Pacific Islander	5
Latino/ Hispanic	6
Multiracial	7
Unsure	8
Race/ethnicity not indicated above	9

17f. When thinking of your most significant mentor at this college/university, indicate your level of agreement or disagreement with the following: This mentor helped me to:

1 = Strongly Disagree 4 = Agree

2 = Disagree 5 = Strongly Agree

3 = Neutral

Empower myself to engage in leadership	1 2 3 4 5
Empower others to engage in leadership	1 2 3 4 5
Engage in ethical leadership	1 2 3 4 5
Live up to my potential	1 2 3 4 5
Be a positive role model	1 2 3 4 5
Mentor others	1 2 3 4 5
Value working with others from diverse backgrounds	1 2 3 4 5
Be open to new experiences	1 2 3 4 5
Develop problem-solving skills	1 2 3 4 5
Identify areas for self improvement	1 2 3 4 5

18. During interactions with other students outside of class, how often have you done each of the following in an average school year? (Select one for each)

1 = Never 3 = Often

2 = Sometimes 4 = Very Often

Talked about different lifestyles/ customs	1 2 3 4
Held discussions with students whose personal values were very different from your own	1 2 3 4
Discussed major social issues such as peace,	1 2 3 4

human rights, and justice

Held discussions with students whose religious beliefs were very different from your own	1 2 3 4
Discussed your views about multiculturalism and diversity	1 2 3 4
Held discussions with students whose political opinions were very different from your own	1 2 3 4

19. <u>Since starting college</u>, have you ever participated in
a leadership training or leadership education experience of any kind (ex. leadership conference,
alternative spring break, leadership course, club president's retreat…)?

1 = Yes 2 = No

If NO, skip to #20

19a. <u>Since starting college</u>, to what degree have you
been involved in the following types of leadership
training or education?

1 = Never 3 = Sometimes

2 = Once 4 = Often

Leadership Conference	1 2 3 4
Leadership Retreat	1 2 3 4
Leadership Lecture/Workshop Series	1 2 3 4
Positional Leader Training (ex. Treasurer's training, Resident Assistant training, Student Government training)	1 2 3 4
Leadership Course	1 2 3 4
Alternative Spring Break	1 2 3 4
Emerging or New Leaders Program	1 2 3 4
Living-Learning Leadership Program	1 2 3 4
Peer Leadership Educator Team	1 2 3 4
Outdoor Leadership Program	1 2 3 4
Women's Leadership Program	1 2 3 4
Multicultural Leadership Program	1 2 3 4

* *Note that there is a skip pattern here that cannot be documented in a paper and pencil version of the instrument.*

19b. <u>Since starting college</u>, have you been involved
in the following types of leadership training or
education?

1 = Yes 2 = No

Leadership Certificate Program	1 2
Leadership Capstone Experience	1 2
Leadership Minor	1 2
Leadership Major	1 2

19c. <u>Since starting college</u>, to what extent has participation in the following types of training or
education assisted in the development of your leadership ability?

1 = Not at all 3 = Moderately

2 = Minimally 4 = A Great Deal

Leadership Conference	1 2 3 4
Leadership Retreat	1 2 3 4
Leadership Certificate Program	1 2 3 4
Leadership Lecture/Workshop Series	1 2 3 4

Positional leader training (ex: Treasurer's training, Resident Assistant training, Student Government training)	1 2 3 4
Leadership Capstone Experience	1 2 3 4
Leadership Course	1 2 3 4
Leadership Minor	1 2 3 4
Leadership Major	1 2 3 4
Short-Term Service Immersion (ex. alternative spring break, January term service project)	1 2 3 4
Emerging or New Leaders Program	1 2 3 4
Living-Learning Leadership Program	1 2 3 4
Peer Leadership Educator Program	1 2 3 4
Outdoor Leadership Program	1 2 3 4
Women's Leadership Program	1 2 3 4
Multicultural Leadership Program	1 2 3 4

ASSESSING YOUR GROWTH

20. Please indicate your level of agreement with the following items:

For the statements that refer to a group, think of the most effective, functional group of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

1 = Strongly Disagree **4 = Agree**

2 = Disagree **5 = Strongly Agree**

3 = Neutral

I am open to others' ideas	1 2 3 4 5
Creativity can come from conflict	1 2 3 4 5
I value differences in others	1 2 3 4 5
I am able to articulate my priorities	1 2 3 4 5
Hearing differences in opinions enriches my thinking	1 2 3 4 5
I have low self esteem	1 2 3 4 5
I struggle when group members have ideas that are different from mine	1 2 3 4 5
Transition makes me uncomfortable	1 2 3 4 5
I am usually self confident	1 2 3 4 5
I am seen as someone who works well with others	1 2 3 4 5
Greater harmony can come out of disagreement	1 2 3 4 5
I am comfortable initiating new ways of looking at things	1 2 3 4 5
My behaviors are congruent with my beliefs	1 2 3 4 5
I am committed to a collective purpose in those groups to which I belong	1 2 3 4 5
It is important to develop a common direction in a group in order to get anything done	1 2 3 4 5
I respect opinions other than my own	1 2 3 4 5
Change brings new life to an organization	1 2 3 4 5
The things about which I feel passionate have priority in my life	1 2 3 4 5
I contribute to the goals of the group	1 2 3 4 5
There is energy in doing something a new way	1 2 3 4 5
I am uncomfortable when someone disagrees with me	1 2 3 4 5
I know myself pretty well	1 2 3 4 5
I am willing to devote the time and energy to things that are important to me	1 2 3 4 5
I stick with others through difficult times	1 2 3 4 5
When there is a conflict between two people, one will win and the other will lose	1 2 3 4 5
Change makes me uncomfortable	1 2 3 4 5
It is important to me to act on my beliefs	1 2 3 4 5

I am focused on my responsibilities	1 2 3 4 5
I can make a difference when I work with others on a task	1 2 3 4 5
I actively listen to what others have to say	1 2 3 4 5
I think it is important to know other people's priorities	1 2 3 4 5
My actions are consistent with my values	1 2 3 4 5
I believe I have responsibilities to my community	1 2 3 4 5
I could describe my personality	1 2 3 4 5
I have helped to shape the mission of the group	1 2 3 4 5
New ways of doing things frustrate me	1 2 3 4 5
Common values drive an organization	1 2 3 4 5
I give time to making a difference for someone else	1 2 3 4 5
I work well in changing environments	1 2 3 4 5
I work with others to make my communities better places	1 2 3 4 5
I can describe how I am similar to other people	1 2 3 4 5
I enjoy working with others toward common goals	1 2 3 4 5
I am open to new ideas	1 2 3 4 5
I have the power to make a difference in my community	1 2 3 4 5
I look for new ways to do something	1 2 3 4 5
I am willing to act for the rights of others	1 2 3 4 5
I participate in activities that contribute to the common good	1 2 3 4 5
Others would describe me as a cooperative group member	1 2 3 4 5
I am comfortable with conflict	1 2 3 4 5
I can identify the differences between positive and negative change	1 2 3 4 5
I can be counted on to do my part	1 2 3 4 5
Being seen as a person of integrity is important to me	1 2 3 4 5
I follow through on my promises	1 2 3 4 5
I hold myself accountable for responsibilities I agree to	1 2 3 4 5
I believe I have a civic responsibility to the greater public	1 2 3 4 5
Self-reflection is difficult for me	1 2 3 4 5
Collaboration produces better results	1 2 3 4 5
I know the purpose of the groups to which I belong	1 2 3 4 5
I am comfortable expressing myself	1 2 3 4 5
My contributions are recognized by others in the groups I belong to	1 2 3 4 5
I work well when I know the collective values of a group	1 2 3 4 5
I share my ideas with others	1 2 3 4 5
My behaviors reflect my beliefs	1 2 3 4 5
I am genuine	1 2 3 4 5
I am able to trust the people with whom I work	1 2 3 4 5
I value opportunities that allow me to contribute to my community	1 2 3 4 5
I support what the group is trying to accomplish	1 2 3 4 5
It is easy for me to be truthful	1 2 3 4 5
It is important to me that I play an active role in my communities	1 2 3 4 5
I volunteer my time to the community	1 2 3 4 5
I believe my work has a greater purpose for the larger community	1 2 3 4 5

THINKING MORE ABOUT YOURSELF

21. How would you characterize your political views?

(Choose One)

1 = Very Liberal

2 = Liberal

3 = Moderate

4 = Conservative

5 = Very Conservative

22. In thinking about how you have changed during college, to what extent do you feel you have grown in the following areas? (Select one response for each.)

1 = Not grown at all **3 = Grown**

2 = Grown somewhat **4 = Grown very much**

Ability to put ideas together and to see relationships between ideas	1 2 3 4
Ability to learn on your own, pursue ideas, and find information you need	1 2 3 4
Ability to critically analyze ideas and information	1 2 3 4
Learning more about things that are new to you	1 2 3 4

23. How confident are you that you can be successful at the following: (Select one response for each.)

1 = Not at all confident **3 = Confident**

2 = Somewhat confident **4 = Very confident**

Leading others	1 2 3 4
Organizing a group's tasks to accomplish a goal	1 2 3 4
Taking initiative to improve something	1 2 3 4
Working with a team on a group project	1 2 3 4

24. How often do you…

1 = Never **3 = Often**

2 = Sometimes **4 = Very Often**

Search for meaning/purpose in your life	1 2 3 4
Have discussions about the meaning of life with your friends	1 2 3 4
Surround yourself with friends who are searching for meaning/purpose in life	1 2 3 4
Reflect on finding answers to the mysteries of life	1 2 3 4
Think about developing a meaningful philosophy of life	1 2 3 4

25. The following statements inquire about your thoughts and feelings in a variety of situations. For each item, be as honest as possible in indicating how well it describes you.

1=Does Not Describe Me Well

2

3

4

5 = Describes Me Very Well

I often have tender, concerned feelings for people less fortunate than me.	1 2 3 4 5
Sometimes I don't feel very sorry for other people when they are having problems.	1 2 3 4 5
I try to look at everybody's side of a disagreement before I make a decision.	1 2 3 4 5
I sometimes try to understand my friends better by imagining how things look from their perspective.	1 2 3 4 5
Other people's misfortunes do not usually disturb me a great deal.	1 2 3 4 5
I believe that there are two sides to every question and try to look at them both.	1 2 3 4 5
When I'm upset at someone, I usually try to "put myself in their shoes" for a while.	1 2 3 4 5
Before criticizing somebody, I try to imagine how I would feel if I were in their place.	1 2 3 4 5

YOUR COLLEGE CLIMATE

26a. Indicate your level of agreement with the following statements about your experience on your current campus

1 = Strongly Disagree **4 = Agree**

2 = Disagree **5 = Strongly Agree**

3 = Neutral

I feel valued as a person at this school	1 2 3 4 5
I feel accepted as a part of the campus community	1 2 3 4 5
I have observed discriminatory words, behaviors or gestures directed at people like me	1 2 3 4 5
I feel I belong on this campus	1 2 3 4 5
I have encountered discrimination while attending this institution	1 2 3 4 5
I feel there is a general atmosphere of prejudice among students	1 2 3 4 5
Faculty have discriminated against people like me	1 2 3 4 5
Staff members have discriminated against people like me	1 2 3 4 5

BACKGROUND INFORMATION

27. Which of the following best describes your primary major? (Select the category that best represents your field of study)

Agriculture

Architecture/ Urban planning

Biological/ Life Sciences (ex. biology, biochemistry, botany, zoology)

Business (ex. accounting, business administration, marketing, management)

Communication (ex. speech, journalism, television/radio)

Computer and Information Sciences

Education

Engineering

Ethnic, Cultural Studies, and Area Studies

Foreign Languages and Literature (ex. French, Spanish)

Health-Related Fields
(ex. nursing, physical therapy, health technology)

Humanities (ex. English, Literature, Philosophy, Religion, History)

Liberal/ General Studies

Mathematics

Multi/ Interdisciplinary Studies (ex. international relations, ecology, environmental studies)

Parks, Recreation, Leisure Studies, Sports Management

Physical Sciences
(ex. physics, chemistry, astronomy, earth science)

Pre-Professional
(ex. pre-dental, pre-medical, pre-veterinary)

Public Administration
(ex. city management, law enforcement)

Social Sciences (ex. anthropology, economics, political science, psychology, sociology)

Visual and Performing Arts (ex. art, music, theater)

Undecided

Asked but not answered

28. Did your high school require community service for graduation?

1 = Yes 2 = No

29. What is your age?

[ ]

30a. What is your gender?

1 = Female 2 = Male 3= Transgender

If 1 or 2, skip to # 31

30b. Please indicate which of the following best describe you?

Female to Male	1	Intersexed	3
Male to Female	2	Rather not say	4

31. What is your sexual orientation?

Heterosexual	1	Questioning	4
Bisexual	2	Rather not say	5
Gay/Lesbian	3		

32. Indicate your citizenship and/ or generation status:
(Choose One)

Your grandparents, parents, and you were born in the U.S.	1
Both of your parents AND you were born in the U.S.	2
You were born in the U.S., but at least one of your parents was not	3
You are a foreign born, naturalized citizen	4
You are a foreign born, resident alien/ permanent resident	5
International student	6

33a. Please indicate your broad racial group membership:
(Mark all that apply)

White/ Caucasian	1
Middle Eastern	2
African American/ Black	3
American Indian/ Alaska Native	4
Asian American/ Asian	5
Latino/ Hispanic	6
Multiracial	7
Race/Ethnicity not included above	8

* *Note that there is a skip pattern here that cannot be documented in a paper and pencil version of the instrument.*

33b. Please indicate your ethnic group memberships
(Mark all that apply)

African American/ Black	
Black American	1
African	2
West Indian	3
Brazilian	4
Haitian	5
Jamaican	6
Other Caribbean	7
Other Black	8
Asian American/ Asian	
Chinese	1
Indian/Pakistani	2
Japanese	3
Korean	4
Filipino	5
Pacific Islander	6
Vietnamese	7
Other Asian	8
Latino/ Hispanic	
Mexican/ Chicano	1
Puerto Rican	2
Cuban	3
Dominican	4
South American	5
Central American	6
Other Latino	7

34. We are all members of different social groups or social categories. We would like you to consider your BROAD racial group membership (ex. White, Middle Eastern, American Indian, African American/ Black, Asian American/ Pacific Islander, Latino/ Hispanic, Multiracial) in responding to the following statements. There are no right or wrong answers to any of the statements; we are interested in your honest reactions and opinions.

1 = Strongly Disagree
2 = Disagree
3 = Disagree Somewhat
4 = Neutral
5 = Agree Somewhat
6 = Agree
7 = Strongly Agree

I am a worthy member of my racial group	1 2 3 4 5 6 7
I often regret that I belong to my racial group	1 2 3 4 5 6 7
Overall, my racial group is considered good by others	1 2 3 4 5 6 7
Overall, my race has very little to do with	1 2 3 4 5 6 7

how I feel about myself	
I feel I don't have much to offer to my racial group	1 2 3 4 5 6 7
In general, I'm glad to be a member of my racial group	1 2 3 4 5 6 7
Most people consider my racial group, on the average, to be more ineffective than other groups	1 2 3 4 5 6 7
The racial group I belong to is an important reflection of who I am	1 2 3 4 5 6 7
I am a cooperative participant in the activities of my racial group	1 2 3 4 5 6 7
Overall, I often feel that my racial group is not worthwhile	1 2 3 4 5 6 7
In general, others respect my race	1 2 3 4 5 6 7
My race is unimportant to my sense of what kind of a person I am	1 2 3 4 5 6 7
I often feel I am a useless member of my racial group	1 2 3 4 5 6 7
I feel good about the racial group I belong to	1 2 3 4 5 6 7
In general, others think that my racial group is unworthy	1 2 3 4 5 6 7
In general, belonging to my racial group is an important part of my self image	1 2 3 4 5 6 7

35a. Do you have any of the following conditions:

1 = Yes 2 = No

If no, skip to # 36

a. Blindness, deafness, or a severe vision or hearing impairment;

b. A psychological, mental, or emotional condition;

c. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting,

d. A condition that affects your learning or concentration; or

e. A permanent medical condition such as diabetes, severe asthma, etc.?

35b. Please indicate all that apply:

Deaf/Hard of Hearing	1
Blind/Visually Impairment	2
Speech/Language Condition	3
Learning Disability	4
Physical or Musculoskeletal (ex. multiple sclerosis)	5
Attention Deficit Disorder/ Attention Deficit Hyperactivity Disorder	6
Psychiatric/Psychological Condition (ex. anxiety disorder, major depression)	7
Neurological Condition (ex. brain injury, stroke)	8
Medical (ex. diabetes, severe asthma)	9
Other	10

36. What is your current religious preference?
(Mark Your Primary Affiliation)

Agnostic	1
Atheist	2
Baptist	3
Buddhist	4
Catholic	5
Church of Christ	6
Eastern Orthodox	7
Episcopalian	8
Hindu	9
Islamic	10
Jewish	11
LDS (Mormon)	12
Lutheran	13
Methodist	14
Presbyterian	15
Quaker	16

Roman Catholic	17
Seventh Day Adventist	18
Unitarian/Universalist	19
UCC/Congregational	20
Other Christian	21
Other Religion	22
None	23

37. What is your best estimate of your grades so far in college? [Assume 4.00 = A] (Choose One)

3.50 – 4.00	1
3.00 – 3.49	2
2.50 – 2.99	3
2.00 – 2.49	4
1.99 or less	5

38. What is the <u>HIGHEST</u> level of formal education obtained by any of your parent(s) or guardian(s)? (Choose one)

Less than high school diploma or less than a GED	1
High school diploma or a GED	2
Some college	3
Associates degree	4
Bachelors degree	5
Masters degree	6
Doctorate or professional degree (ex. JD, MD, PhD)	7
Don't know	8

39. What is your <u>best estimate</u> of your parent(s) or guardian(s) combined total income from last year? If you are independent from your parent(s) or guardian(s), indicate your income. (Choose one)

Less than $12,500	1
$12,500 - $24,999	2
$25,000 – $39,999	3
$40,000 – $54,999	4
$55,000 - $74,999	5
$75,000 - $99,999	6
$100,000 - $149,999	7
$150,000 - $199,999	8
$200,000 and over	9
Don't know	10
Rather not say	11

40. Which of the following best describes where you are currently living while attending college? (Choose one)

Parent/guardian or other relative home	1
Other off-campus home, apartment, or room	2
College/university residence hall	3
Other on-campus student housing	4
Fraternity or sorority house	5
Other	6

40. Please provide a brief definition of what the term *leadership* means to you.

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