DISSERTATION

CAMPUS CLIMATE FOR DIVERSITY AND ITS IMPACT ON SENSE OF BELONGING

Submitted by

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ABSTRACT

CAMPUS CLIMATE FOR DIVERSITY AND ITS IMPACT ON SENSE OF BELONGING

Intentional efforts toward recruitment and retention of diverse populations of students, faculty, and staff are essential for the evolution and development of higher education institutions. Progress relies on a commitment to diversity in all facets of the institution in order to embrace a population that continues to diversify. Through assessment and evaluation of current student populations, understanding the impact of this effort is realized through an evaluation of the environment.

This study utilizes data previously gathered through a campus climate survey at one university. Guided by a Critical Race Quantitative Intersectionality (CRQI) Framework, a quantitative methodology and an intersectional data mining approach is performed. Analysis begins with demographic data disaggregated by race, and then separated by gender identity and first-generation status to investigate for differences between and within groups on an established *Campus Climate for Diversity* dimension and a *Sense of Belonging* dimension. The data are analyzed through ANOVAs, split-file ANOVAs, and Factorial ANOVAs. The results indicate statistical, significant differences between races on all measures of the *Sense of Belonging* dimension and differences within racial groups when analyzed at the intersection of gender identity. Last, through simple linear regression analysis, campus climate for diversity serves as a predictive variable to sense of belonging for students attending this university.
Key Words: Campus Climate, Diversity, Critical Race Quantitative Intersectionality, CRQI, Sense of Belonging, ANOVA, Factorial ANOVA, Linear Regression

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My dissertation topic began from an informal conversation with Dr. Ernest Chavez. At the time, about 13 years ago, I attended a COAMP meeting with other COAMP Coordinators at which we discussed the disparity of persistence and completion rates of students of color in STEM fields. Despite the rigor of academic preparation and supportive efforts, we were finding that the best of students still struggled to navigate and persist in higher education. Our thought was that perhaps this phenomenon was due to environmental factors of the higher education institution, and so began my interest in campus climate. I want to thank him for this talk and for inspiring inquiry.

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CHAPTER 1: INTRODUCTION

> In the contemporary United States, race is both a matter of social identity and institutionalized social structures. In our daily lives - the social-psychological and institutional dimensions of race are tightly linked. How people are treated in institutional settings is the product of deeply rooted racialized (and gendered and classed) social practices that shape how they view themselves and the world around them and how they act in the world. (Powers, 2007, p. 155)

In November of 2015, campuses across the United States were feeling the effects of student led protests against recent racist acts and a legacy of injustice that have plagued higher education campuses for years. In response to the University of Missouri's racial protests that ousted the University President and the school Chancellor for turning a "blind eye" to racist incidents and microaggressions experienced by students of color, other institutions of higher education joined the protests in solidarity against the racist incidents occurring on their own campuses (Thomason, 2015).

Provoked by a series of racist incidents, racial slurs being used against student associate president Payton Head, threats made against the University of Missouri's Black Culture Center, and a disruption of the Legion of Black Collegians rehearsal for the homecoming play by a white man who used profanity and racial slurs, the students at the University of Missouri protested the lack of attention and efforts given toward improving the campus for students of diverse representation. These incidents once again disregarded students of color and prompted protests during the homecoming parade that were ignored by President Tim Wolfe. Rather, demonstrators were subjected to physical violence by bystanders and campus police, and the president's personal driver hit a protestor with the car. The ousting of the president and the

chancellor was finalized when the football team refused to play a game with BYU, costing the university a one million dollar cancellation fee.

In support of Missouri, University of Alabama students held demonstrations to voice concerns over racism on their campus. Black and white students locked arms to show solidarity and indicated: "We are basically here to stand to show that we support Mizzou and their decision to end racism because sadly here at the University of Alabama, we do experience a lot of racism, and it is always brushed under the rug…" (Flanagan, 2015, para. 5). Among demonstrators' demands was the creation of a Diversity Office and a safe space for students of color. The list of demands to the university president stated, "Alabama is no exception to the climates on college campuses around the country that are not only unwelcoming to students of color; but they are violent, hostile, dangerous, and completely unsympathetic to our distress" (Flanagan, 2015, para. 8).

Demonstrations were held at Ithaca College in response to ongoing concerns of racial injustice on the campus and to urge a no-confidence vote of the president, Tom Rochon. One of the injustices that occurred included an event held in October of 2015, in which alumna on the panel at the event, Tatiana Sy, said she had a "savage hunger" to succeed. Two other alumni on the panel proceeded to call her savage throughout the event, despite her reminding them of her name. Protesters felt diversity and inclusion were simply an image at this institution, surface level efforts to portray a campus that appears diverse in marketing material yet vastly different in reality. They called for the board to provide for a vote of no-confidence, as they felt Rochon had not addressed the issues surrounding diversity and inclusion and more importantly, had not made equitability for students of color a priority. (O'Connor, 2015)

Protestors gathered at Yale University and shared countless racist incidents they had experienced on campus. Among these incidents, several women alleged that members of the Sigma Alpha Epsilon fraternity barred them from entering the fraternity house for a Halloween party. The women students said the guard at the door to the fraternity house told them, "We're only looking for White girls." When news of the incident was spread on social media, several other students reported that they also had been turned away from functions at the fraternity house due to a "Whites only" policy (Becker, 2015, para. 5). Also, a letter was sent out from administrators encouraging students to avoid insensitive Halloween costumes such as black face, turbans, and mocking Native American headdresses. A lecturer, Erika Cristakis, sent an email objecting to the call for sensitivity. As a result students signed an open letter that read, "We are not asking to be coddled… [We] simply ask that our existences not be invalidated on campus. This is us asking for basic respect of our cultures and our livelihoods" (Worland, 2015, para. 2). Student protestors spent hours explaining the injustices and racism they had encountered sharing "…personal testimonies telling about how they felt unwelcome and unsafe on campus" (Becker, 2015, para. 10). Over 400 faculty members also signed an open letter in support of students voicing support, "…to undo institutionalized inequalities at the University" (Becker, 2015, para. 18).

Students of color had organized campaigns at Colgate University, the University of Michigan, UCLA, Yale, and Harvard, among others (Brown, 2015) in order to bring to light the inequities, racism, and discrimination experienced by students of color. Demands included an increase in the numbers of minority students and faculty, a diversity officer, and a safe space for students of color. Other demands included the obligation for making right the wrongdoings of a legacy of discriminatory behavior. At Georgetown University, student demonstrators demanded

that plaques be installed on the unmarked graves of slaves on campus and an annual program be established covering the history of slavery that had plagued the university. Also required was an endowment to be established to recruit minority professors, the value of which should be "equivalent to the Net Present Value of the profit generated from the transaction in which 272 people were sold into bondage" (Thomason, 2015). A significant demand at Harvard Law School was to change the institution's seal, originally adopted from the coat of arms of the family of a wealthy slaveholder who endowed the first law professorship at Harvard.

Hunger strikes and protests at McKenna College in California forced the resignation of the dean of Students due to her unawareness and inability to address discriminatory concerns plaguing the racial climate. Protests were ignited by students when a student sent an email to the dean with the link to a publication she had written about the struggles she encountered as a working Latina student. The dean responded that she wanted to discuss with her a way to better serve the students who don't fit "the CMC mold" (Brown, 2015). The "fit of CMC Mold" comment offended students of color who had already informed administrators that the needs of marginalized students were being dismissed. Among some of the incidents that spurred the protests and eventual resignation of the dean was a Halloween costume incident with the junior class president posing with two women in sombreros and an essay written delineating the "implicit racism" the student had experienced. The essay described "how when students of color speak up about behavior that makes them feel uncomfortable, the response given is that the student is bullying the student at fault" (Brown, 2015, para 11). The campus racial climate overall was not inclusive or accepting: the student who launched the hunger strike asserted "Most Claremont McKenna students have grown up in isolated communities. They don't know what it's like to think from the perspectives of students of color, of LGBT students, of other

marginalized students" (Brown, 2015, para. 16). The demographics of the student body encompassed a predominately white, middle to upper class student body with most not requiring financial aid to help pay for school (Brown, 2015).

Campuses involved in the student led movement of demonstrations against racism and discrimination continue to exist in higher education institutions and are not unlike many campuses across the nation. Diverse representation of students, faculty, and staff is grossly underrepresented and the "inclusivity" practiced is deemed inadequate or merely lip-service. Incidents of racism and discrimination are neither random nor recent in their onset (McCoy & Rodricks, 2015), and the harm inflicted manifests in the individual. In institutions of higher education, this manifestation of feelings of disrespect, marginalization and not belonging causes inner conflict impacting students' ability to achieve, persist and graduate (Hurtado & Guillermo-Wann, 2013; Tovar, Simon, & Lee, 2009). Therefore concerted efforts must be made to not only recruit and enroll a diverse population of students, faculty and staff, but also the environment must be improved and prepared to embrace a student population that will continue to diversify with the growing numbers of diverse populations in the United States.

Enrolling Diversity

The challenge of producing a diverse student body for institutions of higher education involves going beyond past affirmative action enrollment policies to concentrated efforts that encourage and drive persistence. This begins with a higher education environment that welcomes and respects the diversity of all students, while supporting their learning to help them achieve their educational aspirations of degree attainment. Given the changing demographics of the United States, improving the recruitment, retention, and graduation rates of diverse student

populations is important to current and future generations of college students and the future educated work force.

According to the U.S. Department of Education, National Center for Educational Statistics (2013), the percentage of American college students who are Hispanic, Asian/Pacific Islander, and Black has been increasing. From 1976 to 2010, the percentage of Hispanic students rose from 3% to 13%, the percentage of Asian/Pacific Islander students rose from 2% to 6%, and the percentage of Black students rose from 9% to 14%. During the same period, the percentage of White students fell from 83% to 61%. Race/ethnicity is not reported for nonresident aliens, who made up 2% and 3% of total enrollment in 1976 and 2010, respectively (National Center for Educational Statistics, para. 5).

It is important for administrators to be aware of the population they typically attract because enrollment trends at institutions of higher education can be affected by population growth, economics, and the changing demographics of the country. In an article titled "Demographic Data Let Colleges Peer into the Future," *The Chronicle of Higher Education* reported that within the next 14 years a significant change will occur in the demographics of the student body (Lipka, 2014). Based on data gathered from the U.S. Census Bureau's American Community Survey that examined by state and county the population of children from ages 18 down to 4, the numbers are smaller (almost 40% smaller than the current population) with white children showing the least growth rate (Lipka, 2014). In many counties the number of Hispanic children is greater than White children, two to one. Overall, the demographics involving school-age children are a more diverse population that precludes the potential for a future college pipeline to be smaller and more diverse as well as this prediction, based on the census data, indicates future college populations within the next 14 years will be largely diverse, both

ethnically and racially, and will consist largely of individuals first in their family to attend college (Lipka, 2014).

These predictions on the changing demographics present the need for assessing campus climate for diversity as an important step toward understanding the environment and its readiness to embrace its future student population. From information gathered through assessments, institutions can move from a reactive stance regarding diversity to proactive in creating programming, policies, and procedures that encourage and promote persistence and a sense of belonging. Scholarly research conducted on college student experience and sense of belonging has suggested a strong relationship between belonging (i.e., academic and social integration into the institution) and student retention and graduation (Tovar et. al, 2009). The greater the sense of belonging to the institution, the more likely the student will remain in college (Hausmann, Schofield, & Woods, 2007, cited by Stableton, Soria, Huesman, & Torres, 2014).

Additionally, current research has demonstrated that diversity is an asset in schooling (Hurtado, Cuellar, Guillermo-Wann, 2011). Learning with individuals from a variety of backgrounds encourages collaboration and fosters innovation, to the benefit of all students (Kirby, 2012). The overall academic and social effects of increased racial diversity on campus provide an increased opportunity for cross-cultural interactions and exposure to individuals who are diverse, which inspires new ideas and ways of doing things. Therefore, efforts to embrace diversity and to create an environment that are inclusive and respecting of differences is essential to the development of all students and prepares them to be employed in a racially and ethnically diverse world. Last, the argument for understanding the campus climate for diversity is important, as it is essential for institutions of higher education to be prepared to handle bias, as

well as prejudicial or racist incidents that can occur with an influx of diverse peoples coming together for the first time.

Through assessment of the campus racial climate, institutions can understand more about their students' experiences and can create conditions to optimize engagement and desired outcomes. Especially in a time when state appropriations have been limited or consistently dwindling as in the past, it is essential to understand their student populations to allow for not only efficient use of limited resources but also to identify ways to improve retention services for targeted populations (Hurtado et. al., 2011). Furthermore, broad access institutions should be acknowledged as important partners in the fight to achieving national degree attainment goals. Unfortunately, present research is limited and application to practice in diverse learning environments is insufficient (Hurtado & Guillermo-Wann, 2013). As indicated by Dr. Silvia Hurtado and Dr. Chelsea Guillermo-Wann (2013) in a final report on Diverse Learning Environments to the Ford Foundation, "Very little research has been conducted on two and four-year institutions that offer broad access to students in their regions, particularly features of their climate for diversity and the experiences of their student populations" (p. 1). Creating an educated diverse workforce requires focused efforts toward graduating all populations of students and, therefore, must begin with a thorough understanding of the climate for diversity.

Purpose of Study

The purpose of this study is to contribute to the literature surrounding undergraduate experiences of the *Campus Climate for Diversity* as perceived by students attending a four-year, public, broad access university. Through employing Critical Race Quantitative Intersectionality (CRQI) as a lens to examine perceptions of campus climate for diversity and sense of belonging through social identities of race at its intersections with gender identity and first-generation

status, this research attempts to further validate the use of CRQI as a framework to be used in Education. It is also the purpose of this research to understand whether differences exist between racial groups and within racial groups when disaggregated by race and first-generation status on their perceptions of the campus climate for diversity and their sense of belonging to this higher education institution. In this effort, the intent also is to determine the impact, if any, of campus climate for diversity on sense of belonging.

Theoretical Framework

Grounded in Critical Race Theory, use of the Critical Race Quantitative Intersectionality (CRQI) Framework is utilized to guide the quantitative methodology and analysis used in this research. It also provides a foundation for understanding of the perceptions of campus climate for diversity and the sense of belonging of students attending one public, broad access, commuter, higher education institution. The CRQI Framework acknowledges race and racism as variables affecting the education of people of color. Also important is CRQI values the multi-dimension of identity, acknowledges the diversity within each population and seeks to find the hidden patterns of experience by requiring evaluation of gathered data through intersectional datamining. The guiding Tenets of CRQI include:

1) Tenet I is focused on Quantifying the material impact of racism at its intersections - intersectional data mining;
2) Tenet II involves Challenging the Neutrality of Quantitative Data because the numbers do not “speak for themselves”;
3) Tenet III focuses on the stories Originating from the Experiential and Material Experiences of People of Color;
4) Tenet IV requires CRQI researchers of Being intentionally committed to addressing injustice and seeking transformation; and

5) Tenet V involves Taking a transdisciplinary perspective and methods for revealing elusive and hidden patterns. (Covarrubias & Velez, 2013)

Use of CRQI guides not only the methodology of the research, but requires an intentional evaluation of data through disaggregation and intersectional datamining to ensure experiences of hidden populations are counted. It respects the multiple identities that exist in all individuals.

Research Questions

The research questions used to guide this study consist of those assessing perceptions of the Campus Climate for Diversity and the Sense of Belonging felt by students. These variables are treated as dependent variables when analyzed in combination with independent variables of demographic data to include race/ethnicity identity, gender identity, and first-generation status. Additionally, in order to determine whether the perceptions of the campus climate for diversity have an impact on the students' sense of belonging, perceptions of campus climate for diversity also is treated as an independent variable in an additional assessment to determine its relationship or influence on the sense of belonging variable. Specific questions guiding the research include:

1. Is there a difference in the perceptions of the Campus Climate for Diversity from the perspective of students from various racial backgrounds?
    a. Are these reported perceptions of the Campus Climate for Diversity different at the intersection of race and gender identity?
    b. Are these reported perceptions of the Campus Climate for Diversity different at the intersection of race and first-generation status?

2. Is there a difference in the perceptions of Sense of Belonging as reported by students from various racial backgrounds?
    a. Are these reported perceptions of Sense of Belonging different at the intersection of race and gender identity?
    b. Are these reported perceptions of Sense of Belonging different at the intersection of race and first-generation status?

3. Can Campus Climate for Diversity impact or predict Sense of Belonging?

Key Terms Defined

African American or Black refers to the demographic identity of an American that has African and particularly black African ancestors (Meriam-Webster's Online Dictionary, *n.d.*).

Asian refers to the demographic identity of an individual who relates to or has ancestors from the content of Asia or its people (Meriam-Webster's Online Dictionary, *n.d.*).

Broad Access Institution refers to those institutions that have open enrollment and admits most of the students who apply. This includes four-year institutions, community colleges and the growing number of schools that are organized as for-profit businesses (Kirst, Stevens, & Proctor, 2010).

Campus Climate refers to the current attitudes, behaviors and standards of faculty, staff, administrators and students concerning the level of respect for individual needs, abilities and potential" within the specific higher education institutional environment (UC Campus Climate Study, 2012).

Campus Racial Climate and/or *Campus Climate for Diversity* are a part of the institutional context that includes community members' attitudes, perceptions, behaviors, and expectations around issues of race, ethnicity, and diversity (Hurtado, Milem, Clayton-Pedersen, & Allen, 1999).

Diversity is a concept that recognizes the uniqueness of individuals and respects the way in which they self-identify. It encompasses the dimensions of race, ethnicity, gender identity, sexual orientation, socio-economic status, age, physical abilities, disabilities, veteran status, religious and political beliefs or affiliations, or other ideologies. However, limited focus of this research is centered on understanding diversity through categories of race/ethnicity, gender identity and first-generation status.

First-generation Status is defined as an individual who is first in their family to receive a bachelor's degree. Consequently, individuals whose parents did not receive any type of four-year degree (bachelor's degree) are considered first-generation.

Gender Identity refers to "one's sense of oneself as male, female or transgender" (American Psychological Association, 2006).

Graduation is used to refer to the completion of all degree course requirements and consequently the awarding of a degree.

Inclusive also used in the form of "inclusion" and "inclusivity" refers to the environment's acceptance of diverse populations of people.

Retention is used to refer to the institutional attempt to retain students, specifically students of color, from dropping out or quitting institutions of higher education. Retention rates reported in IPEDS rely on Fall to Fall continued enrollment, also referred to as "persistence" in research.

Students of Color "Students of Color" or "People of Color" refers to individuals of African American, Hispanic, Asian, and Native American descent by the researcher. However, within the literature review much of the older research referred to this population as minorities, and/or ethnic minorities. Efforts have been made to change these terms to "students of color," "individuals of color," or "people of color".

Latina/o or Hispanic refers to people who self-identified on the survey assessment as Mexican American or Chicano, Puerto Rican, Central American or Other Hispanic or Latino.

Native American refers to a member of any of the first groups of people living in North America or South America, especially to a member of one of these groups in the United States (Meriam-Webster's Online Dictionary, *n.d.*).

White or Caucasian, used interchangeably in much of the research, refers to an individual who is of European descent having usually light skin pigmentation and who does not self-identify with any of the other racial or ethnic categories (Meriam-Webster's Online Dictionary, *n.d.*).

Delimitations

This study utilizes existing data gathered through the ModernThink Inc. LLC, *Student Experience Survey* in 2016 at a four-year public higher education institution. While the survey instrument is comprised of statements categorized into seven themes or dimensions that measure various aspects of the campus climate, only the data collected from all questions related to the "Diversity" theme and the "Community and Pride" theme measuring "sense of belonging" provide the basis for this study. This decision to limit the study's focus on the variables surrounding diversity and sense of belonging is intentional. Research has been completed in the area of campus climate; however, the factor of the perception of the campus climate for diversity as felt by individuals that self-identify as racial and/or ethnically diverse, gender identity, and first-generation status becomes lost through the averaged numbers reported in the aggregate data collected. Consequently, through intersectional data mining, understanding the way in which diverse individuals experience their campus climate for diversity is limited in research. Therefore, the study focuses on understanding this phenomenon exploring only the data gathered from relevant questions that compose the diversity theme. Additionally, the interest in determining sense of belonging is intentional. While previous research has found sense of belonging to be a predictor of persistence, persistence factors that contribute to sense of belonging are limited.

All students who were currently enrolled in classes for the spring 2016 semester were invited to participate in the *Student Experience Survey* for the purpose of providing the Office of

Diversity and Inclusion data to understand the campus climate and to assess for benchmarks of improvement. Therefore, questions included in the survey were asked in a similar survey three years earlier. The data were gathered from a single population of students who attend one four-year, broad access, public institution. Of importance to note is that because the survey was voluntary, the response rate did not yield equal numbers of individuals who identify in specific demographic groups. As such, comparison groups may be unequal.

Assumptions and Limitations

The public higher education institution chosen for this research study is committed to serving the diverse populations of the individuals who live in the state in which it is located. As a result, the student enrollment of this institution largely boasts a diverse population consisting of 34% or more full-time (enrolled in 12 credits or more) undergraduate students who identify with one or more race categories (other than White). A campus is labeled as "diverse" based on the existence of 21% to 35% of the population who self-identify with one or more of the racial and ethnic identity categories (Hurtado & Ruiz, 2012). Therefore with 34% of the population of students at this institution who self-identify in one or more of the racial and ethnic categories, the campus is diverse.

This institution was identified in an attempt to assess students' experiences in a campus environment that is structurally diverse. Identification of this institution for study also relied on an assumption that the students are aware of their environment, are active within it, and acknowledge the diversity of the student population.

A noted limitation existed in the response rate. As all students were invited to participate over a three-week period, (February 1 – 22, 2016) the actual number who completed the survey was 1442, with an 8.2% response rate. According to the Rich Boyer (personal communication,

March 2015) of ModernThink LLC the company that created the survey, a response rate of 7% is reflective of the typical response rates nationally gathered from student survey assessments at institutions of higher education (2015). Therefore, at 8.2% response rate, this survey is statistically relevant (Boyer, 2015). However, an additional limitation is this response rate was not a representative sample, as the data used for evaluation relied on those individuals who voluntarily agreed to participate. The overall student population enrolled for spring 2016 included 53.2% self-identified as Women whereas the participant sample consisted of 63.6% Women, therefore this overrepresentation of women would be a limitation or may cause a bias in the generalizability of findings that included data gathered from women.

Additionally, the sample size was appropriate to meet the assumptions needed to conduct the ANOVAs and Factorial ANOVAs. However, when conducting the Post hoc Tests to determine the source of the statistical significant findings, a few smaller subgroup populations existed that did not allow for further investigation: Asian Non-Binary (n = 1), and Asian Gender Not Listed (n = 1); Black/African American Gender Non-Binary (n = 1); Hawaiian/Pacific Islander Man (n=1), and Hawaiian/Pacific Islander Woman (n = 1). This small number unfortunately limited the evaluation process of that particular group, as well as the ability to determine source of difference and reliability of the statistical significant result for this population.

Last, as the data are derived from one institution, this study's scope is limited to providing an understanding of the way in which the campus climate for diversity and the sense of belonging of students is generalizable to only one public, higher education environment. This institution is unique in the students it serves. Consequently, the researcher is in no way implying generalizations of experience or perceptions as relevant for the entire student population

attending higher education in the United States. However, given that the demographic composition of this institution is considered highly diverse with a 34% ethnic and racially diverse student population, this research is intended to provide a foundation of understanding that help fills a gap in the literature.

Significance

The significance of this study is its ability to add to the current research by furthering the understanding of the perception of the campus climate for diversity and expands this environmental influence by determining whether it has an effect on the students' sense of belonging. Additionally the use of a new framework, Critical Race Quantitative Intersectionality, has not been used in many studies expands its applicability in research. The principles of CRQI were derived from Critical Race Theory (which typically has been used in practice with Qualitative methodology). Thus it provides applicability and understanding of quantitative data. Furthermore, through intersectional data mining of the demographic data, experiences of subpopulations of students can be delineated from the larger subgroups typically studied involving gender and race.

Research also has been conducted on campus climate through the use of various survey instruments. However, only recently within the past 10 years, has research focused on understanding the campus climate specifically for diversity. Additionally, research on campus climate and its impact on sense of belonging have occurred, although research is almost non-existent in understanding the relationships and impacts of campus climate for diversity and sense of belonging. Therefore, this study seeks to identify the campus climate for diversity and to determine whether this environment impacts individual sense of belonging.

Additionally, currently a gap exists in the literature that links educational outcomes to diversity. In a time of limited resources and decreasing state appropriations, the creation of

programming and supportive services should be an effective use of funding. This research also can be useful for informing student affairs administrators tasked with creating programs that support diverse populations through retention efforts.

Research Perspective

The interest of the researcher in Campus Climate for diversity stems from a background of working many years in higher education providing supportive services and programmatic efforts to underserved, diverse populations. Through serving in a position with oversight of diversity efforts to meet the institutional commitment and the implementation of Strategic Plan Diversity initiatives, it is acknowledged that this expertise is beneficial to furthering the understanding of this specific topic. Also a potential exists for researcher bias toward advocacy, access, and retention matters for diverse student populations. However, through utilization of the lens of Critical Race Theory and Critical Race Quantitative Intersectionality Framework, the experience of the researcher is allowed and is useful to effectively view and/or assess the lived experience of participants within the campus climate for diversity of their higher education institution.

Last, the researcher also draws from the experience of being a student of color attending various institutions of higher education throughout the completion of an educational journey. These experiences involved many struggles to find a campus that was a "fit" for not only degree interests, but also that allowed growth and personal development. As such, in order to limit potential researcher bias, a focus using quantitative study methodology was most appropriate for understanding the campus climate for diversity and sense of belonging. Additionally, this method of assessment uses an unbiased interpretation tool, specifically SPSS statistical software, to determine differences of student populations in the perceptions of campus climate for diversity

and sense of belonging, as well as to determine the existence of a correlation of perceptions of the campus climate for diversity and impact on the students' sense of belonging.

This study focuses on the perceptions of the campus climate for diversity as experienced by students enrolled in one broad access, four-year, public higher education institution. It began with an argument that practices and incidents continue to exist in higher education that are racist and discriminative toward students of diverse backgrounds. It also explained the need to serve changing future populations of students through an understanding and improvement of the campus climate for diversity. Chapter two presents the related literature establishing the relevance of CRT and CRQI to improve the educational systems, the importance of understanding and improving campus climate for diversity, and the significance of sense of belonging. Chapter three explains the research design and methodology of the study (Roberts, 2010) that involves the instrument used to gather the data, the selection of the participant sample identified, and the plans for analysis of the data. Chapter four presents the analysis of the data and a discussion of the findings. Chapter five concludes with a summary and further recommendations of the study. A reference list of all related research, reports and literature, as well as appendices follow the conclusion of the study (Roberts, 2010).

CHAPTER 2: REVIEW OF LITERATURE

Understanding the campus climate for institutions of higher education has become a critical focus for many higher education institutions. In a time in which state funds have increasingly been cut, it is essential for institutions to more efficiently and effectively recruit and retain students. In the economic downturn of 2009 to 2012, unemployment rates were at their highest since 1982 (with the highest during the Great Depression) and higher education institutions experienced a swell in enrollment. However, as the economy makes gains toward improvement, this unfortunately has a negative effect on college enrollment as people leave to go back to work. Those who began their education at the downturn of the economy now have either completed their degrees or learned new skills and gone back to work. However, higher education funding has not improved with the economy. In fact, "Colorado ranks last for higher education funding per student" and "…is Number 50 in state funding and Number 50 per student for its major public universities — $3,417 per student compared to the national average of $9,082 in 2010" (*The Rocky Mountain Collegian*, online. *n.d.*, para. 3). Therefore it is essential for colleges to not only improve their enrollment numbers and determine alternate funding models, but also make assertive efforts toward understanding and retaining current students.

The knowledge gained from understanding the campus climate, can provide administrators with information to drive decisions for improvement of the environment to one that is inclusive. This efforts toward campus-based assessment aims to understand the environment, allowing data to drive funding decisions. In an era of "evidence-based" practice, identifying areas for improvement to achieve education goals for an increasingly diverse student body (Hurtado, Griffin, Arellano & Cuellar, 2008) has taken on broader efforts that go beyond

diversifying the student body through numbers and includes strategic efforts for building diversity and inclusion in the fabric of the institution. Initiatives include strategic planning for recruitment of diverse faculty and staff and creating programs and services focused on first-generation and underserved, underrepresented student populations.

The argument for the creation of a diverse student body is controversial; however, the benefits have been proven. While researchers have studied aspects of the climate for various groups (e.g. race/ethnicity, gender, sexual orientation, and disability), this literature review focuses on research specific to the racial climate and race/ethnic populations. First, the research discusses Critical Race Theory (CRT) as an appropriate lens to view and to review the factors and issues that impact students of color in colleges. The research also focuses on the campus climate impact on variables affecting the retention and success of racially/ethnically diverse students. Last, the study discusses the importance of sense of belonging and research efforts pairing it and/or impacted by the campus climate for diversity.

Critical Race Theory

> Critical race theory is a form of race-based oppositional scholarship (Bartlett & Brayboy, 2005; Brayboy, 2005; Calmore, 1992; Liu, 2009; Love, 2004) and challenges Eurocentric values, such as White being normalized in the United States. As a theoretical framework, critical race theory examines the "unequal and unjust distribution of power and resources along political, economic, racial, and gendered lines" (Taylor, 2009, p. 1, as cited in McCoy & Rodricks, 2015, p. 4).

The use of CRT in education challenges conventional accounts of institutional racism and the social processes that occur within them. According to William A. Smith, Tara J. Yosso and Daniel G. Solórzano (2007), use of Critical Race Theory Framework in higher education questions why racism and gendered racism continues to exist in the academy and "…offers an approach that values the experiences of those voices least heard" (p. 562). The student led demonstrations held in protest of racist incidents and others, for example, are events that reflect a

society that remains entrenched in racist ideologies (McCoy & Rodricks, 2015). "Critical Race Theory provides a way to understand and disrupt this system of structural racial inequality" (McCoy & Rodricks, 2015, p. 3). Anchored in the reality that race and racism is an element of the United States system (Bell, 1992), CRT acknowledges the existence of the subordination of specific groups of people based on class, gender, race, ethnicity, phenotype, sexuality, language, culture, immigrant status, accent, and surname (Yosso, Parker, Solozano, & Lynn, 2004). Consequently, an individual's experience as a part of a socially constructed disenfranchised group can affect their present and future perceptions of their reality. In higher education, a student of color's perception of a racial climate that is accepting or rejecting to the individual also can influence their desire to persist (Johnson-Bailey, Valentine, Cervero, & Bowles, 2009).

As a theoretical construct, CRT explains the way in which traditional aspects of education and the structures supporting educational systems perpetuate racism and maintain subordinate and dominant racial positions on college and university campuses (Patton et al., 2007; Solórzano, Villalpando, & Oseguera, 2005; as cited in McCoy & Rodricks). In analyzing education, CRT identifies and challenges the impact of race and racism on educational structures, practices, and discourses (Yosso, 2005). Originally stemming from legal analysis, CRT is also coupled to an activist agenda (Powers, 2007). Its commitment to social and racial justice allows reviewing and advocating issues such as higher education access and working toward the elimination of racism, sexism, and poverty through empowerment of people of color and disenfranchised groups (Powers, 2007).

The tenets of CRT include but are not limited to: (a) the permanence of racism, (b) experiential knowledge that includes counter-storytelling, (c) interest convergence theory, (d) intersectionality, (e) Whiteness as property, (f) critique of liberalism, and (g) commitment to

social justice. These tenets are identified for their relevance in education; however, many others have been identified by critical race scholars (Cohen, & Kisker, 2010). The tenet, "Permanence of Racism," acknowledges racism as a permanent aspect of the experiences of people of color. Racism can change or evolve, assuming forms ingrained in an institution or an individual. Its power exists in its adeptness at placing subordination onto others, impacting consciously and unconsciously. Racism has always existed, influencing political, economic, and social aspects of U.S. society (Ladson-Billings, 2013; Lynn & Adams, 2002). According to Solórzano and Yosso (2002), the Eurocentric versions of U.S. history taught in schools is realized through CRT; race is exposed as a socially constructed concept used to distinguish racial groups and to show the superiority of one group over another. Therefore, through its use of CRT, claims of objectivity, meritocracy, color blindness, race neutrality, and equal opportunity are challenged, asserting that these claims camouflage the self-interest, power, and privilege of dominant groups (Bell, 1987; Delgado, 2003; Solórzano, 1997).

The tenet focused on "experiential knowledge and counter-storytelling," recognizes people of color's knowledge gained through their experiences as valued, legitimate, and appropriate. This experience is critical to understanding, analyzing, and teaching about racial subordination in education (Carrasco, 1996; Delgado Bernal, 2002; DeCuir & Dixson, 2004; Solórzano & Yosso, 2001) and is essential for the theorizing of race within the context (Lynn & Adams, 2002). Through counter-storytelling methods, value and significance is placed on people's stories, histories and lived experiences through the voices of historically marginalized people; stories lived and experienced *counter* to the master narrative or majoritarian story (Solórzano & Yosso, 2002; Stanley, 2007). As a result the counter-story serves to expose, analyze and challenge the majoritarian stories of racial privilege (Solórzano & Yosso, 2002). It

serves to illuminate and to critique "normalized dialogues that perpetuate racial stereotypes" (DeCuir & Dixson, 2004, p. 27) and casts doubt on the validity of the accepted narrative held by the majority (DeCuir & Dixson, 2004; Delgado & Stefancic, 2001). Counter-stories used by CRT can occur in three primary forms: personal stories/narratives, others' stories/narratives, and composite stories/narratives (DeCuir & Dixson, 2004; Solórzano & Yosso, 2002).

"Interest Convergence Theory" was first presented by Bell (1980) and is grounded in the premise that only when interests "converge" with those in power is it possible for people of color's interest in achieving racial equality (Ladson-Billings, 2013). The diversity argument in the landmark case of *Grutter v. Bollinger* should be viewed as a matter of interest convergence: the practice of using racial preference in admissions to the law school to achieve diversity in its student body implied that White students benefit from compositional diversity in higher education (McCoy & Rodricks, 2015). Likewise, an institution's practice in admitting students of color in an effort to meet a diversity goal that potentially will cause eligibility to receive alternative funding is considered to be a visible interest convergence.

The tenet of "Intersectionality" recognizes that racial identity and racism intersect with other subordinate identities (such as gender, class, religion, ability/disability, sexual orientation, etc.) and forms of oppression (sexism, homophobia, ableism, etc.) to influence people of colors lived experiences (Solórzano & Yosso, 2001; Yosso 2005). According to Yosso (2005), CRT is strengthened through its ability to recognize and to examine the intersectionality of oppressed identities. Viewing individual's experiences from a lens of intersectionality recognizes that groups of people have different experiences when viewed and experienced through their multiple identities. In higher education, the practice of analyzing retention rates involves grouping students into larger dictated Census Categories. In this comparison of students of color,

Blacks/African Americans and Hispanics/Latinos/as usually have lower retention rates than Whites. Unfortunately, in planning for intervention strategies, many times the subordinate groups, such as a "Hispanic" student who is male, first-generation in college, first-generation in this country, and lower socioeconomic status are not recognized. Therefore, CRT challenges the failure to acknowledge this intersectionality, bringing to light the deficit in services and lack of support for this population.

In research conducted by McCoy (2014), students of color who were first-generation college students transitioning to an "Extreme" Predominately White Institution (EPWI) were studied. The students' institution was defined as an EPWI due to the limited number of people of color in the students, employees, and faculty populations. Unfortunately, this institution had a "history of racism and exclusionary policies and practices" and the local community was also predominately White with few to no communities of color, with limited resources and/or services for people of color (p. 156). Through the use of critical race methodology, specifically stories/counter-storytelling, combined with a phenomenological interviewing approach, the transitioning experiences of the respondents to the EPWI were captured (McCoy, 2014).

While McCoy (2014) did not specifically name the lens with which he viewed the students as one of "intersectionality" the dual-ness of their identity, being both first-generation and students of color together were variables contributing to the common themes of issues they experienced in their transitioning to the EPWI. The participant's stories illustrated the difficulties of first-generation students of color when entering an unfamiliar culture or a culture that is incongruent with their culture of origins (McCoy, 2014). Additionally, other factors that affected their transition are they described despite their family members' high educational expectations they did not know how to help them. They experienced difficult admissions process (due to the

absence of mentoring and a lack of knowledge about the process), overcoming challenging transitions (socially and culturally), and described a "culture shock in a sea of whiteness" (McCoy, 2014, p. 160; McCoy & Rodricks, 2015). Participants also shared that overcoming or easing of these barriers occurred through interaction with other students of color, participating in ethnic student organizations, and by engaging in the safe space provided by the multicultural student center.

McCoy (2014) concluded this institution must create an inclusive campus community for students of color and must identify ways to ease their transition as first-generation students to higher education. He emphasized the importance of the multicultural student center and staff; orientation programs for parents and students; and the importance of improving compositional diversity of the campus, specifically to increase the presence of racially and ethnically diverse faculty in assisting the transition of first-generation students of color transition to an EPWI (McCoy, 2014; McCoy & Rodricks, 2015). Also, the authors strongly recommended that "Future research should examine first-generation, students of color experiences at an EPWI based on the intersectionality of their numerous identifies (gender, sexual orientation, etc.)" (McCoy et al., 2014, p. 167).

An additional tenet of CRT identifies "Whiteness as Property," (p. 171) recognizing that the assumptions, privileges, and benefits with being white are assets that white people seek to protect and are legally protected. The concept of whiteness can be considered a property interest, as those individuals who self-identify as White have social advantages or privilege that people of color do not; e.g. individuals who historically have accessed higher education are White people, and this privilege of attending college without having to "fight" for this right is an example of Whiteness as Property (DeCuir & Dixson, 2005; Harris, 1993; McCoy & Rodricks,

2015). Additionally, the deeply ingrained policies and practices governing the higher education system historically have been those that were created and funded to the benefit of White students.

Critical Race Theory scholars practice a "Critique of Liberalism" by challenging the concepts of objectivity and meritocracy, color blindness, race neutrality, equal opportunity, and incremental change (Bartlett & Brayboy, 2005; DeCuir & Dixson, 2004; Lynn & Adams, 2002; Museus, 2013; Solórzano & Yosso, 2001). Color blindness, for example, fails to recognize the permanence of racism and is grounded in the belief that race is not important (McCoy & Rodricks, 2015). According to Solórzano and Yosso (2001) these concepts act as "camouflage for the self-interest, power, and privilege of dominant groups in U.S. society" (p. 473). DeCuir and Dixson (2004) suggested that "at face-value these concepts appear to be desirable goals; however, they argue given the history of racism in the United States, this is not possible" (p. 29).

Through a "Commitment to Social Justice", CRT exposes the "Interest of Convergence" by challenging racial advancements that are promoted through White self-interest and color blind ideology (Solórzano, Villalpando, & Oseguera, 2005), such as access to higher education gained through the civil rights movement (Bell, 1980, 2004; Delgado & Stefanic, 2000; Taylor, 2000). Critical race scholars investigate race and racisms role in education and work towards a larger goal of eliminating racism and other forms of subordination based on gender, class, sexual orientation, language, religion, and national origin (Solórzano & Yosso, 2002) towards empowerment of people of color and other subordinate groups (Freire, 1970, 1973; Lawson, 1995; Solórzano & Delgado Bernal, 2001; Solórzano & Yosso, 2001a). Through a commitment to social justice, critical race scholars seek to enlighten the way in which traditional aspects of education and the structures supporting these educational systems perpetuate racism and

maintain subordinate and dominant racial positions on college and university campuses (Solórzano, Villalpando, & Oseguera, 2005). Through this effort, they take an active stance to improve the higher education systems, policies, and practices to the benefit of students whose needs and voices have been stifled.

In a research study conducted by Solórzano, Ceja and Yosso (2000), CRT Framework was used to explore the experiences of African American undergraduate students and the impact of racial macroaggressions while attending three predominately white higher education institutions. Through focus groups and a case study approach, Solórzano et al. "…explored the linkages between racial stereotypes, cumulative racial macroaggressions, campus racial climate, and academic performance" (2000, p. 61). Through the counter-stories shared by the participants, they learned that the continuous issues of macroaggressions negatively impacted their undergraduate experiences in and outside the classroom. Racial macroaggressions were evident in faculty-student interactions e.g., when faculty maintained low expectations of students of color, even when their test scores or classwork contradicted their expectations or when they called on the only student of color to speak as a representative of the whole population (Solórzano et al., 2000). The impact of the ongoing negative interactions instilled a sense of self-doubt among participants and many shared feelings of isolation and frustration due to in-class racial segregation. Racial macroaggressions were also experienced outside the classroom – A counselor told a Premed student, "I don't think you should take these classes, you are not going to be able to do that" (Solórzano et al., 2000, p. 67), without knowing the student had achieved academically. Other instances included a difference in treatment by campus police. An African American male reported**: "**With school events, it's definitely racial. They [the campus police]

regulate and try to shut down [Black social functions], and make [us] leave through certain doors" (Solórzano et al., 2000, p. 68). Solórzano et al., determined:

> Such incidents and feelings of discomfort contributed to the development of a negative racial climate and serve to discourage several of the African American students we interviewed from taking advantage of student services on their campuses. African American students on the campuses studied must strive to maintain good academic standing while negotiating the conflicts arising from disparaging perceptions of them and their group of origin. Racial macroaggressions had affected their academic performance in overt ways such as pushing them to drop a class, changing their major and even leaving the university to attend school elsewhere. (2000, p. 69)

Based on the findings of their study, Solórzano et al. concluded that, even at elite undergraduate institutions, inequality and discrimination continue to exist.

Critical Race Quantitative Intersectionality (CRQI)

Grounded in CRT, CRQI is a relatively new framework developed by Covarrubias and Velez (2013) to guide quantitative research in education. Much of the scholarship surrounding CRT has been produced through qualitative research methods; however, through CRQI research can be expanded to include quantitative methods. According to Covarrubias and Velez (2013), through exploring the intersectionality of the data, the CRQI framework, "…challenges the lasting legacy of an erroneous, and arguably racist, application of statistical methods in the social sciences and expands the utility and transformative potential of critical race theory" (p. 270). CRQI is defined as:

> an explanatory framework and methodological approach that utilizes quantitative methods to account for the material impact of race and racism at its intersection with other forms of subordination and works toward identifying and challenging oppression at this intersection in hopes of achieving social justice for [S]students of [C]color, their families and their communities (Covarrubias & Velez, 2013, p. 276).

Applying the CRQI Framework guides the development of the research questions, the collection of data from intentional sources, the computation and analysis of the data, and the

dissemination and applicability of the research (McCoy & Rodricks, 2015). Intersectional data mining suggests that no data alone, including quantitative data, can explain anything; thus, the numbers "cannot speak for themselves" (Covarrubias & Velez, 2013, p. 277; McCoy & Rodricks, 2015). The guiding tenets of CRQI include: Tenet I - Quantifying the material impact of racism at its intersections: intersectional data mining; Tenet II - Challenging the Neutrality of Quantitative data which means numbers do not "speak for themselves"; Tenet III - Originating from the Experiential and Material Experiences of People of Color; Tenet IV - Being intentionally committed to addressing injustice and seeking transformation; and Tenet V - Taking a transdisciplinary perspective and methods for revealing elusive and hidden patterns (Covarrubias & Velez, 2013, p. 277).

CRQI Tenet I

CRQI Tenet I, Quantifying the Material Impact of Racism at its Intersection, focuses on the manipulation and contextualizing of data that are gathered in numerical form. Through contextualizing the data, the strategies and/or tools used for analysis and the meaning of the numbers are shaped by the context (Covarrubias & Velez, 2013). Through conducting intersectional data mining, data are viewed through multiple lenses challenging the norm of examination by large categories burying subgroups into averages. The use of CRQI, seeks to achieve "…a multidimensional analysis of power-based relationships by [contesting] the practice of singular analytical lenses that reduce people to essentialized and homogenizing units of larger ambiguous, political, social and often legal categories used to distribute power" (Covarrubias & Velez, 2013, p. 277). People are multi-dimensional and have power-based relationships with individuals, groups, and institutions. These social constructs have been used to categorize and to define the individuals who exist within it and are that which society and its institutions use to

disseminate resources, status, and power, often privileging one group over all others. Social constructions are the basis for ideologies that can create and sustain inequality and homogenizes, thereby masking the diversity within them. Therefore, by using CRQI as a framework for research, it challenges these social constructs and allows the detection of within group differences by disaggregation of the population (Covarrubias & Velez, 2013).

CRQI Tenet II

CRQI Tenet II, Challenges the neutrality of statistical data revealing that quantitative methodology is determined and framed by the researcher. "Numbers are protected by their framing, they are often used to protect those in power, or their constructions that maintain their privilege, like Whiteness, masculinity and loyalty at the submission of the nation's state" (Covarrubias & Velez, 2013, p. 278). Therefore the use of CRQI as an interpretive tool of quantitative analysis, has the potential to scrutinize the neutrality of the results and inspect for the bias hidden in the interpretation (McCoy & Rodricks, 2015). This practice could be detrimental to the historical preference of quantitative data gathering and may lead to greater acceptance for use of other methods of research.

CRQI Tenet III

CRQI Tenet III, Originating from the experiential and material experiences of people of color, much like CRT, CRQI is also grounded in experiential knowledge. It examines the "lived experiences of people of color at the bottom of the well"; however, it confirms that "the bottom is mobile and a relative position" shaped by time and space (Covarrubias & Velez, 2013, p. 279). "Being on the bottom" requires an intersectional analysis of the experiences of being on the bottom through the multi-dimension of an individual's identity; e.g., analyzing the experience of a person of color who is female, doing entry level work at a university and then determining

whether a difference exists in the experience felt by a male person of color performing work in a similar positon. Additionally, this experience may be shaped by time, such as when the university has limited funding and resources, it can influence the perceptions of employees as "being not valued" as opposed to working in a time in which the university is flourishing and is able to give raises. To truly understand being at the bottom of the well at this university, assessment of the experiences must not be viewed through a singularly socially constructed identity, such as race-based or gender-based investigation; rather it should involve a multi-dimensional approach. This approach can be formed by the researcher's personal and professional experiences (McCoy & Rodricks, 2015).

CRQI Tenet IV

CRQI Tenet IV, "Being Intentionally Committed to Addressing Injustice and Seeking Transformation," is focused on a commitment to social justice to transform educational policy and practice (Covarrubias & Velez, 2013, p. 280). Through exposing the deficiency of the homogenized data gathering that has plagued educational research, the single lens deficits the conditions and issues impacting diverse populations. Therefore CRQI is actively committed to social justice in education through pursuit of unexplored questions from the standpoint of those who have been marginalized and seeks to encourage engaged models of research, creating products that can be useful for addressing the issues and injustice of present diverse populations (Covarrubias & Velez, 2013). By attempting to form a better understanding of the conditions that are affecting those whose interests are lost within the data, CRQI offers a more appropriate and authentic portrayal of the intersections affecting students of color. Through this analysis, a better understanding of the needs of students allows for data-driven decisions, shaping an effective use of funding, and other use of resources to move toward educational equity.

CRQI Tenet V

CRQI Tenet V, relies on "Taking a Transdisciplinary Perspective and Methods for revealing Elusive and Hidden Patterns" (Covarrubias et al., 2013, p. 281). Much like CRT, CRQI draws from and is informed by many disciplines such as "ethnic studies, women's studies, queer studies, geography, sociology, psychology and other fields both inside and outside education" (Covarrubias & Valez, 2013, p. 282). Through its use of employing a lens of intersectionality, CRQI not only provides a deeper understanding of the hidden populations, but also it strives to contribute to policy change (McCoy & Rodricks, 2015). This change can occur through use of CRQI because it advises on the methodology used, specifically how data is captured, evaluated, and distributed to identify and look deeper into the information to better understand the experiences of individuals or populations who typically are not included in analysis or interpretation (Covarrubias & Velez, 2013),

Assessing racial climate specifically considers issues surrounding race and racism as experienced within the campus environment by students of color. Assessing for the Campus Climate for Diversity takes a broader approach, encompassing an understanding of the environment for all diverse populations. CRQI Framework, grounded in CRT, also provides a means of recognizing and challenging racist and/or discriminative practice that plagues educational systems. However, CRQI provides a framework that values the multi-dimensional identity of individuals and acknowledges the diversity of the population and within populations that can exist. Therefore, it is an appropriate inclusive model to inform and guide research centered on campus climate for diversity in institutions of higher education.

Campus Climate

Measuring campus climate involves assessing students' real or perceived observations of the environment as it relates to interpersonal, academic, and professional interactions. Through these interactions between groups and with others, the climate is socially constructed, positively or negatively by the individual (Hurtado et al., 2008). A positive climate allows for an environment promoting student growth, learning, and success. Research has shown that experiencing a negative or unhealthy climate directly impacts the student's ability to transition successfully into college (Hurtado et al., 1999). The student is less likely to adjust academically in an unhealthy climate; research has found for both white and students of color, they are less likely to develop a sense of belonging to the campus (Locks, Hurtado, Bowman, & Oseguera, 2008; Hurtado & Guillermo-Wann, 2013).

Campus climate assessment in higher education typically has considered the variables involved in assessing for the racial climate (Hurtado et al., 2008). Through utilizing diversity of convenience, or the presence of people of color, the racial climate is an element of the institutional context that includes community members' attitudes, perceptions, behaviors, and expectations around issues of race, ethnicity, and diversity (Hurtado et al., 1999). Research assessing the racial climate has found that the existence of people of color, regrettably, will not generate a more positive climate (Hurtado et al., 2008; Rankin & Reason, 2003; Hurtado & Ruiz, 2012). However, increasing the numbers of students of color, also referred to as structural Diversity, allows for an expansion of opportunity for interactions across race (Chang, 1999; Chang, Astin, & Kim, 2004; Chang, Denson, Saenz, & Misa, 2006; Hurtado & Guillermo-Wann, 2013). Unfortunately, if the campus climate does not value its racial climate or the diversity within the climate, the interactions across races become negative.

Structural Dimensions of the Campus Climate

Frequently described as the first step in developing an environment that fosters a positive climate and intergroup relations, structural diversity refers to the physical presence of previously underrepresented groups at a particular institution (Hurtado et al., 1999). Creating a student body that reflects the demographics of the country, while controversial, is the practice of using race as an admissions factor to purposefully enroll a much more racially and ethnically diverse population. Achieving structural diversity also involves efforts to increase the diversity of staff and faculty. Growth in structural diversity leads to a population of students who self-identify with one or more racial or ethnic background; however, growth without intentional planning for the increased interracial contact can be detrimental to students (Chang, 1999; Hurtado et al, 1999) because an environment not ready to embrace the diversity, can produce a negative change in the climate of the institution (Hurtado et al., 1999).

Research conducted assessing for the structural diversity of the campus has identified the change of its impact is reflected in perceptions of tension on campus, experiences with racism and academic adjustment to college (Yosso et al., 2009). The launch of the Diverse Learning Environment Survey (2011) aimed to assess campus climate and institutional practices and policies toward diversity gathered data from 4,037 Underrepresented Minority (URM) students (59 Native Americans, 490 African Americans, and 3,488 Latina/os) attending 31 public higher education institutions across the United States (Hurtado & Ruiz, 2012). The survey accounted for the campus racial climate through assessing several measures to include experiences of various types of discrimination or harassment. Across all measures, the institutions with a higher enrollment rate of URM students had lower reported rates of discrimination and harassment. According to the data, the most prevalent form of discrimination or stereotyping was in the form of verbal comments made by others on campus. Almost two thirds (60.4%) of URM students on

low-diversity campuses reported being the target of verbal comments, reported higher among Black students (67.2%). However, on campuses that enrolled diverse populations of URM students between 21 % and 35 %, Black students' reports of verbal comments as a form of discrimination were lowest on the most diverse campuses (37.5%). Similarly, Latinas/os experienced less negative verbal comments at diverse campuses at 47.9% (Hurtado & Ruiz, 2012). These findings indicate there was an association among reports of discrimination in the form of verbal comments and the existence of structural diversity on campus, the more diverse the student population was the less likely they would experience verbal, discriminating comments.

In a study conducted by Johnson-Bailey, Valentine, Cervero, and Bowles (2009), to evaluate the campus climate as experienced by Black graduate students through the lens of CRT, the researcher assessed alumni on their experiences at a Predominately White Institution (PWI) in the South. They utilized a mail-in self-completion survey that collected both quantitative information through Likert-type questions and qualitative information gathered through open-ended questions. The data were derived from 31 questions in the three categories of social support, included: "Your experiences with professors" (12 items), "Your experiences with other students" (12 items), and "Race-related issues on campus" (7 items) (p. 184). They had a 31% response rate, assessing both master's and doctorate level achieved alumni. Participants were divided into two groups for comparison: those who attended the university earlier than 1985, and those who attended the university 1996 or later.

The survey data revealed that the factors of isolation ($z = .08$ and $z = .02$), white student discrimination ($z = -.30$ and $z = .25$), forced representation of race ($z = -.03$ and $z = .16$), and stereotyping ($z = .15$ and $z = -.14$) were present among all respondents. According to the data,

these factors increased across the two groups, indicating a campus climate that was perceived by respondents who attended the university in more current years as much more hostile. Additionally, of the 678 individuals who responded to the open-ended questions, 384 said they had experienced racism during their tenure, while 170 had never experienced any racism or discrimination. Therefore, over half of the respondents experienced racism (the remaining 124 surveys yielded answers that were coded as neutral or not applicable) (Johnson-Bailey, et al., 2009).

Structural diversity and changes toward diversification can be counted through enrollment; however, the perception of the existence of diversity many times is different with various populations on campus. The extent of structural diversity of a campus, should be understood through assessing how diverse the campus feels (Hurtado, et. al, 2008). This is achieved through monitoring and improving the psychological climate (Hurtado et al, 2008) and is meant to capture the extent to which individuals perceive racial conflict and discrimination (Hurtado, 1992); feel somehow singled out because of their background (Nora & Cabrera, 1996); or perceive institutional support/commitment related to diversity (Hurtado et al., 2008). Researchers examining the psychological dimension of the climate have found that individuals experience the climate in different ways. Specifically, students of various racial and ethnic backgrounds have more observed and direct encounters with racism than their white peers and, therefore, perceive their campuses as more hostile and discriminatory (Ancis, Sedlacek & Mohr, 2000; Cabrera & Nora, 1994; Rankin & Reason, 2005; Hurtado et al., 2008).

Research conducted by Rankin and Reason (2005) assessed the campus climate through a survey instrument to determine the way in which students from different racial groups experienced their institutional environment. A survey of 7,343 students from 10 campuses

produced data indicating that students of color experienced harassment (33%) at higher rates than white students (22%). Through a chi-square analysis, it was determined "Students of color perceived the climate as more racist and less accepting than white students, even though white students witnessed racial harassment at similar rates as students of color" (Rankin & Reason, 2005, p. 43). Participants were assessed also on their view of the racial climate and students of color perceived the institution less favorably than White students on the following measures: students of color disagreed that the university addressed racism (33%) compared to Whites (16.7%); students of color disagreed that the university administrators were fostering diversity at a rate of 28.9% compared to Whites at a rate of 25 percent (Rankin & Reason, 2005). This study explored the perceptions of the campus climate through racial grouping of participants. Its findings indicated that students of color experienced the campus climate different, and more negatively, than White students (Rankin & Reason, 2005).

While increasing the diversity of the population is an important first step, this effort alone will not create a more positive racial climate (Cabrera, Nora, Terenzini, Pascarella, & Hagerdorn, 1999; Chang, 2002; Hurtado et al., 1999; Milem, Chang, & Antonio, 2005). Rather, researchers have found that the existence of students of color, or the increase in people of color on campus, allows for an increase in opportunity for interactions across race (Chang, 1999; Chang et al., 2004; Chang et al., 2006; Pike & Kuh, 2006). As such, structural diversity through the existence of diverse peers works indirectly through student experiences and interactions with those of different racial and ethnic backgrounds, which affects educational outcomes over time (Hurtado et al., 2008). Structural diversity and changes can be counted; however, the perception of the existence of diversity many times is seen different by various populations on campus. Therefore,

the extent of structural diversity on campus should be also understood through assessing how diverse the campus feels (Hurtado et al., 2008).

Psychological Dimensions of the Campus Climate

The psychological climate on campus is meant to capture the extent to which individuals perceive racial conflict and discrimination on campus (Hurtado, 1992); feel somehow singled out because of their background (Nora & Cabrera, 1996); or perceive institutional support/commitment related to diversity (Hurtado et al., 2008). Through examining the psychological dimension of the climate, it is realistic to perceive that individuals experience it in different ways. Specifically, students of various racial and ethnic backgrounds have more observed and direct encounters with racism than their White peers and, consequently, perceive their campuses as more hostile and discriminatory (Ancis, Sedlacek &Mohr, 2000; Cabrera & Nora, 1994; D'Augelli & Hershberger, 1993; Elmers & Pike, 1997, Rankin & Reason, 2005; Hurtado et al., 2008). Monitoring for this and guarding against it is important for higher education administrators tasked with creating a campus and that is inclusive because the perceptions of a hostile campus impacts all students negatively and is detrimental to student outcomes, particularly for students of color" (Hurtado et al., 2008).

Psychological Variables

Psychological variables are determinants of academic achievement in institutions of higher education because they allude to the internal processes affecting the individual's perception of their likelihood of success. Research focused on finding the internal processes contributing to or inhibiting academic performance (Adams & Wiklund, 1999) has determined that no, one psychological contributor of academic achievement exists (Pintrick, 1986; Pintrick & De Groot, 1990; Pintrick, Smith, Garcia, & McKeachie, 1993; Brackney & Karabeneck,

1995). In addition, researchers focusing on student academic achievement have found that the internal process of self-efficacy has an influence on the individual's expectancy for success and the motivation to perform (Pintrick, 1986; Pintrick & De Groot, 1990; Pintrick et al., 1993; Brackney & Karabenick, 1995). Therefore, the internal process of self-efficacy is an important contributor to success of undergraduate students.

Self-efficacy

Self-efficacy refers to the individual's assessment that he or she possesses the skills necessary to perform an academic task (Bandura, 1994; Schunk, 1985; Zimmerman, Bandura, & Martinez-Pons, 1992) as well as the situational factors such as perceived task difficulty (Weiner, 1985). According to Bandura (1994), self-efficacy beliefs determine the way in which individuals feel, think, self-motivate, and behave. Much research has shown that self-efficacy influences academic motivation, learning, and achievement (Pajares, 1996; Schunk, 1995). Self-efficacy beliefs influence task choice, effort, persistence, resilience, and achievement (Bandura, 1994; Schunk, 1995; Schunk & Pajares, 2002). Compared with students who doubt their learning capabilities, those who feel "…efficacious for learning or performing a task participate more readily, work harder, persist longer when they encounter difficulties, and achieve at a higher level" (Schunk & Pajares, 2002, p. 13).

In institutions of higher education, the self-efficacy of the college undergraduate student is influenced by their confidence in "…their ability to regulate their own learning and to master academic activities, which ultimately determines their aspirations, level of motivation and academic accomplishment" (Schunk & Pajares, 2002). According to Bandura (1982), students who have a strong sense of self efficacy believe in their ability to accomplish and therefore approach difficult tasks as challenges instead of tasks to be avoided. They put forth effort

expecting to achieve and if failure occurs, "…they attribute it to insufficient effort or deficient knowledge or skills that are acquirable and within their control" (Bandura, 1982, p. 71). Students who are more efficacious in their learning can self-regulate and persist when they encounter difficulties and can also manage their time and study environment more effectively (Pintrick & Schrauben, 1994). Whereas, people who have low self-efficacy doubt their ability to achieve, usually have low aspirations and a weak commitment to their goals. They also tend to give up easily when they encounter obstacles or challenges and readily accept or expect failure (Bandura, 1982). Therefore, the successful college student is one who believes in their ability to be successful, approaches challenges with the confidence of achieving, and produces the specific levels of performance that warrant their academic achievement as an undergraduate student.

Research by Brachney and Karabenick (1995) investigated the relationship between psychopathology and academic performance. Their initial sample consisted of 358 students (63% female and 37% male), which was 71% of the 504 students enrolled in four-year introductory Psychology courses at a large, public Midwestern university. The Motivated Strategies for Learning Questionnaire ([MSLQ]; Pintrick et al., 1993) was used to assess class-specific motivational tendencies and learning strategy use. Academic performance was measured by each student's final course grade, which was converted to an 11-point scale (A = 11, A− = 10, B+ = equals; 9 E = 0). The results of their study found that poorer academic performance was associated with lower self-efficacy, less metacognitive self-regulation, less efficient structuring of study sessions, and less overall effort regulation. Self-efficacy played an important role in terms of its influence on performance (Bandura, 1982; Hackett & Betz, 1989; Lent, Brown, and Hackett, 1994; Lent, Brown, & Larkin, 1984, 1986; Multon, Brown, & Lent, 1991; Schunk,

1985, 1987; Siegel, Galassi, & Ware, 1985) and students' use of cognitive, metacognitive, and resource management strategies (Bandura & Schunk, 1981; Pintrick & Schrauben, 1994).

Self-efficacy and Motivation

According to Bandura (1994), self-efficacy beliefs play a key role in the self-regulation of motivation. Individuals motivate themselves and they form beliefs about that which they can do; based on these beliefs they set goals and plan courses of action designed to realize valued futures. In addition, the level of motivation of an individual for a given action is reflected in the choice of course of action and in the intensity and persistence of the effort (Bandura, 1994).

In the case of education, researchers have found that motivation and achievement are positively influenced by the student's self-efficacy (Pintrick & De Groot, 1990; Zimmerman et al., 1992; Pajares & Miller, 1994). Students who perceive themselves as efficacious will be motivated to produce the effort and maintain persistence in their quest to achieve. For example, Pintrick & De Groot (1990), reported that academic self-efficacy produced the desired motivation to realize various outcome measures such as grades, seatwork performance, scores on exams and quizzes, and quality of essays and reports. Multon, Brown, & Lent (1991) found that self-efficacy was related both to academic performance and to persistence. Pajares and Kranzler's (1995) study demonstrated a direct effect of self-efficacy on mathematics performance, and the strength of its effect was as strong as the effect of general mental ability. Therefore researchers who study the extent in which something is done, should also consider the motivation and skill that are involved (McClelland, 1985).

Motivation has been referred to as an aroused motive but has been broadened to include the potential that has been excited by the motive and the individual's belief in their ability to be successful and includes future incentives (McClelland, 1985**).** The motivation to academically

succeed in earning a degree from an institution of higher education, for most students, is the potential for a future career and economic stability. For the student of color, the motivation of economic stability also is shared, yet the influence of other unknown variables such as the environment's acceptance of the students of color can impede their success. Even with the possession of the pre-academic skills to be successful, and the possession of the psychological characteristics of positive self-efficacy needed to expect success, producing the motivation necessary for success, unfortunately, does not ensure the success of students of color in the postsecondary environment.

Students of color face many variables in their quest for academic and social acceptance in institutions of higher education. "Racism, in most instances is related in terms relative to the psychological impacts on mental, physical and the psychological health of its contacts/victims" (Reynolds & Pope, 1994). Subtle or blatant barriers related to discriminatory practices, in the form of alienation, isolation, racism, discrimination, intimidation, microaggressions, and issues associated with acquiring adequate financial aid (Lett & Wright, 2003), not only affect the student's psychological health, perceptions of self-efficacy, and motivation, but also affect their overall satisfaction with their chosen institution. Many factors have been proposed that promote or hinder the success of students in post-secondary education (Lamport, 1993). Among these factors, achievement motivation and satisfaction with the college experience have been linked to attrition and performance (Hatcher, Kryter, Prus, & Fitzgerald, 1992; Klein, 1990; Lamport, 1993; Donahue, 1997). Therefore, the environment of the institution and the perception of a campus climate's acceptance of the student of color are particularly important in overall satisfaction with the college experience, which consequently influences success and retention.

Self-efficacy and Ethnic Differences

Self-efficacy research related specifically to ethnic differences is significantly limited. Although some studies have shown that ethnically diverse students hold lower perceptions of competence than their Caucasian counterparts, much of the research measured self-efficacy in relation to social class and compared middle-class white children with lower socio-economic minority children (Graham, 1994; Pintrick & Schunk, 1996). Graham (1994) conducted a review of published research on African American students and their achievement motivation and found that, once socioeconomic status was controlled, the perception of competence of African American students in comparison to White students was no different (Schunk & Pajares, 2002). Rather, African American students often maintain a sense of optimism regardless of social and economic disadvantage. However, although their expectations were high, African American students often did not academically perform (Schunk & Pajares, 2002). This unfortunate finding raises the awareness that high self-efficacy is not the sole determinant of academic achievement for the student of color in higher education.

Behavioral Dimension of the Campus Climate

The behavioral dimension of the campus climate is assessed through reports and surveys on the interactions or contact experiences between and among different groups and is gathered through participation in campus programs or diversity activities, and enrollment in diversity courses (Hurtado et al., 2008). Research findings indicated that more interactions occur across race/ethnicity in an increasingly diverse environment (Chang, 1999; Chang, Astin, & Kim, 2004; Pike & Kuh, 2006). However, the quality of the cross-racial interactions in college was often determined by whether students had informal social interactions with various diverse groups of people prior to college (Hurtado et al., 2008).

Social Behavior

According to Dale H Schunk and Frank Pajares (2002), human achievement depends upon interactions between one's behaviors; personal factors (e.g., thoughts, beliefs); and environmental conditions (Bandura, 1986, 1997). The social conditions of the institutional environment should include opportunities that promote inclusion, and encompass development of personal, social, maturational, and collective endeavors (Lett & Wright, 2003). This inclusive practice is essential to the development and adjustment of the student because their learning is gathered through experience both in and out of the classroom while interacting with fellow students. Through this experience, students learning is reflective of their appraisal of their own self-efficacy gathered through their performance through social comparison, and feedback received from others (Lett & Wright, 2003). Thus, the social environment of institutions have an important critical influence on the student of color's self-perception as a successful learner and can impact their sense of belonging within the environment.

According to literature, college students generally face four demands as they negotiate the transition from high school and home to college life (Baker, McNeil, & Siryk, 1985; Baker & Siryk, 1984): (1) academic adjustment to college-level educational requirements; (2) institutional adjustment or commitment to college pursuits, academic goals, and eventual career direction; (3) personal-emotional adjustment or the need to independently manage one's own emotional and physical wellbeing; and (4) social adjustment to roommate, peer, faculty, and other interpersonal relationships (Schwitzer, Griffin, Acis & Thomas, 1999). Of these, research has identified, adjusting to the social environment is consistently a critical factor impacting the success of many students of color in predominately white institutions (MacKay & Kuh, 1994; Richardson, Simons, & de los Santos, 1987; Sedlacek, 1996, as cited in Schwitzer et al., 1999). For example,

in research conducted by Watson and Kuh (1996), the quality of African American students' relationships with peers, faculty, and administrators tended to be almost as important to their achievement as individual efforts (Schwitzer, Griffin, Ancis & Thomas, 1999; Bourne-Bowie, 2000).

Results of several studies have indicated, when students of color experience a warmer climate, they have greater satisfaction with college, better adjustment, and are more likely to persist through graduation (Schwitzer et al., 1999). Furthermore, student engagement and an inclusive, affirming environment are also positively related to student satisfaction and achievement on a variety of dimensions (Astin, 1984, 1993; Goodsell, Maher, & Tinto, 1992; Johnson, Johnson, & Smith, 1991; McKeachie, Pintrich, Lin, & Smith, 1986; Pascarella & Terenzini, 1991; Pike 1991 as cited in Bridges, Cambridge, Kuh, & Leegwater, 2005). Therefore, when students of color are afforded the opportunity to participate in programs that address existing climate concerns, or are provided supportive services through ethnic or racial focused departments, or student organizations, this participation broadens access to a network of supportive relationships. These supportive relationships have been shown to enhance adjustment resulting in a higher probability of retention for the student of color (Hewitt, Hart, Jefferson, & Thomas, 1990, as cited in Schwitzer et al., 1999).

Higher retention rates do not necessarily reflect student satisfaction with their college experience; however, the level of satisfaction can hinder or improve the likelihood of success. Perceptions of the college experience can have both negative and positive effects on student attrition and persistence (Hatcher, Kryter, Prus, & Fitzgerald, 1992; Klein, 1990; Lamport, 1993). Bean and Bradley (1986) demonstrated that "satisfaction had a greater influence on performance than performance had on satisfaction" (p. 403) indicating that satisfaction with

college can be a predictor of academic success. Also, research conducted by Edwards and Waters (1982) tested freshmen college students and upon a two-year follow up found that first quarter grade point average and general satisfaction with college combined can predict attrition (Donahue, 1997).

Similar to this finding, research study was conducted with 126 undergraduate students to determine the significance of college satisfaction and the motivation to achieve. Participants responded to questions from the College Student Satisfaction Questionnaire and the Work and Family Orientation Questionnaire. The Work and Family Questionnaire was used to measure the general need for achievement (Helmreich & Spence, 1978). The results of this project indicated significant correlations between various dimensions of college satisfaction, achievement and motivation. From an analysis of this study, the researchers found that the students who were more satisfied with their college experience were more likely to achieve academically (Donahue, 1997).

Negative Social Behavior

Social interaction with peers, faculty, and administrators plays a large role in the academic success of college students of color (Bourne-Bowie, 2000). Therefore, it is important to understand whether a negative social environment exists that does not embrace the ethnically diverse student. According to Chesler, Lewis, and Crowfoot (2005), students of color experience their campus differently from White students and often also experience it differently between racial groups. Students of color struggle when racially coded characteristics are ascribed to them, or struggle when they experience exclusion and or when self-perceptions do not match others' expectations or treatment of them (Chesler, Lewis, & Crowfoot, 2005). Often, faculty and supportive services are viewed negatively and inaccessible (Schwitzer, Griffin, Ancis, and Thomas, 1999) and negative living environments are experienced when paired with White

students, more so than ethnically similar roommates (Phelps, Potter, Slavich, Day, & Polovin, 1996, as cited in Schwitzer et al., 1999). For many students of color, they report feeling they are not wanted or are made to feel as if they do not belong in the institution. They reported experiencing feeling invisible as people look past them when conversing with other members of the majority group; the sudden quietness which occurs when they approach; and felt intimidation when attempting to converse with faculty members of the majority race (Feagin, Hernan, & Imani, 1996). These experiences can have a negative effect and can mediate, or limit, the ability of some students of color to engage in learning, participation in developmental programs, academic support, and other opportunities that are a part of campus life (Schwitzer et al., 1999; Lett & Wright, 2003).

In a qualitative study conducted by Schwitzer, Griffin, Ancis, and Thomas (1999) to identify the social adjustment of experiences of African American students in college, undergraduates participated in a series of focus groups to answer questions concerning their college experience. Four key features were found that impact social-adjustment to college. Two of these features reflected their peer experiences, specifically: 1) dealing with social adjustment to the institutional climate as a whole; and, 2) involved being affected by their realization of under-represented-ness and their direct perceptions of racism. The other two findings involved specific influences on academic relationships with faculty, which included overcoming the hurdle of approaching faculty and the effects of faculty familiarity (Faculty who were perceived to be more similar or familiar to the students on the basis of race, gender, academic department, or field of study appeared to be more approachable). The importance of these findings dictates, successful college matriculation and persistence of students of color is dependent upon their ability to establish successful interpersonal relationships in the campus environment (social

adjustment) and effectively interacting with faculty both inside and outside the classroom (academic adjustment) (Baker et al., 1985; Baker & Siryk, 1984, as cited in Schwitzer et al., 1999).

The social environment is essential to all students' academic achievement and matriculation into institutions of higher education (Schwitzer et al., 1999). For the student of color, effective social adjustment to the college environment is vital to their academic success. "Sedlacek (1987, 1989) and Tracey and Sedlacek (1985, 1987) found that a key to social adjustment for African American students on predominately white campuses is developing the ability to recognize and deal effectively with racism when it occurs" (Schwitzer, et al, 1999, para. 6). A study at the University of Maryland on demographically diverse African American students of mixed gender and socioeconomic status revealed that African American students often remained in school when they expected environments to be racially hostile, more so than African American students who were less prepared to deal with racism (Lett & Wright, 2003). Preparedness for racism and knowledge on how to deal appropriately with racism is but one solution in aiding in the social adjustment for the individual student of color. However knowing how to deal with racism puts responsibility on only the individual who will continue to be victimized unless the campus climate is improved. Institutions of higher education must implement a systemic effort to establish an inclusive learning environment that embraces diversity and encourages opportunities for positive social interactions of all students (Hurtado & Guellermo-Wann, 2013).

Social Adjustment and Cross-Cultural Interaction

The diversity of the undergraduate student body affects the development of the college undergraduate (Chang et al., 2004, para 1). However, increasing campus diversity through

focused efforts using racial/ethnic backgrounds as variables in admittance practices has been a controversial subject. However, research has proven, a diverse student body provides an increase in the probability for individuals to interact and socialize across racial groups. This type of interaction. This type of interaction can have a positive impact on the development of all students (Chang, 1999, 2002; Gurin, Dey & Hurtado, 2002) and provides educational benefits to learning associated with diversity.

Many students who come to college have lived and been educated with only peers similar in backgrounds, lacking significant exposure to diverse individuals. This lack of exposure is often responsible for producing the prejudice that occurs in institutions of higher education (Alger, 1997). Since prejudice is a learned behavior and students typically come from neighborhoods that are segregated, once in college, exposure to individuals different can provide opportunity for prejudices to be overcome when students discover commonalities with their peers from other races. According to Alger (1999) this type of self-discovery and learning can only be gained from social experiences and is not something found in textbooks. Recent studies by Alexander Astin and others have shown that direct student experience with racial diversity corresponds to increased cultural awareness and commitment to promoting racial understanding (Alger, 1997). The cross-racial interaction that has the potential to occur plays a key role in achieving educational benefits and student development.

> According to Chang, Astin, and Kim (2004), high levels of cross-racial interaction is linked to: greater cognitive development (Astin, 1993a; Gurin, Dey, Hurtado, and Gurin, 2002; Hurtado, 2001), more positive academic and social self-concept (Chang, 1999; Gurin et al., 2002), higher graduation rates (Bowen and Bok, 1998; Chang, 1999), growth in leadership skills and cultural awareness and cultural understanding (Antonio, 2001b; Astin, 1993; Milem, 1994), higher levels of civic interest (Gurin et al., 2002; Hurtado, 2001), and college satisfaction (Astin,1993a; Chang, 1999). These findings support a well-established premise regarding student development, namely, that students' interpersonal interaction with peers is one of the most powerful educational resources in

higher education (Astin, 1993; Kuh, 1995; Milem, 1994; Pascarella and Terenzini, 1991; Terenzini, Pascarella, and Blimling, 1996). (p. 530)

The benefits of cross-racial interactions are numerous; however, cross-racial interaction "assumes" students will socialize across racial groups once enrolled in the higher education environment. In order for cross-racial interaction to occur, exposure to diversity is necessary. According to Astin, Chang, & Kim (2004), a number of studies have shown that students who attend campuses that are more racially diverse report higher frequencies of cross-racial interaction (Chang, 1999; Gurin et al., 2002; Hurtado, Carter, and Sharp, 1995; Hurtado, Dey, & Trevino, 1994). However, it is not suggested that the mere presence of underrepresented students will have an educational benefit but rather, the value of diversity is dependent on whether or not it leads to greater cross-racial interaction (Chang et al., 2004).

A longitudinal study conducted by Chang et al., (2004b) examined the educational relevance of the cross-racial interactions of college undergraduate students. Through evaluation of student survey data gathered from the Cooperative Research Program (CIRP) operated by the UCLA Higher Education Research Institute (HERI) in the Graduate School of Education and Information Studies (Chang et al., 2004), approximately 670 institutions participated in the study (Institutions were considered eligible if they had a first-time freshman class of at least 25 students). Through use of Astin's conceptual framework (1991, 1993b) as a guide, there were six outcome measures identified as areas for analysis, to include cognitive, psychological, behavioral, or affective development areas (Chang et al., 2004). The survey questions used identified each student's level of cross-racial interaction, grouped into blocks of frequency with which the student engaged in the following activities in college (coded on a 3-point scale; 1 = not at all, 2 = occasionally, and 3 = frequently): studied with someone from a different racial/ethnic group, dined with someone from a different racial/ethnic group, dated someone from a different

racial/ethnic group, or interacted in class with someone from a different racial/ethnic group. The responses were combined into four variables: (1) dated, (2) dined, (3) studied, and (4) interacted in class with students from other races and ethnicities.

The results of the study indicated that experiencing cross-racial interaction during the undergraduate years can positively affect a range of student outcomes, including intellectual ability, civic interest, and social skills (Chang et al., 2004). According to these findings, it was recommended, efforts to provide cross-racial interactions across campus should be implemented (Chang, Astin, & Kim, 2004) and increasing the diversity of the student body to increase the potential for these interactions should be made a priority. An increase in the diversity of the student population, improves the possibility that students will encounter someone who does not share his or her experiences, views, or values. According to some developmental theorists (Festinger, 1965; Langer, 1978; Piaget, 1985), this type of encounter may enhance cognitive functioning by facilitating the critical and analytical thinking that can lead to challenges and inspire changes in values and beliefs. According to Chang et al (2004) students who are exposed to ideas different from them, experience cognitive dissonance or incongruity. In order to include or understand this new information, the student must process the data by either gathering additional information or by adopting viewpoints that resolve or reduce dissonance. Cross-racial interaction, he argues, "…might provide the stimulation needed to help students to re-examine their assumptions and beliefs in ways that facilitate active, complex thinking" (Chang et al., 2004, p. 537). The effects of cognitive growth through social interaction through cross-racial communication is one of the many benefits attributed to a diverse student body.

Sense of Belonging

A pervasive human concern is establishing and maintaining relatedness to others, social institutions, environments, and self (Berlin & Johnson, 1989; Birtchnell, 1987; Gilligan, 1982; Wynne, 1984). Moreover, a "Sense of Belonging" is an essential psychological concept in human nature that involves a feeling of acceptance and connection to a group or something much bigger than the individual (Hill, Karyn, *Psychology Today* online, March 2014). Maslow, in his Hierarchy of Needs (1954), identified belonging as a basic human need, ranking it third in his hierarchy (Hagerty, Lynch-Sauer, Patusky, Bouwsema, and Collier, 1992). Individuals must move through the hierarchy to become self-actualized, and belonging is essential to establishing that the individual is valued and not alone. Sense of belonging is established through love from family, friends, work groups, and romantic relationships (Maslow, 1954; Maslow 1968; McCleod, 2014). Consequently, the lack of this connection eliminates the opportunity to establish a sense of belonging, which negatively impacts the individual. Mental health practitioners have found that a lack of sense of belonging is a contributing factor in mental health issues (Hagerty et al., 1992).

Studied through research conducted by Hurtado and Carter (1997), sense of belonging was identified as an important variable impacted by the environment in higher education. This research was grounded in work conducted by Bollen and Hoyle (1990) that defined sense of belonging as an individual's identification or positioning in relation to a group or community. Sense of belonging also has been described as one's perceived belief of indispensability within a system (Anant, 1996) and is reflected in the need for frequent and ongoing relations to feel a part of something greater (Tovar & Simon, 2010). In a college setting, sense of belonging is reflective of student-to-faculty relationships, student-to-peer relationships, and student-to-classroom connections (Hoffman, Richmond, Morrow, & Salomone, 2003).

As a psychological measure, sense of belonging is important in assessing an individual's perceived integration into a group or environment (Bollen & Hoyle, 1990). When applied to higher education, the level of sense of belonging felt by the student reflects the extent that a student has integrated into the environment and/or has become part of a social group (Harper & Hurtado, 2007). As such, it is essential for administrators to understand this phenomenon as they work toward developing their students and ultimately retaining them. Establishing a sense of belonging is especially important for first-generation college students because they have entered an environment that is foreign and the rules are unknown. Therefore, it has been found that, in order to encourage integration, administrators should create opportunities to develop sense of belonging in their students (Nunez, 2009). Past and current research has linked sense of belonging to persistence in college (Hurtado & Guellermo-Wann, 2013; Hausman, Schofield, & Woods, 2007; Tovar, Simon, & Lee, 2009) and it has been determined an essential variable identified in retaining students of color (Maestas, Vaquera, & Munoz Zehr, 2007).

Sense of Belonging and Models of Persistence

The importance of sense of belonging as a factor of college persistence has been identified in early models that have examined persistence. Vincent Tinto's Model of Integration (1975) for example, theorized that students who socially integrate into the campus community increase their commitment to the institution and are more likely to graduate. His model continued to evolve and later predicted that the extent students do not integrate increases the probability of their departure (Hausmann et al., 2007). In Tinto's Model of Integration (1993), importance was placed on academic and social integration experiences controlled by the student to seek out and partake (or not) of the activities that will allow them to become successful (Tovar, & Simon, 2010). Academic and social integration are believed to affect student retention

the most (Tovar et al., 2010) and is a central feature of student persistence (Hausmann, et al., 2007). However, while Tinto's Integration Theory places emphasis on the need to integrate to achieve college success and has been proven and expanded upon in research, there are limitations to this model. It fails to account for diverse populations by placing emphasis on student responsibility to integrate and does not address the institutional responsibility to create an environment that is safe for them to integrate and inclusive to the needs of the changing demographics of the future student populations. This theory has been the subject of criticism because it does not account for differences, and caution should be taken in its use for understanding, particularly as it pertains to students of color (Hurtado & Carter, 1997).

In research to determine whether persistence was effected by sense of belonging, conducted by Hausmann, Schofield, and Woods (2007), sense of belonging of first-year students was examined through a longitudinal experimental design. Individuals identified for participation included those who self-identified as African Americans and White students, full-time, first-year non-transfer students who attended a predominately White institution. Surveys were sent to participants three times throughout their first year of enrollment and participants were assigned to two groups (a control group and a sense of belonging group). Those assigned to the sense of belonging group received focused activities designed to increase overall sense of belonging. Intentional assignment to each group included equal numbers of African American and White students.

This research was designed to determine whether sense of belonging could be enhanced by common predictors such as peer interactions, faculty interactions, academic integration, peer support, and parental support (Hausmann, et. al., 2007). Through controlling for student background variables such as race, gender, financial difficulty and SAT, the students' intentions

to persist and overall institutional commitment were predicted through measures of sense of belonging. The model created included the variables of student backgrounds, integration effects, and support values, perceptions of sense of belonging, and institutional commitment to the students' persistence as predictors of initial status. It also theorized the rate of change of intentions to persist through an estimated value (Hausmann, et al., 2007). Results indicated that intent to persist at the beginning of the school year was unrelated to student background characteristics, integration experiences, or support from friends or parents. However, both sense of belonging and institutional commitment were positively associated with initial status of intent to persist, i.e., "students who reported a greater sense of belonging or more institutional commitment at any time point also reported stronger intentions to persist at the beginning of the academic year" (Hausmann et. al., 2007, p. 828). Over time both groups experienced a decline in sense of belonging, however the impact was less rapid on students who initially had a greater sense of belonging (Hausmann et al., 2007).

"Scholarly research conducted on college student experience and sense of belonging suggests there is a strong relationship between belonging (i.e., academic and social integration into the institution) and student retention and graduation" (Tovar, Simon, & Lee, 2009, p. 157). Interventions such as learning communities and first-year success programs have been implemented to increase social and academic integration in higher education institutions. Participation in these types of experiences has created opportunities for students to belong to a supportive community, thereby increasing their sense of belonging impacting retention and success for students in their first year of college (Spanierman, Soble, Mayfield, Neville, Aber, Khuri, De La Rosa, 2013).

Much like the previously mentioned studies, researchers have focused intentionally on many areas in an attempt to determine potential influences on sense of belonging and ultimately persistence. Pre-college measures such as the type of institution and fit (private, public, large, small, urban, rural, minority serving institution, degree focused area, etc.); academic preparation; and transition to college have been found to impact the development of sense of belonging (Hurtado & Carter, 1997). Additionally, once in college various forms of social integration (Johnson, Soldner, Leonard, Alvarez, Inkelas, Rowan-Kenyon, & Longerbeam, 2007; Locks, Hurtado, Bowman, & Oseguera, 2008; Nunez, 2009); academic integration (Johnson et al., 2007; Nunez, 2009); and faculty interaction with students (Hoffman et al., 2002; Johnson et al., 2007; Nunez, 2009) have had an impact on the student's sense of belonging to the college or university. Improving upon experiences or interventions identified to positively influence sense of belonging, in all likelihood, will improve persistence and graduation rates (Spanierman et al., 2013; Nunez, 2009; Tovar et al., 2009; Johnson et al., 2007; Locks et al,, 2008; Hurtado & Carter, 1997).

Racial Group Differences

Research important to this study has concentrated on the association of the campus climate for students of diverse backgrounds and their sense of belonging to the college they attend. Considerable higher education focused research has found that campus climate impacted the sense of belonging for various racial groups of students (Hurtado & Carter, 1997; Johnson et al., 2007; Locks et al., 2008; Nunez, 2009; Museus & Maramba, 2011). A study conducted by Johnson et al., (2007) examined several aspects of the college environment for first-year undergraduate students on their sense of belonging. The study evaluated variables involving perceptions of the campus racial climate, living learning communities, perceptions of residence

hall, faculty interactions, and co-curricular involvement. Expanding on the conceptual framework from previous work by Hurtado and Carter in 1997, in which they established a key influence on sense of belonging to be the perception of whether the racial climate was supportive of Latino students, Johnson et al (2007), examined sense of belonging as perceived by other racial and ethnic groups through an expanded set of predictors.

Data were gathered from a 259 question, internet-based survey of first-year undergraduate students who attended 34 institutions. The total sample consisted of 2,967 first-year students with racial/ethnic composition of 4.9% African American (n = 493); 9.9% Asian Pacific American (n = 1,002); 3.3% Hispanic/ Latino (n = 334); 3.6% Multiracial/Multiethnic (n = 367); and 77.3% White/Caucasian (n = 7,852) students (Johnson, et. al., 2007). In order to balance the sample size, 10% of the 7,852 White/Caucasian first-year respondents were randomly selected to be included in subsequent analyses. Using Astin's (1991) input–environment–outcome (I-E-O) model, evaluation of the data was conducted through multiple regression analysis. The demographic variables (input characteristics) were entered first, then the structural characteristics and student involvement activities with their college environments were entered (environment characteristics), and students' perceptions of their college experiences (specifically their perception of their transition to college and campus's racial climate). The final outcome of interest produced was the overall sense of belonging (Johnson et al., 2007).

Findings revealed from this study, indicated there was significant difference identified in sense of belonging by racial/ethnic groups, $F (4, 2541) = 9.582$, $p = .000$. Post hoc tests indicated that White/Caucasian students expressed the greatest sense of belonging, more so than African Americans, Hispanic/Latinos, and Asian Pacific American students. The model was the strongest for Multiracial/Multiethnic students, explaining 37% of the variance in sense of belonging; the

model was the weakest for Asian Pacific Americans and White/Caucasians, but accounted for 30% of the variance. Students' perceptions of the residence hall as socially supportive also was a significant predictor for sense of belonging for all racial/ ethnic groups, other than Multiracial/Multiethnic students. The social dimensions of the transition to college and residence hall climate and perceptions of the campus racial climate had strong significant relationships to sense of belonging. This indicated, all racial/ethnic groups (except Multiracial/Multiethnic students), found their residence hall environments to be socially supportive and inclusive and this finding was significantly related to their sense of belonging. Perceptions of the campus racial climate and interactions with diverse peer groups was determined a significant predictor of sense of belonging for Hispanic/Latino students. Additionally, perception of a positive campus racial climate was a significant contributor to sense of belonging for African American, Asian Pacific American, Multiracial/Multiethnic, and White/Caucasian students. Through ANOVA analyses White students reported they had the fewest positive interactions with their peers from different racial/ethnic groups and African American students were the least likely to report positive perception of the campus racial climate (Johnson et al., 2007). Furthermore, for all racial/ethnic groups, positive perception of the campus racial climate was significantly related to students' sense of belonging with the exception of Hispanic/Latino students.

In additional research conducted by Stableton, Soria, Huesmann, and Torres (2014), they focused on the relationship between campus climate and sense of belonging of recent immigrant students. The study identified two groups of immigrant students who attended a predominately white, public research institution. The first group of students, or "wave one," were those who were not born in the country but came to the United States by 12 years of age. The second group

of students, or “wave two,” were those who had arrived in the country after age 13. Through data gathered from the Student Experience in the Research University (SERU), principal component factor analysis was employed on 14 items. The four items with high loadings and Cronbach’s α greater than 0.80 were retained. These components included campus climate, sense of belonging, and faculty interactions. Through multiple linear regressions they analyzed campus climate and sense of belonging. Findings indicated the overall regression for the wave one immigrant students was significant, F (11, 3655) = 54.67, $p < .001$, accounting for 14.1% of the variability in sense of belonging. The model for second-wave immigrants was also significant, F (11, 7523) = 18.23, $p < .001$, accounting for 21.1% of the variance in sense of belonging. These findings indicated perceptions of the campus climate were an important predictor of the sense of belonging of immigrant students (Stableton et al., 2014).

In a longitudinal study by Hurtado and Ponjuan (2005) variables of perceptions of the campus climate, sense of belonging, analytical skill and abilities and development of a pluralistic orientation necessary to function in a diverse workplace were examined for Hispanic/Latino/a students. The sample included 370 Latino students who attended nine four-year campuses who participated in a first-year survey and the end of the second year survey. Subsequent multiple regression analysis were conducted predicting perceptions of four dependent variables on educational outcomes of: the campus climate for diversity, students' sense of belonging to the institution, students' analytical skills, and students’ pluralistic orientation (Hurtado & Ponjuan, 2005). Similar to earlier research conducted by Hurtado and Carter (1997), results related to the sense of belonging variable revealed, the sense of belonging for these students is dependent on their development of social cohesion and identifying with a college community or feelings of marginalization (Hurtado & Ponjuan, 2005), specific findings included: Latino students who

lived on campus had a higher sense of belonging than students who lived off campus; and positive interactions with diverse peers during college and in academic support programs scored higher on belonging index indicating both informal and formal college facilitated activities could foster belonging (Hurtado & Ponjuan, 2005). However, negative campus climate for diversity perceptions was the strongest predictor for low sense of belonging felt among Latino students (Hurtado & Ponjuan, 2005). Also found, "…positive quality of interactions with diverse peers among Latino students not only resulted in a higher sense of belonging in college but also increased in confidence and skills that reflect a pluralistic orientation. (Hurtado & Ponjuan, 2005, p. 245)

Studies examining African American student populations also found that racial climate (also known as campus climate for diversity) can impact student engagement and sense of belonging (Chavous, 2005) at four-year institutions. Chavous (2005) studied the associations between the racial climate and social integration outcomes of African American and White students who attended a Predominately White Institution (PWI). The guiding theory for this research was based on Gordon Allport's (1954) intergroup contact theory that allowed the examination of students' climate perceptions and their impact. Responses from a racial campus climate survey were gathered from 214 African American and 141 White students. Allport's original integration theory indicated the following conditions necessary for intergroup contact in order to lead to successful integration: (1) meaningful associations among members of different groups;(2) interdependence among group members in reaching and maintaining common goals; (3) similar level of social status in the environment; and (4) the encouragement of positive intergroup interactions by the institution. One of the relevant objectives of this research was to examine the extent in which the perceptions of students around the racial climate (campus

climate for diversity) could impact or predict their ability to integrate socially and psychologically to this institution as well as to determine their attitudes across racial groups (Chavous, 2005).

In order to establish external validity of the racial climate measure, hierarchical regression analyses were conducted to examine the relationship of student background and racial climate factors on intergroup outcomes (organizational involvement, other group orientation) and overall social integration (sense of community). To assess the associations of sense of community and racial climate, student background variables and class year were entered into the first block and racial climate factors into a second block. Separate models were tested for the African American and White samples. Overall results indicated that white students experienced the racial climate different from African American students; moreover, this difference impacted specific measures surrounding sense of community.

> Specifically, for White students, family income was related to having a higher sense of community ($\beta = .21$, $p < .01$), while class year was negatively related to sense of community ($\beta = -.30$, $p < .001$). The racial climate variables block increased the variance accounted for in sense of community from 13 to 37% (overall Model $F = 6.91$, $p < .001$). Equal status perceptions were positively related to sense of community ($\beta = .48$, $p < .001$), and perceived group interdependence was related to lower sense of community ($\beta = -.20$, $p < .01$). Whereas, for African American students, the student background did not contribute significantly toward variance accounted for in sense of community as it did for White students. The racial climate variables increased the variance accounted for an increment of 24%. The students' perceptions of African American students of equal status ($\beta = .18$, $p < .01$), university supportive norms ($\beta = .19$, $p < .01$), and interdependence ($\beta = .40$, $p < .001$) were positively related to sense of community (Chavous, 2005, p. 250).

These numbers reflect that there was a higher sense of community for African American students in association with their perceptions of interdependence, equal status, and supportive university norms. In contrast, "perceiving group interdependence was related to having a lower sense of community for White students" (Chavous, 2005, p. 253).

Relative to African American students, perceiving group interdependence, or feeling as though their group is valued and makes an equally valuable contribution on campus, may lead to stronger feelings of institutional identification. However, a racial climate that is not supportive of positive intergroup relations may result in African American students feeling forced to choose between a groups versus an individual orientation. Individual orientation would be unfavorable, as it would consequently lead to less of a chance of institutional integration. Conversely, positive racial climates (as evidenced by perceptions of institutional support, fair treatment, and group interdependence) were positively related to the sense of campus community felt by African American students (Chavous, 2005).

Although, overall Whites had more positive racial climate views than African Americans, intergroup experiences were not unimportant to White students' perceptions of the racial climate or to their integration outcomes. This research identified that beyond students' demographic backgrounds, perceptions of intergroup norms and institutional support of those norms were associated with their social adjustment. These same perceptions paired with perceptions of the racial climate also influenced the behaviors of its members. As a result, this study indicated that African American students' ability to integrate and their sense of belonging can be impacted by their perceptions of the college racial climate (Chavous, 2005).

Negative Campus Climate and Sense of Belonging

Negative campus climate refers to a higher education environment that can be perceived by students as hostile, discriminative, or unwelcoming (Nunez, 2009). Perceptions of a hostile climate for racial and ethnic diversity have been shown to be negatively associated with a sense of belonging among students of color (Hurtado & Carter, 1997; Nunez, 2009). Overt and subtle forms of exclusion in college can hinder a student's development of a sense of belonging to

university communities (Nunez, 2009, p. 48). Additionally, the social adjustment for students of color are negatively impacted by marginalizing experiences in the forms of discrimination, social isolation and exposure to negative stereotyping in and out of the classroom (Hurtado & Carter, 1997).

In a study by Nunez (2009), data from the Diverse Democracy Project Study were used to explore background characteristics and college experiences associated with Latino students' sense of belonging. Specifically, positive diversity experiences, perceptions of a hostile racial/ethnic climate, racial/ethnic stereotyping and other perceptions and behaviors relating to college experiences, and immigrant status were evaluated for their direct and indirect effects on sense of belonging. It was hypothesized that increased perceptions of a campus climate hostile to diversity (termed *hostile climate*) would be directly and negatively associated with sense of belonging. Measures of student's anticipated ease of knowing their way around the university, sense of obligation to give back to the community, perceived interest that faculty had an interest in their development, frequency of positive cross-racial interactions and the extent of feeling the climate was hostile regarding race relations were hypothesized to have a direct effect on sense of belonging (Nunez, 2009). The measures hypothesized to have indirect effects on sense of belonging included: "…frequency of student's participation in community service activities (with its effect hypothesized to be mediated by obligation to give back to the community and positive cross-racial interactions); participation in class discussion (hypothesized to be mediated by faculty interest and positive cross-racial interactions); the extent to which the student reported taking a diversity curriculum (hypothesized to be mediated by class participation, faculty interest, and positive cross-racial interactions); second-generation immigrant status (hypothesized to be mediated by faculty interest and hostile climate), and hours per week worked

during college (hypothesized to be mediated by positive cross-racial interactions)" (Nunez, 2009, p. 50)

Through structural equation modeling analyses, the research questions were addressed. Blocked hierarchical regression with a larger set of measures representing various student characteristics, and the conceptual model's constructs, were also used for analysis. Constructs with significance were those consequently used in the model. Results indicated that having increased positive cross-racial interactions, taking a diversity curriculum, engagement in community service, and class participation are positively associated with an increased sense of belonging. However, the researchers did not expect the positive association of perceptions of a racial/ethnic climate ($\beta = 0.241$, $p < .05$) with the frequency of positive cross-racial interactions. Diversity curriculum held a significant direct positive effect on perceptions of a hostile racial/ethnic climate ($\beta = 0.136$, $p < .1$). "Community service activities and class participation also had positive indirect effects on perceptions of a hostile climate, even though these measures were also positive indirect predictors of a sense of belonging ($\beta = 0.059$ and $p < 0.087$, respectively, all ps $< .05$)" (Nunez, 2009, p. 55).

The findings of this study indicated a student's sense of belonging was effected by the racial climate (Nunez, 2009). Students who had experienced a hostile climate the most strongly and negatively were Latino students and this experience impacted their sense of belonging (Nunez, 2009). It was suggested this result might reflect increased exposure to the campus environment through participation in various campus activities indicating, more active and involved Latino students are more apt to be critical judges of their racial/ethnic interactions and environments and likely to perceive institutional environments as unwelcoming to diverse groups (Nunez, 2009). According to Nunez (2009), "for these students, a sense of membership in the

community may not represent a full commitment to the institution (as the notion of integration might imply), but, rather, represent a distinctive sense of agency whereby they define what a sense of belonging and a supportive campus climate means to them" (p. 58).

In a paper presented at the 2012 Annual Conference of the Association for Studies in Higher Education by Hurtado, Alvarado and Guillermo-Wann in 2011, it expanded on original research establishing that interpersonal validation and academic validation shared positive correlations on sense of belonging. The study extended their original findings by attempting to identify the relationship between validation, campus climate for diversity and sense of belonging through the testing of a mediation model. Their hypothesized model pulled from the framework, a student engagement model, originally created and tested by Nora in 2003. It consisted of five sequential components that lead to persistence, to include: (1) precollege/pull factors, (2) sense of purpose and institutional allegiance, (3) academic and social experiences, (4) cognitive and non-cognitive outcomes, and (5) goal determination and institutional allegiance (Hurtado et al., 2012). The mediation model utilized this framework, while drawing direct paths from campus climate to both academic and interpersonal validation measures to sense of belonging. Its purpose was to determine the extent to which interpersonal and academic validation moderates the effects of a negative campus climate on students' sense of belonging. Additionally, it allowed for the testing of the mediating effects of the two forms of validation on the influence that campus climate has on students' sense of belonging.

Using a multi-institutional approach, over a two-year period, data were collected from undergraduate students who attended 34 campuses (18 private institutions, three public community colleges, and 13 public four-year colleges and universities). The final sample size included data from 20,460 students with a racial composition of 27.4% Asian, 2.9% Black,

20.5% Latina/o, 0.3% Native American, 41.6% White, and 7.3% Multiracial. Through data gathered from the Diverse Learning Environment survey instrument, absolute fit test was conducted through the use of the root mean square error of approximation (RMSEA). The direct effects on sense of belonging were tested for significance through a two-construct model with each of the other three key variables: validation (academic and interpersonal), campus climate for diversity, and bias and discrimination. The key dependent variable was sense of belonging ($\alpha = 0.89$). To test how validation mediates the effect of a discriminatory climate on sense of belonging, two endogenous variables, academic validation in the classroom ($\alpha = 0.87$) and general interpersonal validation ($\alpha = 0.87$). The key independent variable, discrimination and bias ($\alpha = 0.89$), was also tested through the model which ultimately produced fit values of $x2 = 900$, $df = 36$, $p = 0.000$; RMSEA = 0.03; NFI = .99; CFI = 0.99 and a direct path of $\beta = .10$ to sense of belonging. Since all three paths were significant ($p < .01$), the hypothesized model was tested regressing sense of belonging on the three constructs. Since the goodness to fit was substandard they employed the Lagrange multiplier modification to improve the model "the final model produced values of $x2 = 6823.25$, $df = 209$, $p = 0.000$; RMSEA = 0.06; NFI = .91; CFI = 0.92; and it explained 37% of the variance in students' sense of belonging" (Hurtado, et. al. 2012, p. 14).

The resulting conclusions indicated a direct relationship between discrimination and bias to sense of belonging, which was negative and significant ($\beta = -.04$, $p < .001$). Additionally, the direct paths to sense of belonging from academic validation ($\beta = .05$, $p < .01$) and general interpersonal validation ($\beta = .60$, $p < .001$) were both positive and significant, indicating that the more validation students receive both inside and outside the classroom from faculty and staff, the greater their feelings of belonging. The final direct paths in the model from discrimination and

bias to academic validation ($\beta = -14$, $p < .001$) and general interpersonal validation ($\beta = -.11$, $p < .001$), indicated they were both significant and negative. These results showed the higher the level of discrimination and bias witnessed by students, the less they felt validated. However, validation had a direct positive effect on sense of belonging: the direct effect of discrimination and bias on sense of belonging was diminished after accounting for validating experiences. The results confirmed their hypothesis that interpersonal validation and academic validation may mediate the effects of a negative campus climate on students' sense of belonging (Hurtado, et.al. 2012).

Based on the findings of this study, Hurtado et al., (2012) suggested that validating experiences gained from faculty and staff can reinforce self-worth and place value in the educational environment which may help students remain resilient despite negative experiences (Hurtado, et al., 2012). Similar to other research, sense of belonging can be cultivated regardless of the existence of a negative campus climate for many racial groups (Hurtado et. al, 2012). In several studies, mediating efforts that have been found to counteract the effects of negative experiences include: diverse friendships, positive interactions across different groups, and a positive campus climate is important in the development of sense of belonging for African American, Asian American, Latina/o, White, Multiracial students, and aggregated Students of Color (Hurtado et al., 2012; Hurtado & Carter, 1997; Hurtado et al., 2007; Johnson et al., 2007; Locks et al., 2008; Maestas et al., 2007; Nunez, 2009).

This chapter began with a discussion of CRT research and the relevance of its use to understand, identify, and inform the impact of racism and discriminatory practices that plague educational systems impacting the success of all students. Through the emphasis of counter-storytelling, individuals lived experiences are shared and explored through qualitative research

methodology. Grounded in CRT, CRQI Framework requires intersectional data mining and the use of quantitative methodology for understanding individuals and subpopulations whose experiences typically hidden among the aggregate data and therefore, not explored. Essential to this research is the study of the campus climate for diversity, which is in itself multidimensional and includes the existence of people of color or the structural diversity of the campus, the psychological diversity of the campus climate that embodies the extent of how diverse the campus feels and whether it is accepting of people of color and its impact on their experiences, and the behavioral diversity of the campus climate that considers the social behavior of inclusion. Also, particularly important in this research is the perception of sense of belonging. Linked to persistence and success, a student's sense of belonging is a reflection of feelings of connectedness and belonging to the higher education institution they attend. Campus climate for diversity and sense of belonging combined is the foundation of this research study that attempts to determine students' perceptions of their campus climate for diversity and their sense of belonging to the institution they attend. It is also the purpose to determine whether their perceptions of these variables are differing based on how they self-identify; and whether campus climate for diversity can predict sense of belonging.

CHAPTER 3: METHODOLOGY

Assessing the campus climate of institutions of higher education has been the focus of environmental research studies and has been included in priorities of student affairs professionals tasked with understanding and putting into practice efforts to improve the campus climate for students. However, the research specifically focused on the diversity of the campus climate and how it impacts each student's sense of belonging is limited (Hurtado & Guillermo-Wann, 2013). When discussing campus climate for diversity, many times research is limited to only addressing the structural diversity of the campus (the existence or number of students from different racial and ethnic populations); however, diversity of the campus climate also includes a psychological impact (referred to as the psychological diversity), which encompasses how diverse the campus feels measured through experiences and perceptions felt by students, faculty, and administrators. Also, campus climate for diversity includes the behavioral diversity that is typically measured through climate surveys and identifies the social experiences created in and out of the classroom to allow for cross-cultural interactions of individuals of different racial/ethnic backgrounds (Hurtado et al., 1999).

A growing body of research has examined the campus climate and student sense of belonging through identifying the way in which social interactions can enhance affiliation with the college (Hurtado & Guellermo-Wann, 2011; Hurtado & Carter, 1997). Therefore, this dissertation sought to add to the research through discovering the presence of alignment and differences in the perceptions of campus climate for diversity and sense of belonging as reported by students who were ethnically and racially diverse and at the intersection of their self-identified gender identity and first-generation status. This effort of analysis conducted through

demographics to determine whether a relationship exists between these variables. Research studying populations of students has considered experiences through the eyes of ethnic/racial diversity and/or gender identity. However, this research attempted to expand the effort through conducting intersectional data mining of the identities of race, gender identity and first-generation status of its participants on each of the measures identified to determine the *Campus Climate for Diversity* and the *Sense of Belonging* dimensions. Through the guidance of a relatively new framework grounded in Critical Race Theory called Critical Race Quantitative Intersectionality (CRQI) (Covarrubias and Vales, 2013), a broader multidimensional depiction of the students' experiences at this one university can be captured.

CRQI is appropriate because it provides a framework that values the multiple identities that exist in each individual, and recognizes that experiences and perceptions are viewed through this lens. To this end CRQI guides the exploration of quantitative research allowing for an analysis that requires evaluation through the intersectionality of the data by demographic variables to search for differences between racial groups. CRQI further identifies race and racism's material impact at its intersection with other forms of subordination (Covarrubias et. al., 2013). In higher education, the status of first-generation and lower socio-economic, among other variables such as immigration status and social and cultural differences, typically have been found to be subordinating factors that have impacted the attrition and graduation rates of students from underrepresented populations (Creighton, 2007). Therefore, through employing CRQI as a lens to examine perceptions of campus climate for diversity through social identities of race at its intersection of gender identity and first-generation status, this study sought to identify and explore the "hidden" experiences or perceptions of student populations within each racial group.

The following research questions guided this study depicting the campus climate for diversity and the sense of belonging reported by students at one public, broad access, university.

Research Questions

1. Is there a difference in the perceptions of the *Campus Climate for Diversity* from the perspective of students from various racial backgrounds?
    a. Are these reported perceptions of the *Campus Climate for Diversity* different at the intersection of race and gender identity?
    b. Are these reported perceptions of the *Campus Climate for Diversity* different at the intersection of race and first-generation status?

2. Is there a difference in the perceptions of *Sense of Belonging* as reported by students from various racial backgrounds?
    c. Are these reported perceptions of *Sense of Belonging* different at the intersection of race and gender identity?
    d. Are these reported perceptions of *Sense of Belonging* different at the intersection of race and first-generation status?

3. Can *Campus Climate for Diversity* impact or predict *Sense of Belonging* to the institution?

Research Design

Two research designs were used to address the research questions: first a quasi-experimental comparative design was conducted focused on differences after which a quasi-experimental associational design was implemented allowing a focus on the existence of the relationship (Gliner, Morgan, & Leech, 2009). Through the comparative design, differences were investigated involving the perceptions of the *Campus Climate for Diversity* and separately, perceptions of *Sense of Belonging* as perceived by students who self-identify in various racial/ethnic identities and at their intersection with gender identity and first-generation status. Through an associational study design, the relationship between *Sense of Belonging* and the demographic variables, and their perceptions of the *Campus Climate for Diversity* paired with the demographic variables was evaluated.

This research represented a “quasi-experimental” approach because, through demographic questions of the survey, participants self-identified their ethnic/racial identity, gender identity, and first-generations status that ultimately determined their group assignment for comparison. The secondary data used for this research were gathered through a survey implemented online involving Likert-type responses of agreement. The survey allowed for anonymity and an ability for participants to respond to questions measuring the dimension of *Campus Climate for Diversity* while reporting their feelings of *Sense of Belonging* to the institution.

Instrument Description

ModernThink LLC convened a “Blue Ribbon” panel of experts and professionals from higher education to solicit input to best reflect the dynamics, systems, and demographics unique to higher education. The ModernThink LLC *Student Experience Survey* was created from these efforts allowing the measurement of the campus culture and the experiences of students attending higher education institutions. The instrument has been implemented for the past four years at various higher education institutions throughout the United States. It is regularly tested by a third-party organization, experts in statistical analyses of survey and test instruments. The *Student Experience Survey* is considered a valid instrument with a reliability analysis of the standard survey yielding a Cronbach’s alpha coefficient of 0.970 based on 47 standardized items (Boyer, 2014). According to Morgan, Leech, Gloeckner, and Barrett (2011) a 0.7 is an acceptable coefficient for a survey instrument; therefore, at 0.970 this is a highly reliable survey instrument.

The components of the internet-based, ModernThink LLC, *Student Experience Survey* consists of four parts that include Belief Statements, Satisfaction Factors, open-ended and yes/no

questions, and questions assessing for demographics. "The Survey begins with Belief Statements designed to assess the students' perceptions of key dynamics, policies, and relationships that influence the culture or climate of the institution" (ModernThink LLC, *Student Experience Survey*, 2013). The belief statements reflect questions measuring seven themes or dimensions that allow for response through a Five-point Agreement scale that includes Strongly Agree, Agree, Sometimes Agree/Sometimes Disagree, Disagree, Strongly Disagree and Not Applicable. The seven themes or dimensions include: (1) Academic Support & Faculty Interaction; (2) Personal Development; (3) Diversity; (4) Campus Environment; (5) Community and Pride; (6) Leadership, Mission & Values; and (7) Communication and Collaboration. The second part of the survey allows for participants to rate their overall satisfaction with various support services, policies, and practices. The third component of the survey invites responses to open-ended and yes/no questions that allow for the expansion of key responses related to belief statements. The final component of the survey gathers voluntary demographic information (ModernThink LLC *Student Experience Survey*, 2013).

Data Collection

Launch of the *Student Experience Survey* occurred on February 9, 2016, and was active through March 1, 2016. The survey was reflective of the original survey created by ModernThink LLC; however, as permitted by ModernThink LLC the survey was recreated and launched from Qualtrics (survey software) to allow for control of the data collection and assessment to be conducted by this institution. Additionally, open-ended and demographic questions allowing for students to self-identify their sexual orientation were added to this survey, although data gathered from these new questions were not used in this research study. The survey was launched and students were sent an email from the President of this institution

inviting participation in the survey, including a link to the survey embedded in the email (see Appendix B). The survey was active for three weeks. The URL was a general link to the survey and was not connected to any emails or identifying information.

Measures

The populations of students who shared racial and/or cultural identity were categorized into identity groups for analysis. These group assignments were determined based on their self-identification relative to the demographic questions gathered at the end of the survey that included: Are you Hispanic or Latino? What is your race (select all that apply)? Participants also were asked to respond to demographic questions regarding class standing, enrollment status, previous transfer status, self-identification of racial and ethnic background, sexual orientation, gender identity, veteran status, religious identification and political views, disability status, age, number of credits currently enrolled, first-generation status as determined by the educational attainment level of parents and/or stepparents, potential for graduation, and current grade point average.

The demographic data utilized to understand the perceptions of the *Campus Climate for Diversity* and *Sense of Belonging* dimensions included: a) ethnic/racial identity, b) gender identity, and c) first-generation status. Race/ethnic identity was measured through the question, What is your race (Select all that apply). Choices for response included American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, White, Identity not listed, and Decline to answer.

Gender identity was measured through the question, What is your gender identity, and the choices to answer included Man, Woman, Non-Binary/Gender non-conforming, Identity not listed, and decline to answer. First-generation status was measured through the question, What is

the highest level of education achieved by your parent/guardian, with the choices that included, NA, Did not complete high school, Graduated from high school, Attended college but did not complete a degree, Completed Associates Degree, Completed Bachelors Degree, Completed Masters Degree, Completed Doctorate Degree. However, only the following choices were used to identify first-generation status, Did not complete high school, Graduated from high school, attended college but did not complete a degree, and Completed Associates Degree. Consequently, only the demographic variables identified of race, gender identity and first-generation status were used in the assessment of *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension.

The *Campus Climate for Diversity* dimension was guided by research originally conducted to establish the Campus Climate for Diversity Framework originally created by Hurtado, Milem, Clayton-Pedersen & Allen (1999) and was later revised. Campus climate for Diversity framework sought to understand: (1) the historical legacy of a campus whether it is (was) inclusive or exclusive; (2) the compositional or structural diversity that includes the numbers of diverse students, faculty and staff; (3) the psychological climate which includes the impact of discrimination and perceptions of the campus by students, e.g., whether it was hostile or welcoming; and (4) the behavioral dimension that includes involvement with student organizations, social interaction, and campus race relations, as well as institutionally sponsored practices such as an inclusive curriculum and formalizing safe spaces for marginalized students (Hurtado et al., 1999). This framework acknowledged that these aspects were within the control of an institution. In addition, external forces acting upon the campus racial climate such as government policies and the sociohistorical context.

The questions used to establish the *Campus Climate for Diversity* dimension of this study were those questions that reflected this framework. The original survey created by ModernThink, LLC, Inc. captures their identified "Diversity Dimension" through six questions that allow for responses related to levels of agreement of Strongly Agree, Agree, Sometimes Agree/Sometimes Disagree, Disagree, Strongly Disagree, and Not Applicable. The questions (see Appendix A: Survey Instrument) identified to measure the "Diversity Dimension" included:

1. Behavioral Diversity measured by questions: My college experiences have exposed me to diverse opinions, cultures and values; and, This institution has clear and effective procedures for dealing with discrimination.
2. Psychological Diversity measured by question, At this institution, people are supportive of other people regardless of their heritage or background.
3. Structural Diversity measured by questions of: This institution places sufficient emphasis on having diverse faculty, administration and staff; and, This institution places sufficient emphasis on having a diverse student body.

However, the *Campus Climate for Diversity* dimension established in this study excluded the question of, "My college experiences have exposed me to diverse opinions, cultures and values". This question was eliminated because when analyzed through Exploratory Factor Analysis (EFA) by the researcher, it cross-loaded with the *Sense of Belonging* dimension showing it included in both dimensions. By eliminating this question, the *Campus Climate for Diversity* dimension was re-conducted through EFA and returned a much stronger internal consistency score.

The *Sense of Belonging* dimension refers to the participant's ability to feel a part of the institution. This dimension was established through the Exploratory Factor Analysis and was a

subset of the dimension identified by ModernThink LLC as the “Community and Pride” theme. Using levels of agreement that included Strongly Agree, Agree, Sometimes Agree/Sometimes Disagree, Disagree, Strongly Disagree and Not Applicable, questions in “Community and Pride,” included:

1. I feel a sense of belonging at this institution;
2. The staff are caring and helpful;
3. This institution actively contributes to the community;
4. I would recommend Xxx on an academic basis to a friend or family member;
5. I would recommend Xxx on a social and non-academic basis to a friend or family member;
6. I am proud to be part of Xxx;
7. Xxx's culture is special - something you don't find just anywhere; and
8. I see myself as part of the campus community.

The *Sense of Belonging* dimension established by the researcher excluded the question of “This institution actively contributes to the community”. This question did not load in with the other questions of this group and therefore was eliminated from this dimension. The resulting *Sense of Belonging* dimension included questions of:

1. I feel a sense of belonging at this institution;
2. The staff are caring and helpful;
3. I would recommend Xxx on an academic basis to a friend or family member;
4. I would recommend Xxx on a social and non-academic basis to a friend or family member;
5. I am proud to be part of Xxx”;

6. Xxx's culture is special - something you don't find just anywhere; and
7. I see myself as part of the campus community.

Reliability and Validity

The survey instrument was chosen for constructs related to the literature. Informed by an original early model of the Campus Climate for Diversity Framework created by Hurtado et al., (1999) that identified four aspects of the Campus Climate for Diversity that could be controlled by the higher education institution – specifically Historical, Structural, Psychological, and Behavioral diversity – the *Campus Climate for Diversity* dimension included questions in the survey related to measurable areas of Structural, Psychological and Behavioral diversity.

Additionally, research has indicated that sense of belonging to the higher education institution is an important factor in determining identification and affiliation to the college (Hurtado & Guillermo-Wann, 2013) which ultimately affects persistence (Hurtado, 2011). Sense of belonging measured student's attachment to the broader university (Hurtado & Carter, 1997; Kember & Leung, 2004) and was apparent in the feelings of connection to various communities or university contexts (Hoffman, Richmond, Morrow, & Salomone, 2002; Lee & Davis, 2000; Kember & Leung, 2004). Therefore reflecting this research, the questions identified for the *Sense of Belonging* dimension were determined appropriate questions to measure sense of belonging in this study.

In order to establish validity, frequencies were conducted on all variables of interest to examine missing data. Participants whose data were used for evaluation involved a "Valid N (listwise)" on the questions identified to measure the *Campus Climate for Diversity* dimension, and the *Sense of Belonging* dimension and the relevant demographic questions measuring race, first-generation status, and gender identity. This established a valid sample for these variables (Morgan et al., 2011).

Additionally, in order to establish a sample that was actively in attendance at this institution, the question of "How many credits are you currently taking this semester," was used as an eliminating factor: all students who indicated they were not currently taking any credits (answered 1, which indicated zero credits enrolled) was omitted from the responses. Through the elimination of all participants who were not currently enrolled in class, only responses were included that reflected current experience actively taking courses at this university.

A descriptive analysis was conducted on all independent and dependent variables in the study. Table 1.1 reports the scores of the means, standard deviations, and the range of scores for these variables (Creswell, 2009). Additionally, these variables were analyzed for skewness and kurtosis to determine parametric and nonparametric testing. Table 3.1 indicates the means, standard deviations, and skewness of the key variables measuring the *Campus Climate for Diversity* dimension, and the *Sense of Belonging* dimension. Also included in this table were the means and standard deviations of two variables that were created through a summation of each of the dimensions questions; the *Diversity* variable and the *Belonging* variable. The *Campus Climate for Diversity* dimension includes the means and standard deviations of five measures similar in means given similarity in scale, and four of the measures were approximately normally distributed; however, the measure of *Dealing with Discrimination* was positively skewed. The *Sense of Belonging* dimension included means and standard deviations of seven variables similar in means given similarity in scale. Six of the measures were approximately normally distributed; however, the measure *Recommend on Academic Basis* was negatively skewed.

Table 3.1

Means, Standard Deviations, and Skewness for Key Variables

Variable	*M*	*SD*	*Skewness*
Campus Climate for Diversity Dimension			
Supportive of Diversity	4.19	.90	-.97
Co-Curricular Enhancement	3.89	1.11	-.06
Diverse Faculty, Admin Staff	4.07	.95	-.54
Diverse Students	4.28	.84	-.73
Dealing w/Discrimination	4.23	1.14	1.21
Diversity Dimension	4.13	.71	-.68
Sense of Belonging Dimension			
Sense of Belonging to University	3.65	1.11	-.56
Caring & Helpful Staff	3.98	.87	-.68
Recommend on Academic Basis	4.17	.96	-1.15
Recommend on Social Basis	3.81	1.24	-.63
Proud to be Part of Institution	4.12	.94	-.97
Institution Culture Special	3.80	1.17	-.44
Part of Campus Community	3.46	1.23	-.22
Belonging Dimension	3.85	.85	-.75

Reliability and Validity Established by ModernThink LLC

ModernThink LLC established construct validity through Principal Component Analysis (PCA). This statistical procedure used an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components. The number of principal components was less than or equal to the number of original variables. This transformation is defined in such a way that the first principal component had the largest variance, and each succeeding component in turn had the highest variance possible under the constraint that is orthogonal to (i.e., uncorrelated with) the preceding components. As such, PCA was conducted on each question to establish the

Community and Pride Dimension and the Diversity Dimension to determine whether they were conceptually linked and to show similar linkages in the answers (Huck, 2012; Creswell, 2009). The Diversity dimension was valid producing an extraction loading of similar linkages across all five questions with a sum of squared loading total of 2.860 producing 57.2% variance. Principal Component Analysis (PCA) conducted on the Community and Pride dimension produced results indicating that seven questions were similarly linked. The Community and Pride dimension produced a sum of square loading total of 4.478 producing 63.97% of the variance. The resulting principal components were established as orthogonal because they loaded as eigenvectors of the covariance matrix, which was symmetric.

ModernThink LLC established the reliability of the 47 items in the survey instrument through Cronbach alpha scores. Cronbach alpha is an index or reliability associated with the variation accounted for by the true score of the underlying construct. The construct that is measured or generated from the set of questions that returns a stable response is said to be reliable. An alpha coefficient ranges in value from 0 to 1 to describe the reliability of factors extracted from multi-point formatted questionnaires or scales. The higher the score, the more reliable the generated scale (Creswell, 2009). As such, the ModernThink LLC *Student Experience Survey* produced a Cronbach's alpha coefficient of 0.970 based on 47 standardized items which indicated the survey was strongly reliable.

Reliability and Validity Re-established by Researcher

Principal Axis Factor analysis with Oblimin Rotation with Kaiser Normalization was conducted to assess the underlying structure for the 14 items of the assessment (see Table 3.2). The Oblimin Rotation produced a .597 for factor 1 and factor 2, indicating the oblique rotation was appropriate and the factors were strongly correlated. Two of the items cross-loaded in both

factors; which was contrary to the assumption of univariance which also signified they were not unidimensional. Both of these items were removed from further analysis, and the principal axis factor analysis was run again with only the 12 items. After rotation, the first factor (Sense of Belonging which included seven items) accounted for 42.7 % of the variance, and the second factor (Campus Climate for Diversity which included five items) accounted for 7.7% of the variance. Loadings less than .30 were omitted for clarity. The resulting 12 measures were used for analyses to answer guiding questions (see Table 3.2).

Table 3.2

Factor Loadings for the Rotated Factors

Item	Factor Loadings	
	1	2
Proud to be part of the institution	.873	
Rec on academic basis to family member or friend	.804	
I see myself as part of the campus community	.791	
Sense of Belonging to University	.775	
Rec on a social, non-academic basis	.711	
Institutional Culture is Special	.651	
Caring and helpful staff	.540	
Diverse Faculty, Administration & Staff		.748
Diverse student body		.723
Dealing with Discrimination		.568
Supportive of diversity		.526
Co-curricular enhance student academic development		.391
% of variance	42.71	7.71

Note: Loadings < .30 are omitted.

The reliability of the *Sense of Belonging* dimension (Factor 1) of the seven items returned Cronbach's Alpha coefficient of .894. Reliability of the *Campus Climate for Diversity* dimension (Factor 2) included five items, returned a Cronbach's alpha coefficient of .751. The acceptable reliability score is .70 (Morgan et al., 2011) and since the Cronbach's alpha coefficients for each of the factors loaded positive and higher than the .70 rate, it was determined

that both factors provided a good support for internal consistency reliability which allowed for the establishment of each dimension.

Inter-item correlations analyses were conducted to determine the correlation between the measures of the *Sense of Belonging* dimension (see Table 3.3) and the correlation of measures for the *Campus Climate for Diversity* dimension. The seven correlations of the *Sense of Belonging* dimension were all positive and ranged from .39 to .75. Inter-item correlations with an r > .50 had a high inter-item correlation. On the measure *Sense of Belong to University*, all six items had a high inter-item correlation. The *Caring and Helpful Staff* measure had a high inter-item correlation to the measures of: *Recommend on Academic Basis*, r = .569; and *Proud to be Part of Institution*, r = .535. On the measure of *Recommend on Academic Basis*, it revealed a high inter-item correlation with *Recommend on Social Basis*, r = .595; *Proud to be Part of Institution*, r = .747; *Institution Culture is Special* r = .523; and *Part of Campus Community*, r = .531. The measure of *Recommend on Social Basis* had a high inter-item correlation with *Proud to be Part of Institution*, r = .606; and *Part of Campus Community*, r = .522. The measure of *Proud to be Part of Institution* had a high inter-item correlation with *Institution Culture is Special*, r = .576; and *Part of Campus Community*, r = .595. The measure of *Institution Culture is Special* showed a high inter-item correlation with *Part of the Campus Community*, r = .582. The five correlations on the *Campus Climate for Diversity* dimension (see Table 1.4) are all positive and range from .31 to .61. The measure *Diversity of Faculty, Administrators and Staff* showed a high inter-item correlation with *Diverse Student Body*, r =. 601.

Table 3.3

Inter-item correlations for the seven measures of the Sense of Belonging Dimension

Measure	1	2	3	4	5	6	7
1. Sense of Belonging to University	--						
2. Caring and Helpful Staff	.592	--					
3. Recommend on Academic Basis	.594	.569	--				
4. Recommend on Social Basis	.572	.475	.595	--			
5. Proud to be Part of Institution	.636	.535	.747	.606	--		
6. Institution Culture is Special	.501	.390	.523	.481	.576	--	
7. I see myself as part of campus community	.670	.454	.531	.522	.595	.582	--

Note. Measures > .5 have a high correlation.

Table 3.4

Inter-item Correlation for the Five Measures of the Campus Climate for Diversity Dimension

Measure	1	2	3	4	5
1. Supportive of Diversity	--				
2. Co-curriculum Enhance Student Academic Development	.305	--			
3. Diverse Faculty, Administration, and Staff	.440	.372	--		
4. Diverse Student Body	.448	.351	.601	--	
5. Dealing with Discrimination	.352	.335	.349	.358	--

Note. Measures > .5 had a high correlation.

Based on the *Campus Climate for Div*ersity dimension Cronbach's Alpha (.751) and the *Sense of Belonging* dimension Cronbach's Alpha (.894), each of the dimensions revealed a high internal consistency. The internal consistency indicated the extent of the relationship of the measures of each dimension, i.e. how closely the five measures of the *Campus Climate for Diversity* dimension are and how closely related the seven measures of the *Sense of Belonging* dimension. This score also indicated the reliability of the degree that the items measured a construct (Morgan et al., 2011). It was determined the measures involved in each of the dimensions were related and reliable, therefore the scores were summated to compute the mean scores of combined measures for each dimension. The result achieved a summated scale score and created two new variables reflecting each of the dimensions: the *Diversity* variable reflected

the *Campus Climate for Diversity* dimension, and the *Belonging* variable reflected the *Sense of Belonging* dimension. Each new variable created was to be used for answering Research Question 3, Does Campus Climate for Diversity impact or predict Sense of Belonging to the institution? Table 3.5 indicates a summary of the new variables added to the data set.

Table 3.5

Summary of Additional Variables

Variable	IV or DV	Description	Number of Levels	Level of Measurement
Diversity Variable	Independent Variable	Includes all questions that measure Campus Climate for Diversity (five questions)	5	Scale (Approximately Normal)
Belonging Variable	Dependent Variable	Includes all questions that measure Sense of Belonging (seven questions)	7	Scale (Approximately Normal)

Sample

The participant sample included an invitation to all students currently enrolled in spring 2016 classes, thereby identifying 17,463 students. The ethnic/racial composition of the students invited to participate included a distribution of American Indian 2.29%, Asian 5.17%, Black/African American 7.20%, Hispanic 22.22%, Pacific Islander 0.38%, White 58.8%, and Not identified 3.9%. The distribution among gender included, Male 46.8% and Female 53.2%; however, the categories of gender identity were not gathered through students' admission applications and therefore it is unknown how this category fully was distributed. The distribution among class level included, Freshmen 18.9%, Sophomore 20.1%, Junior 25.2%, and Senior 35.7%.

Survey Launch

The survey was launched and students were sent an email from the President of the institution inviting participation. Two additional reminder emails were sent from the Dean of Students office to school emails of all students (see Appendix C). Marketing was generated through posters hung across campus alerting students of the survey as well as posts on the institution's Facebook page. Enticement for participation was encouraged through a weekly drawing of Dazbog gift cards (five each week) to winners who participated in completing the survey in that same week. Additionally one grand prize winner would be selected to win either an IPad mini or free parking for the rest of the semester. Once participants began the survey, they could opt out of any question or completion of the survey at any time.

Efforts to ensure anonymity of participants were taken by providing a general link to the survey created in Qualtrics. The link was active on the Office of Diversity Website for three weeks and also sent embedded in an email and follow-up emails; it was not connected to students' school email accounts or to any other identifying information. However, in order to award prizes, at the completion of the survey, participants could select to be included in the prize drawings by choosing a tab that routed them to an alternate URL to complete an award entry generated through Qualtrics. This form was separate from the survey and could not be accessed unless the participant chose to participate in the drawing. Once this option was selected, individuals were directed to a separate form at the completion of the survey where they included their name and email information. In order to determine the winner, a separate spreadsheet was pulled weekly with this information and five random numbers were selected for coffee cards each of the three weeks. At the close of the survey the full spreadsheet was downloaded and one number was randomly selected for the grand prize.

Data Analysis

A quantitative methodological approach was used in this research that takes in to consideration the use of the CRQI Framework. This was an appropriate approach to compare differing or like responses of racial groups on their responses to the measures that comprised the *Campus Climate for Diversity* and the *Sense of Belonging* dimensions. The importance of this study is that it established two dimensions that have been identified and guided by research. Through analysis of these dimensions, it sought to understand differences between race groups on these dimensions and identify whether differences existed within each race group when further disaggregated by gender identity and/or first-generation status. It also analyzed the *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension to determine if the duality of their identity; race at the intersection with gender identity and race at the intersection of first-generations status impacted their responses. Last, to determine if the *Campus Climate for Diversity* had an impact or could predict *Sense of Belonging*, two created variables that reflected the established dimensions (*Belonging* variable and *Diversity* variable) were analyzed.

To determine whether a statistical significant difference was present between race groups in this research, One-way Analysis of Variance (ANOVA) was conducted to reveal differences between the racial groups being surveyed on each of the guiding questions. The ANOVA analysis was appropriate in determining if significant differences exist between the groups being surveyed (Gliner et al., 2009). The dependent variables in this study included the responses to the five survey questions involved in the measurement of the *Campus Climate for Diversity* dimension and the seven questions measuring the *Sense of Belonging* dimension. The independent variables used for this study included the self-identified groups of race, gender identity, and first-generation status.

The assumptions of ANOVA requires the observations to be independent. For example, response to a survey question should not determine or indicate another's response. Also, "the variances on the dependent variable need to be equal across groups" and "the dependent variable should also be normally distributed for each group" (Morgan, Leech, Gloeckner, & Barrett, 2011, p. 148). The assumptions were checked and based on these assumptions, the ANOVA was conducted using the independent variable of race on each of the dependent variables that included the five questions or measures identified in the *Campus Climate for Diversity* dimension and the seven questions or measures identified for the *Sense of Belonging* dimension. This analysis was conducted to answer Research Question 1, Is there a difference in the perceptions of the Campus Climate for Diversity from the perspective of students from various racial backgrounds, and Research Question 2, Is there a difference in the perceptions of Sense of Belonging as reported by students from various racial backgrounds?

ANOVAs were conducted on each measure of the *Sense of Belonging* and the *Campus Climate for Diversity* dimensions to determine statistical significance overall on the group means. The Levine's test also was conducted at the same time to determine whether there existed a violation of equal variance. The measures that indicated an overall statistical significance on the group means (also referred to as the ANOVA F, the overall F, and omnibus F), were used in further analysis through appropriate Post hoc Tests (Morgan et al., 2011).

Post hoc Tests are used when a comparison of more than three group means is employed and to confirm the specific group means that are different and causing the significance (Morgan et al., 2011). The determination on which Post hoc test to be utilized is dependent upon whether the Levine's test was significant. If not significant, then the variances can be assumed equal and therefore a Tukey HSD (honestly significant test) test was run. However, if the Levine's test was

significant then the assumption of equal variances cannot be justified requiring the Games-Howell Post hoc test to be conducted instead (Morgan et al., 2011).

The measures of *Dealing with Discrimination* and *Recommend on Academic Basis* were not analyzed by ANOVAs because they both loaded as skewed when the descriptive test was conducted; therefore the assumption of normal distribution was violated. Instead a Kruskal-Wallis Test was conducted analyzed by race on each measure to determine an overall difference between race groups. As no significance or overall difference was found between the means of the race groups who answered the questions represented by these measures, no further analysis occurred.

In order to answer the sub-guiding questions through a disaggregation of race by gender identity and race by first-generation status, the ANOVA was conducted through split file analysis using the dependent variable of race, paired with gender identity and then paired with first-generation status on each of the dependent variables: the measures of the *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension. Consequently, this approach allowed for within group differences to be examined: the groups of individuals who self-identified by gender identity within each of the racial groups and those who self-identified as first-generation status within each of the racial groups, on their levels of agreement to each of the measures in the *Campus Climate for Diversity* and the *Sense of Belonging* dimensions. Through ANOVA and split-file ANOVA, the measures in the Sense of Belonging dimension when analyzed by race indicated a statistical significant difference in the outcome. In order to determine the magnitude of the difference, the effect size *d* was calculate and reported (Morgan, Leech, Gloeckner, & Barrett, 2011, p. 99). The effect size *d* for all the measures involved in the Sense of Belonging dimension were $d < 1$ which was a smaller than typical effect size and determined the mean

scores differed less than the equivalent of 1 pooled standard deviation. The statistical significant results and a comparison of relevant means and related effect sized are reported in chapter four.

Factorial ANOVAS (also called Two-Way Analysis of Variance) were conducted to analyze the intersection of race and gender identity and the intersection of race and first-generation status. The Factorial ANOVA allowed for "…two different independent variables each which classifies a participant with a respect to a particular characteristic" (Morgan et al., 2011, p. 176). For this study, the two independent variables of race and gender identity and then race and first-generation status were analyzed on the each of the measures which allowed for a crossed-design. However in all of these analyses, the factorial ANOVAs loaded as statistically nonsignificant indicating no differences and therefore no further analysis was conducted.

A simple Linear Regression also was conducted to answer Research Question 3, Can *Campus Climate for Diversity* impact or predict *Sense of Belonging* to the institution? A Linear Regression analysis is used to predict scores on a scale independent variable from a scale dependent variable (Morgan et al., 2011) and therefore deemed an appropriate analysis to determine this question. The independent or predictor variable used for this analysis was the *Diversity* variable that was created through a summation of all five measures of the *Campus Climate for Diversity* dimension. The dependent variable used in this analysis was the *Belonging* variable created from the summation of all seven measures of the *Sense of Belonging* dimension. It was anticipated, survey results indicating a higher level of agreement to the *Campus Climate for Diversity* dimension would result in a higher level of agreement on the *Sense of Belonging* dimension. Through a scatter plot, the assumptions of normal distribution were checked in order to conduct Linear Regression. The assumption for Linear Regression indicates, "The variables

should be approximately normally distributed and should have a linear relationship" (Morgan et al., 2011, p. 138). The scatterplot revealed normal distribution and linear relationship.

Summary

The ModernThink LLC *Student Experience Survey* was launched online to measure the campus climate for diversity and the sense of belonging of students who attended one public university. The assessment remained active for three weeks to collect responses from undergraduate students enrolled in classes full-time, spring 2016. Validity and reliability of the survey instrument was established by ModernThink LLC and re-established by the researcher. Pearson Correlations were conducted to establish inter-item correlations and reliability to Cronbach's alpha scores. This analysis allowed for the identification of the two dimensions, *Campus Climate for Diversity* and *Sense of Belonging*, used for this study.

Data were analyzed by race first through ANOVAs on each of the measures of the dimensions, with the exception of two measures that were analyzed through a non-parametric Kruskal-Wallis test. Data were then analyzed through split file ANOVAs by race and gender identity and then by race and first-generation status. Factorial ANOVAS also were conducted on the measures of each dimension as a function of race and gender identity and by race and first-generation status. Additionally, through Exploratory Factor Analysis that allowed for a summation of the measures identified in the *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension, two new variables were created: a *Diversity* variable and a *Belonging* variable. These two new variables were used in a Simple Linear Regression analysis. Chapter 4 further discusses the analysis of the data through reporting of results.

CHAPTER 4: STUDY RESULTS

Data utilized in this study were gathered through the *Student Experience Survey* implemented at one higher education institution during the spring of 2016. The data initially were gathered for the purpose of understanding the campus climate as experienced by the students who were currently enrolled. Therefore, analyses of this secondary sourced data were conducted to provide a deeper understanding on the way in which students experience their campus climate with a focus on the questions identified through exploratory factor analysis (EFA) to measure and to create a *Campus Climate for Diversity* dimension and *Sense of Belonging* dimension. The chosen approach for analysis disaggregated the data along the intersection of race, gender identity and first-generation status to determine differences between groups and within groups.

One-Way Analysis of Variance (ANOVA) were conducted by race on Research Question 1, Is there a difference in the perceptions of the Campus Climate for Diversity from the perspective of students from various racial backgrounds and Research Question 2, Is there a difference in the perceptions of Sense of Belonging as reported by students from various racial backgrounds? Use of the race variable allowed for responses to be observed through a separation by the following categories: American Indian or Alaskan Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander, White, or Mixed Race. Assumptions were checked before the ANOVAs were conducted and the Levine's test was checked to determine whether a statistically significant difference exists between race group means. If a statistical significance was present, then the appropriate Post hoc Test (Tukey HSD or Games-Howell) was conducted as follow-up to identify the source of the difference. The

measures or questions that were not symmetric around the mean score, loaded as skewed (see Table 3.1) and consequently, were analyzed using a Nonparametric Kruskal-Wallis test rather than the ANOVA.

Additionally, to further disaggregate the data to assess for within group differences, ANOVAs through a split file analysis by race on first-generation status and separately by race on gender identity on each of the variables included in the *Campus Climate for Diversity* and the *Sense of Belonging* dimensions. The split file analysis was used because it allowed for data to be loaded through a separation of groups by race showing the within group split by gender identity (e.g., Hispanic Woman, Hispanic Man, Hispanic Non-binary, Hispanic Identity not Listed on each of the measures) on each of measure included in the two dimensions. Conducted a second time, the analysis through split file loaded the data through a separation by race showing the within group split by first-generation status (ex. Hispanic First-Generation and Hispanic Not First-Generation). This disaggregation allowed for the review of each measure of the dimensions to be reviewed for differences of group comparisons within each racial group. Only data that loaded significant were reported.

Next, two-way ANOVAs (Factorial ANOVAs) were conducted using the measures that comprised the *Campus Climate for Diversity* and *Sense of Belonging* dimensions as a function of two independent variables - first with race and gender identity, and second with race and first-generation status. This approach was conducted to search for the intersection of race and gender identity and the intersection of race and first-generation status on each measure to determine differences on the responses when the duality of the participant's identity was incorporated. As such, the Factorial ANOVAs also were conducted through the guidance of the sub-questions of this study: (1a) Are these reported perceptions of the Campus Climate for Diversity different at

the intersection of race and gender identity?; (1b) Are these reported perceptions of the Campus Climate for Diversity different at the intersection of race and first-generation status?; (2a) Are these reported perceptions of Sense of Belonging different at the intersection of race and gender identity?; and (2b) Are these reported perceptions of Sense of Belonging different at the intersection of race and first-generation status?

Last, a linear regression determined Research Question 3, Can Campus Climate for Diversity impact or predict Sense of Belonging to the institution? Before the linear regression was conducted, a *Belonging* variable and a *Diversity* variable were created through the summation of the variables identified in each of the five questions identified to measure the *Campus Climate for Diversity* dimension and the seven questions identified to measure the *Sense of Belonging* dimension. The linear regression was then conducted using the *Diversity* variable (summated scale of five questions) as the independent variable and the *Belonging* variable (summated scale of seven questions) as the dependent variable. The simple linear regression was used to predict the value of the *Belonging* variable and to create a model of the relationship between the *Diversity* and *Belonging* variable through the creation of a linear equation of the observed data (Morgan, et al., 2013).

Respondent Demographic Comparison

The response rate included a total of 8.2% with an actual N = 1442 of respondents. According to Rich Boyer from ModernThink LLC (2014), a 7.0% has been the typical response rate found when implementing this survey with other institutions inviting college student participants. The distribution among race of the individuals who completed the survey (Table 4.1) who were currently enrolled and actively taking classes (N = 1383) was distributed at .7% American Indian with actual n = 9; 3.7% Asian with an actual n = 51; 2.7% Black or African

American with actual n = 37; 19% Hispanic/Latino with actual n = 263; .1% Hawaiian or Pacific Islander with actual n = 2; 59.5% White with an actual n = 823, 2.2% Other (Identity not listed) with an actual n = 30; 5.7% Mixed Race with an actual n = 79. The Native Hawaiian or Pacific Islander group who participated in this survey (n = 2) was insufficient to make any type of generalization in differences across racial groups and in determining the difference of in between groups.

The gender identity distribution (see Table 4.1) of the individuals who completed the survey included: 31.5% Man with actual n = 436; 63.6% Woman with actual n = 879; 1.3% Non-Binary/Gender Non-conforming with actual n = 18; .5% Identity not listed with an actual n = 7; 2.96% and Decline to answer with an actual n = 41.

Additionally, the first-generation distribution of the individuals who completed the survey included: 46.6% not first-generation with an actual n = 644; 52.3% first-generation status with an actual n = 724; and 1.1% Decline to answer with an actual n=15.

The comparison of the participant sample to the invited sample when distribution by race included: (a) the composition of American Indian students invited to participate was 2.29% of the population and .7% responded; (b) Asian students invited to participate was 5.17% of the population and 3.7% responded; (c) Black or African American students invited to participate was 7.20 % and 2.7% responded; (d) Hispanic of Latino students invited to participate was 22% and 19% of the sample who responded identified as Hispanic/Latino; (e) Hawaiian or Pacific Islander students invited to participate was .38% of the population and .1% responded; (f) White students invited to participate was 58.8% and 59.9% of the sample who responded were White; (g) Individuals who identified as Other race was 3.9% of the student population invited and 2.2% responded. According to this comparison, the participant sample was a close representative

sample when disaggregated by Race. However, when comparing the composition of gender identity, Women were overrepresented in this sample; specifically the population invited to participate in the survey that self-identified as Women was 53.2%, however 63.6% of the population who responded were Women. Males invited to participate was 46.8 % of the student population and 31.5% of the participant sample self-identified as Male.

Table 4.1

Demographics of Participants (N = 1,383)

Characteristic	*n*	%
Gender Identity		
Man	436	31.5
Woman	879	63.6
Non-binary	18	1.3
Identity Not listed	7	.5
Decline to answer	41	3.0
Race		
American Indian/Alaska Native	9	.7
Asian	51	3.7
Black or African American	37	2.7
Hispanic or Latino	263	19.0
Native Hawaiian/Pacific Islander	2	.1
White	823	59.5
Other	30	2.2
Mixed Race	79	5.7
First-Generation		
Not First-Generation	644	46.6
First-Generation	724	52.3
Didn't Answer	15	1.1

Note. 0 credit not included.

Analysis: Campus Climate for Diversity Dimension

Research Question 1

To answer the question, Is there a difference in the perceptions of the Campus Climate for Diversity from the perspective of students from various racial backgrounds, four One-way Analysis of Variance (ANOVAs) were conducted as a function of the independent variable of Race. This analysis included one separate ANOVA on each of the four measures (*Supportive of*

Diversity; Co-curricular Enhancement; Diverse Study Body; and Diverse Faculty, Administration and Staff) identified for the *Campus Climate for Diversity* dimension by race. As the *Dealing with Discrimination* measure loaded as skewed, a Kruskal-Wallis nonparametric test was employed on this measure using the independent variable of race.

Table 4.2c indicates a statistically significant difference found among race and the measures of *Supportive of Diversity*, F 8, 1373 = 2.74, p = .005 and *Co-Curricular Enhancement*, F 8, 1371 = 1.97, p = .047. Table 4.2a shows the mean scores for *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity, or sexual orientation) among individuals of various racial backgrounds as: 2.50 (disagree) for individuals who self-identified as Hawaiian or Pacific Islander; 3.80 (sometimes agree/sometimes disagree) for individuals who self-identified as other; 3.89 (sometimes agree/sometimes disagree) for individuals who self-identified as American Indian or Alaskan Native; 3.92 (sometimes agree/sometimes disagree) for Asian; 4.05 (agree) for Black or African Americans; 4.18 (agree) for Hispanic or Latino/as; 4.22 (agree) for individuals who self-identified as Mixed Race; and 4.24 (agree) for White.

Table 4.2a also shows the mean scores for the measure *Co-curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development.) among individuals of various racial backgrounds: 4.50 (agree) for individuals that self- identified as Hawaiian or Pacific Islander; 3.40 (sometimes agree/sometimes disagree) for individuals who self-identified as other; 3.56 (sometimes agree/sometimes disagree) for individuals that self-identified as American Indian or Alaskan Native; 3.75 (sometimes agree/sometimes disagree) for Asians; 4.16 (agree) Black or African Americans; 3.99 (sometimes agree/sometimes disagree) for Hispanic or Latino/as; 4.03

(agree) for individuals who self-identified as Mixed Race; and 3.89 (sometimes agree/sometimes disagree) for White. The post-hoc Tukey HSD tests, used to determine the source of the difference, indicated no significance in the difference between racial groups on the measures of *Supportive of Diversity* or *Co-Curricular Enhancement*. Therefore, the null hypothesis could not be rejected.

The measure *Dealing with Discrimination* (refers to question: This institution has clear and effective procedures for dealing with discrimination.) violated the assumption of normal distribution and loaded positively skewed at 1.21. Therefore, a Kruskal-Wallis nonparametric test was conducted to test for significance between races of Native Hawaiian/Pacific Islander, Asian, American Indian/Alaskan Native, Other, Hispanic/Latino, Black/African American, and Mixed Race on *Dealing with Discrimination* because the variances and numbers across groups were unequal. No statistical significant difference was found between races on *Dealing with Discrimination* (p = .610).

Table 4.2a

Means Standard Deviations Comparing Race and Supportive of Diversity and Co-curricular Enhancement

		Supportive Diversity		Co-Curricular Enhancement	
Race	*n*	*M*	*SD*	*M*	*SD*
Hawaiian/Pacific Islander	2	2.50	.71	4.50	.71
Other	30	3.80	1.16	3.40	1.30
American Indian/Alaskan Native	9	3.89	.78	3.56	1.24
Asian	51	3.92	.77	3.75	.87
Black/African American	37	4.05	.97	4.16	.96
Not Answered	89	4.15	1.04	3.72	1.31
Hispanic or Latino	263	4.18	.92	3.99	1.10
Mixed Race	79	4.22	.90	4.03	1.11
White	822	4.24	.87	3.89	1.10
Total	1382	4.19	.90	3.89	1.11

Table 4.2b

Means, Standard Deviations comparing Race and Diverse Faculty, Administration & Staff, Diverse Student Body, and Dealing with Discrimination

		Diverse FAS		Diverse Student		Discrimination	
Race	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Hawaiian/Pacific Islander	2	4.5	.71	4.5	.71	4.5	.71
Other	30	3.90	1.35	4.17	.99	4.03	1.19
Amer. Indian/Alaskan Native	9	3.78	1.39	4.11	.60	3.89	.93
Asian	51	3.98	1.07	4.20	.87	4.08	.94
Black/African American	37	3.84	1.07	4.11	1.10	4.38	1.01
Not Answered	89	4.22	1.09	4.31	1.01	4.29	1.27
Hispanic or Latino	263	4.11	.95	4.27	.83	4.22	1.17
Mixed Race	79	4.09	1.00	4.29	.98	4.35	1.27
White	822	4.07	.89	4.30	.79	4.23	1.12
Total	1382	4.07	.95	4.28	.84	4.23	1.14

Table 4.2c

One-Way Analysis of Variance Summary Comparing Race and Campus Climate for Diversity Dimension of Diverse Faculty, Administration & Staff, Diverse Student Body, Dealing with Discrimination, Supportive of Diversity, and Co-Curricular Enhancement

Source	*df*	*SS*	*MS*	*F*	*p*
Diverse Faculty, Administration & Staff					
Between groups	8	6.97	.87	.96	.463
Within groups	1373	1241.50	.90		
Total	1381	1248.47			
Diverse Student Body					
Between groups	8	2.50	.31	.44	.898
Within groups	1373	976.13	.71		
Total	1381	978.63			
Supportive of Diversity					
Between groups	8	17.62	2.20	2.74	**.005
Within groups	1373	1104.72	.81		
Total	1381	1122.33			
Co-curricular Enhancement					
Between groups	8	19.35	2.42	1.97	*.047
Within groups	1371	1685.99	1.23		
Total	1379	1705.34			

Note.* $p < .05$, ** $p < .01$ statistical significant.

Research Question 1A

To answer research question, 1.a, Are these reported perceptions of the Campus Climate for Diversity different at the intersection of Race and Gender Identity? ANOVAs were conducted by a split file analysis by race on gender identity on the measures that comprise the *Campus Climate for Diversity* dimension. The split file analysis on the ANOVA allows the data output to be separated by race to view the subset of the cases (Morgan et al., 2011). Then two-way Analysis of Variance (Factorial ANOVA) were run on the four measures of the *Campus Climate for Diversity* dimension as a function of race and gender identity to determine if the two independent variables had an effect on the dependent variables of the *Campus Climate for Diversity* dimension. The measure of *Dealing with Discrimination* was skewed and therefore analyzed through Krustal-Wallis non-parametric test.

Supportive of Diversity, Race and Gender Identity

On the question measuring *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation), eight ANOVAs were ran on the question measuring *Supportive of Diversity* through split file analysis by race on gender identity. Assumptions were checked; all observations were independent. Normal distribution was checked and some groups were approximately normally distributed. However, "ANOVA is robust and can be used when the dependent data is approximately normally distributed" (Morgan et al., 2011, p. 164). Assumptions of homogeneity of variances were checked through the Levine's test. The Levine's test could not be conducted on Native Hawaiian/Pacific Islander because only one group had a computed variance. Levine's test was not significant on Asian, American Indian/Native Alaskan, Black/African American, Hispanic/Latino, White, Other or Mixed Race; therefore the assumption of equal variances was not violated.

Table 4.3a indicates a statistical significance for Asian students on *Supported of Diversity*, $F(3, 47) = 2.87$, $p = .046$. Table 4.3b shows that the mean scores for Asian Man was 3.81 (strongly agree/strongly disagree), for Asian Woman was 3.93 (strongly agree/strongly disagree), for Asian Non-Binary was 4.00 (agree) and for Asian Gender Identity not Listed 6.00 (Not applicable). A Post hoc Tukey HSD test could not be conducted on Asian students to determine the difference between means because at least one group had fewer than two cases.

Table 4.3a

ANOVA Supportive of Diversity Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups (Gender Identity)	1	.14	.14	.21	.605
Within groups (Race)	7	4.75	.68		
Total	8	4.89			
Asian					
Between groups	3	4.59	1.53	2.87	*.046
Within groups	47	25.10	.53		
Total	50	29.69			
Black or African American					
Between groups	2	1.21	.60	.63	.540
Within groups	34	32.69	.96		
Total	36	33.89			
Hispanic/Latino					
Between groups	1	.14	.14	.16	.687
Within groups	261	221.10	.85		
Total	262	221.14			
White					
Between groups	4	1.57	.39	.52	.722
Within groups	815	615.06	.76		
Total	819	616.63			
Other					
Between groups	2	1.42	.71	.51	.604
Within groups	27	37.38	1.38		
Total	29	38.80			
Mixed Race					
Between groups	3	1.26	.42	.51	.678
Within groups	75	62.08	.83		
Total	78	63.34			

Note. *p <.05 statistically significant.

To assess whether race and gender identity each seem to have an effect on *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation.) and if the effects of race on

Supportive of Diversity depend on whether the person is Man, Woman, Non-binary, and Gender not listed (i.e. on the interaction of race with gender identity) a two-way ANOVA was conducted. Table 4.3b shows the means, and standard deviations for *Supportive of Diversity* for Gender Identity and Race groups. Table 4.3c shows that there was not a significant interaction between race and gender identity on *Supportive of Diversity* (p = .810). Therefore the null hypothesis could not be rejected. Under the null hypothesis there is no difference in the levels of agreement to the question, "At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation among the interaction of race and gender identity".

While the Factorial ANOVA was meant to measure the effect of the two variables which indicated no effect. However, identified was a significant main effect of race on *Supportive of Diversity*, $F(8, 1352) = 2.26$, $p < .021$. Eta for race was .11 which is a smaller than typical effect size. This means there is a difference identified between races on this measure, these results were previously addressed in the results of the ANOVA. There was not a significant main effect of gender identity on *Supportive of Diversity* (p = .457).

Table 4.3b

Means, Standard Deviations, and n for Supportive of Diversity as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.75	.96	5	4.00	.71										9	3.89	.78
Asian	21	3.81	.75	28	3.93	.72	1	4.00		1	6.00					51	3.92	.77
Black	15	4.13	1.13	21	4.05	.87	1	3.00								37	4.05	.97
Hispanic	81	4.15	.98	182	4.20	.90										263	4.18	.92
Hawaiian	1	3.00		1	2.00											2	2.50	.71
White	255	4.20	.91	539	4.26	.84	13	4.08	.49	4	4.25	.500	9	4.00	1.50	820	4.24	.87
Other	17	3.82	1.38	11	3.91	.83				2	3.00	.000				30	3.80	1.16
Mix.Race	24	4.17	.87	50	4.28	.90	3	3.67	1.53				2	4.00	.000	79	4.22	.90
Total	436	4.14	.94	878	4.23	.86	18	3.94	.73	7	4.14	1.07	41	3.95	1.28	1380	4.14	.90

Table 4.3c

Analysis of Variance for Supportive of Diversity as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.83	2.26	*.021	.013
Gender Identity	4	.74	.91	.457	.003
Race x Gender Identity	15	.85	.68	.810	.007
Error	1352	.81			

Note. *p <.05 statistically significant.

Co-Curricular Enhancement, Race and Gender Identity

Eight one-way ANOVAs were conducted on the question measuring *Co-Curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development) through split file analysis by race on gender identity. Assumptions were checked: all observations were independent. Normal distribution were approximately normally distributed. However, "ANOVA is robust and can be used when the dependent data is approximately normally distributed" (Morgan et al., 2011, p. 164). Assumptions of homogeneity of variances were checked through the Levine's test. The Levine's test could not be conducted on Native Hawaiian/Pacific Islander because only one group had computed variance. The Levine's test was not significant on Asian, American Indian/ Alaskan Native, Black/African American, Hispanic/Latino, White, Other, or Mixed Race; therefore the assumption of equal variances was not violated.

Table 4.4a shows a statistical significance for Asian students on *Co-Curricular Enhancement*, $F(3, 47) = 3.12$, $p = .035$. Table 4.7a shows the mean for Asian Man is 3.86 (sometimes agree/sometimes disagree), for Asian Women is 3.57 (sometimes agree/sometimes disagree), for Asian Non-Binary is 4.00 (agree) and Asian Gender Identity not listed as 6.00 (not applicable). Post hoc Tukey HSD test could not be conducted to determine where the difference between means lies because at least one group has fewer than two cases.

Table 4.4a

ANOVA Co-Curricular Enhancement Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.27	.27	.16	.702
Within groups	7	11.95	1.71		
Total	8	12.22			
Asian					
Between groups	3	6.26	2.09	3.12	*.035
Within groups	47	31.43	.67		
Total	50	37.69			
Black or African American					
Between groups	2	1.81	.90	.99	.384
Within groups	34	31.22	.92		
Total	36	33.03			
Hispanic/Latino					
Between groups	1	.02	.02	.02	.896
Within groups	260	314.95	1.21		
Total	261	314.95			
White					
Between groups	4	6.62	1.65	1.37	.244
Within groups	814	985.82	1.21		
Total	818	992.44			
Other					
Between groups	2	.36	.18	.10	.907
Within groups	27	48.85	1.81		
Total	29	49.20			
Mixed Race					
Between groups	3	1.10	.37	.29	.832
Within groups	75	94.85	1.27		
Total	78	95.95			

Note.* $p < .05$ Statistical Significance.

To assess whether race and gender identity each seem to have an effect on *Co-Curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development.) and if the effects of race on

Co-Curricular Enhancement depend on whether the person is Man, Woman, Non-binary, Gender not listed (i.e. on the interaction of race with gender identity) a two-way ANOVA was conducted. Table 4.4b shows the means, and standard deviations for *Co-Curricular Enhancement* for gender identity and race groups. Table 4.4c shows that there was not a significant interaction between race and gender identity on *Co-Curricular Enhancement* (p = .806). There was also not a significant main effect of race on *Co-Curricular Enhancement* (p = .170) and there was not a significant main effect of gender identity on *Co-Curricular Enhancement* (p = .638). Therefore the null hypothesis could not be rejected. Under the null hypothesis, there is no difference in the levels of agreement that there are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development through the interaction of race and gender identity.

Table 4.4b

Means, Standard Deviations, and n for Co-Curricular Enhancement as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	n	M	SD	n	M	SD	n	M	SD	n	M	SD	n	M	SD	n	M	SD
Am. Indian	4	3.75	1.89	5	3.40	1.11										9	3.56	1.24
Asian	21	3.86	.910	28	3.57	.742	1	4.00		1	6.00					51	3.75	.868
Black or AA	15	4.07	.961	21	4.29	.956	1	3.00								37	4.16	.958
Hispanic	81	3.98	1.22	181	3.99	1.04										262	3.99	1.10
Hawaiian	1	4.00		1	5.00											2	4.50	.707
White	254	3.89	1.14	539	3.91	1.08	13	3.31	1.18	4	3.25	.50	9	3.67	1.50	819	3.89	1.10
Other	17	3.41	1.50	11	3.45	1.13				2	3.00	.000				30	3.40	1.30
Mixed Race	24	4.00	1.18	50	4.08	1.12	3	3.67	.577				2	3.50	.707	79	4.03	1.11
Total	435	3.88	1.18	877	3.92	1.06	18	3.39	1.04	7	3.57	1.13	41	3.61	1.34	1378	3.89	1.11

Table 4.4c

Analysis of Variance for Co-Curricular Enhancement as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.79	1.45	.170	.009
Gender Identity	4	.78	.64	.638	.002
Race x Gender Identity	15	.84	.68	.806	.007
Error	1350	1.23			

Diverse Student Body, Race and Gender Identity.

Table 4.5a indicates eight one-way ANOVAs were conducted on the question measuring *Diverse Student Body* (refers to: The institution places sufficient emphasis on having a diverse student body) through split file by race on gender identity. Assumptions were checked and all observations were independent. Normal distribution was checked and the groups were approximately normally distributed. Assumptions of homogeneity of variances were checked through the Levine's test. However, the test could not be conducted on Native Hawaiian/Pacific Islander, $F(1, 0)$ because only one group had a computed variance. The Levine's test was not significant on Asian, American Indian/Alaskan Native, Hispanic/Latino, White, Other or Mixed race and therefore the assumption of equal variances was not violated for these groups. However the Levine's test was significant on Black/African American, $p = .001$ indicating a violation of homogeneity of variances.

Through the ANOVA it was determined there was a statistical significance for Black/African American students and gender identity on *Diverse Student Body*, $F(2, 34) = 4.68$, $p = .016$. Table 4.7a shows the mean scores for Black or African American Men is 3.73 (Sometimes Agree/Sometimes Disagree), the mean for Black or African American Women is 4.48 (Agree), and the mean for Black or African American Gender Non-binary is 2.00 (Disagree). The Levine's test was significant on this group, the Games-Howell post Hoc test was determined an appropriate test; however it could not be conducted because at least one group (Gender Non-Binary) had only one case in this group. Therefore the Null hypothesis could not be determined.

Table 4.5a

ANOVA Diverse Student Body Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.14	.14	.35	.571
Within groups	7	2.75	.39		
Total	8	2.89			
Asian					
Between groups	3	4.12	1.37	1.90	.142
Within groups	47	33.92	.72		
Total	50	38.04			
Black or African American					
Between groups	2	9.40	4.70	4.68	*.016
Within groups	34	34.17	1.01		
Total	36	43.57			
Hispanic/Latino					
Between groups	1	.31	.31	.45	.505
Within groups	262	181.98	.70		
Total	262	182.29			
White					
Between groups	4	2.68	.67	1.06	.375
Within groups	816	514.40	.63		
Total	820	517.08			
Other					
Between groups	2	1.23	.61	.62	.548
Within groups	27	26.94	1.00		
Total	29	28.17			
Mixed Race					
Between groups	3	2.06	.69	.71	.548
Within groups	75	72.25	.68		
Total	78	74.30			

Note.* $p < .05$ Statistical Significance.

To assess whether race and gender identity each seem to have an effect on *Diverse Student Body* (refers to: This institution places sufficient emphasis on having a diverse student body.) and if the effects of race on *Diverse Student Body* depend on whether the person is Man,

Woman, Non-binary, Gender not listed (i.e., on the interaction of race with gender identity) a two-way ANOVA was conducted. Table 4.5b shows the means, and standard deviations for *Diverse Student Body* for gender identity and race groups. Table 4.5c shows there was not a significant interaction between race and gender identity on *Diverse Student Body* ($p = .125$). There was also not a significant main effect of race on *Diverse Student Body* ($p = .250$) and there was not a significant main effect of gender identity on *Diverse Student Body* ($p = .168$); therefore we cannot reject the null hypothesis. Under the null hypothesis there is no difference on the levels of agreement that this institution places sufficient emphasis on having a diverse student body as reported by individuals through the interaction of race and gender identity.

Table 4.5b

Means, Standard Deviations, and n for Diverse Student Body as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	4.25	.50	5	4.00	.71										9	4.11	.60
Asian	21	4.10	.89	28	4.18	.82	1	5.00		1	6.00					51	4.20	.87
Black	15	3.73	1.44	21	4.48	.51	1	2.00								37	4.11	1.10
Hispanic	81	4.22	.89	182	4.30	.81										263	4.27	.83
Hawaiian	1	4.00		1	5.00											2	4.50	.71
White	255	4.31	.82	540	4.29	.78	13	3.92	.86	4	4.50	.58	9	4.56	1.13	821	4.30	.79
Other	17	4.29	.85	11	3.91	1.04				2	4.50	2.12				30	4.17	.99
Mix. Race	24	4.46	.93	50	4.26	.92	3	3.67	2.31				2	4.00	.00	79	4.29	.98
Total	435	4.27	.88	879	4.29	.80	18	3.83	1.20	7	4.71	1.11	41	4.34	1.02	1380	4.28	.84

Table 4.5c

Analysis of Variance for Diverse Student Body as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	.90	1.28	.250	.008
Gender Identity	4	1.14	1.62	.168	.005
Race x Gender Identity	15	1.01	1.43	.125	.016
Error	1352	.71			

Diverse Faculty, Administration and Staff, Race and Gender Identity

Eight One Way ANOVAs were conducted on *Diverse Faculty, Administration and Staff* (refers to: This institution places sufficient emphasis on having diverse faculty, administration, and staff.) split file by race on gender identity. Assumptions were checked and met. There was no statistical significance found on the one-way ANOVA on *Diverse Faculty, Administration and Staff* through the analysis of split file by race on gender identity.

To assess whether race and gender identity each seem to have an effect on the measure of *Diverse Faculty, Administration and Staff* and if the effects on this measure depend on whether the person is Man, Woman, Non-binary, and Gender Identity not listed (i.e., on the interaction of race with gender identity) a two-way ANOVA was conducted. Table 4.6a shows the mean scores and standard deviations for *Diverse Faculty, Administration and Staff* for gender identity and race groups. Table 4.6b shows that there was not a significant interaction between race and gender identity on *Diverse Faculty, Administration and Staff* (p = .562). There was also not a significant main effect of race on *Diverse Faculty, Administration and Staff* (p = .370) and there was not a significant main effect of gender identity on *Diverse Faculty, Administration and Staff* (p = .102). Therefore the null hypothesis could not be rejected. Under the null hypothesis there is not a difference between levels of agreement that this institution places sufficient emphasis on having a diverse faculty, administration and staff through an interaction of race and gender identity.

Table 4.6a

Means, Standard Deviations, and n for Diverse Faculty, Administration and Staff as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*N*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.25	1.71	5	4.20	1.10										9	3.78	1.39
Asian	21	3.95	1.28	28	3.96	.84				1	3.00		1	6.00		51	3.98	1.07
Black	15	3.93	1.16	21	3.76	1.04	1	4.00								37	3.84	1.07
Hispanic	81	4.10	1.13	182	4.12	.87										263	4.11	.95
Hawaiian	1	4.00		1	5.00											2	4.50	.71
White	254	4.13	.89	540	4.06	.87	13	3.77	1.01	4	4.25	.50	9	3.78	1.56	820	4.07	.89
Other	17	3.88	1.41	11	3.82	1.25				2	4.50	2.12				30	3.90	1.35
Mix. Race	24	4.42	9.29	50	3.94	1.04	3	4.00	1.00				2	4.00	.000	79	4.09	1.00
Total	435	4.10	1.02	879	4.06	.90	18	3.78	.94	7	4.57	1.13	41	4.10	1.16	1380	4.08	.95

Table 4.6b

Analysis of Variance for Diverse Faculty, Administration and Staff as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	.98	1.09	.370	.006
Gender Identity	5	1.74	1.94	.102	.006
Race x Gender Identity	15	.81	.90	.562	.010
Error	1352	.90			

Split File Mean Scores, Race, Gender Identity, Campus Climate for Diversity

Table 4.7a and 4.7b indicates the Mean Scores and Standard Deviations through a Split File analysis by race on gender identity for all five measures identified in the *Campus Climate for Diversity* dimension which included the measures of: *Supportive of Diversity, Co-curricular Enhancement, Diverse Faculty, Administration and Staff, Diverse Student Body* and *Dealing with Discrimination*. The average responses are displayed for each group at the intersection of race and gender identity, which allows for the separation of race and each racial group within group differences by gender identity to be viewed. The Likert scale used to measure each of the responses to these measures included: score of 1 indicated Strongly Disagree, score of 2 indicated Disagree, score of 3 indicated Sometimes Disagree and Sometimes Agree, score of 4 indicated Agree, score of 5 indicated Strongly Disagree, and score of 6 indicated Not Applicable. In reviewing only the mean scores, overall most individuals responded to these questions in the Agree, Sometimes Agree/Sometimes Disagree range. The only group that did not respond in this manner was the Native Hawaiian or Pacific Islander Women who indicated they disagreed on the measure of *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation.). However, the number of individuals in this group was equal to one and therefore this small number was not generalizable which indicates it could not be determined that other individuals who self-identified in this group would respond in the same manner.

Table 4.7a

Mean Scores and Standard Deviations for Measures of Diversity Dimension Split File Race and Gender Identity

Group	Supportive of Diversity		Co-curriculum Enhancement		Diverse Faculty, Admin, Staff		Diverse Student Body		Dealing w/Discrimination	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Amer. Indian/Alaskan Native										
Man	3.75	.96	3.53	1.66	3.25	1.71	4.29	1.16	3.75	1.50
Woman	4.00	.71	3.90	1.11	4.20	1.10	4.32	.96	4.00	.00
Asian										
Man	3.81	.75	3.86	.91	3.95	1.28	4.10	.89	3.90	.89
Woman	3.93	.72	3.57	.74	3.96	.84	4.18	.82	4.18	.91
Non-Binary	4.00	-	4.00	-	3.00	-	5.00	-	3.00	-
Identity Not Listed	6.00	-	6.00	-	6.00	-	6.00	-	6.00	-
Black or African American										
Man	4.13	1.13	4.07	.96	3.93	1.16	3.73	1.44	4.40	.99
Woman	4.05	.87	4.29	.96	3.76	1.04	4.48	.51	4.43	1.03
Non-Binary	3.00	-	3.00	-	4.00	-	2.00	-	3.00	
Hispanic or Latino										
Man	4.15	.98	3.98	1.22	4.10	1.13	4.22	.89	4.10	1.21
Woman	4.19	.90	3.99	1.04	4.11	.87	4.29	.81	4.28	1.16
Nat Hawai/Pacific Islander										
Man	3.00	-	4.00	-	4.00	-	4.00	-	4.00	
Woman	2.00	-	5.00	-	5.00	-	5.00	-	5.00	
White										
Man	4.21	.91	3.90	1.14	4.13	.89	4.32	.82	4.24	1.11
Woman	4.26	.84	3.91	1.08	4.05	.87	4.29	.78	4.24	1.13
Non-Binary	4.08	.49	3.31	1.18	3.77	1.01	3.92	.86	4.31	1.25
Identity Not Listed	4.25	.50	3.25	.50	4.25	.50	4.50	.58	3.25	.50
Decline to Answer	4.00	1.50	3.67	1.50	3.78	1.56	4.56	1.13	3.44	.53

Table 4.7b

Mean Scores and Standard Deviations for Measures of Diversity Dimension Split File Race and Gender Identity Continued

Group	Supportive of Diversity		Co-curriculum Enhancement		Diverse Faculty, Admin, Staff		Diverse Student Body		Dealing w/Discrimination	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Other										
Man	3.82	1.38	3.41	1.50	3.88	1.51	4.29	.85	3.94	1.20
Woman	3.91	.83	3.45	1.13	3.82	1.25	3.91	1.04	4.36	1.21
Identity Not Listed	3.00	.00	3.00	.00	4.50	2.12	4.51	2.12	3.00	.00
Mixed Race										
Man	4.17	.87	4.00	1.18	4.42	.93	4.46	.93	4.50	1.25
Woman	4.28	.90	4.08	1.12	3.94	1.04	4.26	.92	4.36	1.21
Non-Binary	3.67	1.53	3.67	.58	4.00	1.00	3.67	2.31	4.00	2.65
Decline to Answer	4.00	.00	3.50	.71	4.00	.00	4.00	.00	3.00	.00

Research Question One B

To answer question 1b, Are these reported perceptions of the Campus Climate for Diversity different at the intersection of race and first-generation status, a split file ANOVA was conducted on each of the four measures of the *Campus Climate for Diversity* dimension (*Supportive of Diversity, Co-curricular Enhancement, Diverse Study Body and Diverse Faculty, Administration and Staff*) by race on first-generation status to inspect for comparison of first-generation and not first-generation status within each racial group. Then Factorial ANOVAs were conducted on the four measures of the *Campus Climate for Diversity* dimension as a function of race and first-generation status to determine if these two independent variables had an effect on the dependent variables (the four measures) of the *Campus Climate for Diversity* dimension.

Supportive of Diversity, Race and First-Generation Status

Eight one-way ANOVAs were conducted on *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation) through split file by race on gender identity. Assumptions were checked and met. There was no statistical significance found in the ANOVA on the measure of *Supportive of Diversity* through the analysis of split file by race on gender identity.

To assess whether race and first-generation status each seem to have an effect on *Supportive of Diversity* and if the effects of race on *Supportive of Diversity* depend on whether the person is first-generation or not first-generation (i.e., on the interaction of race with first-generation status) a two-way ANOVA was conducted. Table 4.8a shows the mean scores and standard deviations for the measure *Supportive of Diversity* for race groups and within each race group separated by first-generation Status and Not first-generations status. Table 4.8b shows there was not a significant interaction between race and first-generation status on *Supportive of*

Diversity (p = .258). There was also not a significant main effect of race on *Supportive of Diversity* (p = .132) and there was not a significant main effect of first-generation status on *Supportive of Diversity* (p = .573). Therefore the null hypothesis could not be rejected. Under the null hypothesis there is no difference between the levels of agreement on being supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation through the interaction of race and first-generation status.

Table 4.8a

Means, Standard Deviations, and n for Supportive of Diversity as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	n	M	SD	n	M	SD	n	M	SD	n	M	SD
Am. Indian	1	3.00		8	4.00	.76				9	3.89	.79
Asian	26	3.96	.82	24	3.92	.72	1	3.00		51	3.92	.77
Black or AA	9	4.44	.73	28	3.93	1.02				37	4.05	.97
Hispanic	58	4.21	.93	202	4.19	.91	3	3.33	1.53	263	4.18	.92
Hawaiian				2	2.50	.707				2	2.50	.707
White	469	4.25	.84	348	4.24	.90	5	3.40	.55	822	4.25	.87
Other	17	4.00	.87	12	3.50	1.51	1	4.00		31	3.80	1.16
Mixed Race	29	4.10	.86	49	4.27	.93	1	5.00		79	4.22	.90
Total	643	4.23	.86	724	4.17	.93	15	3.67	1.05	1382	4.19	.90

Table 4.8b

Analysis of Variance for Supportive of Diversity as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.25	1.56	.132	.009
First-Generation	2	.45	.56	.573	.001
Race x First-Generation	12	.98	1.23	.258	.011
Error	1359	.80			

Co-Curricular Enhancement, Race and First-Generation Status

Eight One-Way ANOVAs were conducted on the question measuring *Co-Curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development) through split file by race on first-generation status. Assumptions were checked: all observations were independent. Normal distribution were approximately normally distributed. However, "ANOVA is robust and can be used when the dependent data is approximately normally distributed" (Morgan et al., 2011, p. 164). Assumptions of homogeneity of variances were checked through the Levine's test; however, the Levine's test could not be conducted on Native Hawaiian/Pacific Islander because only one group had computed variance. The Levine's test was not significant on Asian, American Indian/ Alaskan Native, Black/African American, Hispanic/Latino, White, Other, or Mixed Race and therefore the assumption of equal variances was not violated. Table 4.9a indicates there was a statistical significance for Asian students on *Co-Curricular Enhancement*, F (3, 47) = 3.12, p = .035. Table 4.12 indicates the mean scores for Asian students to include: Asian Not First-Generation Status is 3.85 (sometimes agree/sometimes disagree) and First-Generation Status is 3.65 (sometimes agree/sometimes disagree). However, Post hoc Tukey HSD test could not be conducted to determine where the difference between means lies because at least one group has fewer than two cases.

Table 4.9a

ANOVA Co-Curricular Enhancement Split File by Race on First-Generation Status

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.27	.27	.16	.702
Within groups	7	11.95	1.71		
Total	8	12.22			
Asian					
Between groups	3	6.26	2.09	3.12	*.035
Within groups	47	31.43	.67		
Total	50	37.69			
Black or African American					
Between groups	2	1.81	.90	.99	.384
Within groups	34	31.22	.92		
Total	36	33.03			
Hispanic/Latino					
Between groups	1	.02	.02	.02	.896
Within groups	260	314.95	1.21		
Total	261	314.95			
White					
Between groups	4	6.62	1.65	1.37	.244
Within groups	814	985.82	1.21		
Total	818	992.44			
Other					
Between groups	2	.36	.18	.10	.907
Within groups	27	48.85	1.81		
Total	29	49.20			
Mixed Race					
Between groups	3	1.10	.37	.29	.832
Within groups	75	94.85	1.27		
Total	78	95.95			

Note.* $p < .05$ Statistical Significance.

To assess whether race and first-generation status each seem to have an effect on the measure of *Co-Curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development) and if

the effects of race on *Co-Curricular Enhancement* depend on whether the person is first-generation or not first-generation (i.e., on the interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.9b shows the mean scores and standard deviations for the measure of *Co-Curricular Enhancement* of race groups separated by first-generation and not first-generation. Table 4.9c shows that there was not a statistically significant interaction between race and First-Generation status on *Co-Curricular Enhancement* (p = .730). There was also not a significant main effect of race on *Co-Curricular Enhancement* (p = .208) and there was not a significant main effect of first-generation status on *Co-Curricular Enhancement* (p = .411). Therefore the null hypothesis could not be rejected. Under the null hypothesis there is no difference in the levels of agreement that this institution has sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development on the interaction between race and first-generation status.

Table 4.9b

Means, Standard Deviations, and n for Co-Curricular Enhancement as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	n	M	SD	n	M	SD	n	M	SD	n	M	SD
Am. Indian	1	5.00		8	3.38	1.19				9	3.56	1.24
Asian	26	3.85	1.05	24	3.67	.64	1	3.00	.87		3.75	51
Black or AA	9	4.44	1.01	28	4.07	.94				37	4.16	.96
Hispanic	58	4.07	1.18	201	3.97	1.08	3	4.00	1.00	262	3.99	1.10
Hawaiian				2	4.50	.707				2	4.50	.707
White	470	3.92	1.08	346	3.85	1.14	5	3.40	.55	821	3.89	1.10
Other	17	3.24	1.09	12	3.58	1.62	1	4.00		30	3.40	1.30
Mixed Race	29	3.83	1.23	49	4.12	1.03	1	5.00		79	4.03	1.11
Total	644	3.91	1.11	721	3.88	1.12	15	3.53	1.06	1380	3.89	1.11

Table 4.9c

Analysis of Variance for Co-curricular Enhancement as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.68	1.37	.208	.008
First-Generation	2	1.10	.89	.411	.001
Race x First-Generation	12	.89	.72	.730	.006
Error	1357	1.23			

Diversity Student Body, Race and First-Generation Status

Seven One-Way ANOVAs were conducted on the measure *Diverse Student Body* (refers to: The institution places sufficient emphasis on having a diverse student body) through split file by race on first-generation status. Assumptions were checked: all observations were independent. Normal distribution was checked and some of the groups were approximately normally distributed. Assumptions of homogeneity of variances were checked through the Levine's test. However, the test could not be conducted on American Indian/Alaskan Native, $F(1, 7)$ because only one group had a computed variance. The Native Hawaiian and Pacific Islander groups also could not be computed because no one from this group answered this question. The Levine's test was not significant on Asian, Black/African American, Hispanic/Latino, White, Other, or Mixed Race; therefore the assumption of equal variances was not violated.

Table 4.9a shows there was a statistical significance for White students on *Diverse Student Body*, F (2, 820) = 4.87, p =.008. Table 4.12 shows the mean score for White first-generation students was 4.30 (agree) and the mean score for White, not first-generation was 4.31(agree). The Post Hoc Tukey HSD tests conducted indicated there was not a significant mean difference between White, first-generation students and White, not first-generation

students. Therefore the Null Hypothesis could not be rejected. Under the Null Hypothesis there is no difference between White first-generation students and White not first-generation students on their perception of the emphasis placed on having a diverse student body.

Table 4.10a

ANOVA Diverse Student Body Split File by Race on First-Generation Status

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.01	.01	.03	.859
Within groups	7	2.88	.41		
Total	8	2.89			
Asian					
Between groups	2	1.59	.80	1.05	.359
Within groups	48	36.45	.76		
Total	50	38.04			
Black or African American					
Between groups	1	.60	.60	.49	.488
Within groups	35	42.96	1.23		
Total	36	43.57			
Hispanic/Latino					
Between groups	2	3.94	1.97	2.87	.058
Within groups	260	178.35	.69		
Total	262	182.29			
White					
Between groups	2	6.08	3.04	4.87	**.008
Within groups	820	511.58	.62		
Total	822	517.66			
Other					
Between groups	2	.56	.28	.27	.763
Within groups	29	27.61	1.02		
Total	29	28.17			
Mixed Race					
Between groups	2	1.98	.99	1.04	.358
Within groups	76	72.32	.95		
Total	78	74.30			

Note.** $p < .01$ Statistical Significance.

To assess whether race and first-generation status each seem to have an effect on *Diverse Student Body* (refers to: This institution places sufficient emphasis on having a diverse student body.) and if the effects of race on *Diverse Student Body* depend on whether the person is first-generation or not first-generation (i.e., on the interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.10b shows the mean scores and standard deviations for *Diverse Study Body* for race groups each separated within by first-generation status and not first-generations status. Table 4.10c shows that there was not a significant interaction between race and first-generation status on *Diverse Student Body* (p = .219). There was also not a significant main effect of race on *Diverse Student Body* (p = .488) and there was not a significant main effect of first-generation status on *Diverse Student Body* (p = .412). Therefore the null hypothesis cannot be rejected. Under the null hypothesis the levels of agreement on the institution's emphasis on having a diverse student body do not differ on the interaction between race and first-generation status.

Table 4.10b

Means, Standard Deviations, and n for Diverse Student Body as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	4.00		8	4.13	.64				9	4.11	.60
Asian	26	4.27	.83	24	4.17	.92	1	3.00	.92	51	4.20	.87
Black	9	4.33	1.12	28	4.04	1.11				37	4.11	1.10
Hispanic	58	4.50	.82	202	4.21	.83	3	4.00	1.00	263	4.27	.83
Hawaiian				2	4.50	.71				2	4.50	.71
White	470	4.31	.78	348	4.30	.80	5	3.20	.45	823	4.30	.79
Other	17	4.06	.97	12	4.33	1.07	1	4.00		30	4.17	.99
Mix. Race	29	4.10	1.01	49	4.39	.95	1	5.00		79	4.29	.98
Total	643	4.31	.82	724	4.26	.86	15	3.80	.86	1382	4.28	.84

Table 4.10c

Analysis of Variance for Diverse Student Body as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	.66	.93	.488	.005
First-Generation	2	.63	.89	.412	.001
Race x First-Generation	12	.91	1.29	.219	.011
Error	1359	.71			

Diverse Faculty, Administration and Staff, Race and First-Generation Status

Eight One Way ANOVAs were conducted on *Diverse Faculty, Administration, and Staff* (refers to: This institution places sufficient emphasis on having diverse faculty, administration, and staff) split file by race on first-generations status. Assumptions were checked and met. There was no statistical significance found on the ANOVA on *Diverse Faculty, Administration, and Staff* through the analysis of split file by race on first-generation status.

To assess whether race and first-generation status each seem to have an effect on a measure of *Diverse Faculty, Administrators and Staff* and if the effects of race on *Diverse Faculty, Administrators and Staff* depend on whether the person is first-generation or not first-generation (e.g., on the interaction of Race with First-Generation Status) a Factorial ANOVA was conducted. Table 4.11a shows the means, standard deviations for *Diverse Faculty, Administration and Staff* for race groups each separated by first-generation status and not first-generation status. Table 4.11b shows there was not a significant interaction between race and first-generation status on *Diverse Faculty, Administration and Staff* (p = .624). There was also not a significant main effect of race on *Diverse Faculty, Administration and Staff* (p = .366) and there was not a significant main effect of first-generation status on *Diverse Faculty, Administration and Staff* (p = .843). Therefore the null hypothesis could not be rejected. Under the null hypothesis the level of agreement on the institution placing sufficient emphasis on

having diverse faculty, administration, and staff does not differ on the interaction between race and First-Generation status.

Table 4.11a

Means, Standard Deviations, and n for Diverse Faculty, Administrators and Staff as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	3.00		8	3.80	1.46				9	3.78	1.39
Asian	26	4.15	1.08	24	3.83	1.05	1	3.00		51	3.98	1.07
Black	9	4.11	1.05	28	3.75	1.08				37	3.84	1.07
Hispanic	58	4.09	1.14	202	4.12	.90	3	4.00	1.00	263	4.11	.95
Hawaiian				2	4.50	.71				2	4.50	.71
White	470	4.09	.85	347	4.06	.95	5	3.20	.45	822	4.07	.89
Other	17	3.94	1.14	12	3.83	1.70	1	4.00		30	3.90	1.35
Mix. Race	29	4.03	.94	49	4.10	1.05	1	5.00		79	4.09	1.00
Total	644	4.08	.93	723	4.07	.98	15	3.80	.86	1382	4.07	.95

Table 4.11b

Analysis of Variance for Diverse Faculty, Administrators and Staff as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	.99	1.09	.366	.006
First-Generation	2	.16	.17	.843	.000
Race X First-Generation	12	.75	.83	.624	.007
Error	1359	.91			

Split File Mean Scores on Campus Climate for Diversity, Race and First-Generation

Table 4.12 indicates the mean scores and standard deviations through a split file analysis by race on first-generation status for all five measures identified in the *Campus Climate for Diversity* Dimension which included *Supportive of Diversity, Co-curricular Enhancement, Diverse Faculty, Administration and Staff, Diverse Student Body and Dealing with Discrimination*. The average responses are displayed for each group at the intersection of race

and first-generation status which allows for race within groups of first-generation status to be reviewed. The Likert scale used to measure each of the responses to these measures, included: score of 1 indicated Strongly Disagree; 2 indicated Disagree; 3 indicated Sometimes Disagree and Sometimes Agree; 4 indicated Agree; 5 indicated Strongly Agree; and 6 indicated Not Applicable. In reviewing only the mean scores, overall most individuals responded to these questions in the Agree, Sometimes Agree/Sometimes Disagree range. However, American Indian or Alaskan Native who are Not First-Generation indicated Strongly Agree on both measures of *Co-curricular Enhancement* (refers to: There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development) and *Dealing with Discrimination* (This institution has clear and effective procedures for dealing with discrimination.). The only group that indicated that they disagreed on any one of the measures were Native Hawaiian or Pacific Islanders who were also first-generation on the measure *Supportive of Diversity* (refers to: At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation). However the number of individuals for this group was 2 and therefore this small number is not generalizable which indicates that it cannot be determined that other individuals who self-identified in this group would respond in the same manner.

Table 4.12

Mean Scores and Standard Deviations for Measures of Campus Climate for Diversity Dimension Split File Race and First-Generation Status

Group	Supportive of Diversity		Co-curricular Enhancement		Diverse Faculty, Admin, Staff		Diverse Student Body		Dealing w/Discrimination	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Amer. Indian/Alaskan Native										
Not First-Generation	3.00	-	5.00		3.00		4.00		5.00	
First-Generation	4.00	.76	3.38	1.19	3.88	1.46	4.13	.64	3.75	.89
Asian										
Not First-Generation	3.96	.82	3.85	1.05	4.15	1.08	4.27	.83	4.31	.97
First-Generation	3.92	.72	3.67	.64	3.83	1.05	4.17	.92	3.88	.85
Black or African American										
Not First-Generation	4.44	.73	4.44	1.01	4.11	1.05	4.33	1.12	4.44	.73
First-Generation	3.93	1.02	4.07	.94	3.75	1.08	4.04	1.11	4.36	1.10
Hispanic or Latino										
Not First-Generation	4.21	.93	4.07	1.18	4.09	1.14	4.50	.82	4.31	1.22
First-Generation	4.18	.91	3.97	1.08	4.11	.90	4.21	.83	4.19	1.16
Nat Hawa/Pacific Islander										
First-Generation	2.50	.71	4.50	.71	4.50	.71	4.50	.71	4.50	.71
White										
Not First-Generation	4.25	.84	3.92	1.08	4.09	.86	4.31	.78	4.21	1.11
First-Generation	4.24	.89	3.86	1.14	4.05	.94	4.30	.80	4.25	1.14
Other										
Not First-Generation	4.00	.87	3.24	1.09	3.94	1.14	4.06	.97	3.82	.95
First-Generation	3.50	1.51	3.58	1.62	3.83	1.70	4.33	1.07	4.33	1.50
Mixed Race										
Not First-Generation	4.10	.86	3.83	1.23	4.03	.94	4.10	1.01	4.17	1.31
First-Generation	4.27	.93	4.12	1.03	4.10	1.05	4.39	.95	4.45	1.26

Analysis Results: Sense of Belonging Dimensions

Research Question 2

To answer Research Question 2, Is there a difference in the perceptions of Sense of Belonging as reported by students from various racial backgrounds, six one-way ANOVAs were conducted as a function of the independent variable of race. This analysis included one separate ANOVA on each of the six measures (*Sense of Belonging at University, Caring and Helpful Staff, Institution Culture is Special, Recommend on Social Basis, Proud to be Part of Institution, Part of Campus Community*) identified for the *Sense of Belonging* dimension by race. A Kruskal-Wallis nonparametric test was conducted on the dependent variable *Recommend on an Academic Basis* because it was skewed.

Table 4.13d indicates a statistically significant difference in the *Sense of Belonging* dimension on all seven measures of: *Sense of Belonging to University*, $F(8, 1370) = 3.79$, $p = .000$; *Caring and Helpful Staff*, $F(8, 1373) = 2.27$, $p = .020$; *Recommend on Academic Basis*, $F(8, 1372) = 2.12$, $p = .032$; *Recommend on Social Basis*, $F(8, 1371) = 3.56$, $p = .000$; *Institution Culture is Special*, $F(8, 1371) = 3.73$, $p = .000$; *Proud to be Part of Institution*, $F(8, 1372) = 4.43$, $p = .000$; and *Part of the Campus Community*, $F(8, 1372) = 4.49$, $p = .000$.

Table 4.13a shows the means of measure *Sense of Belonging to University* (refers to: I feel a sense of belonging at this university) to be: Native Hawaiian/Pacific Islander mean score was 3.00(sometimes agree/sometimes disagree); the mean score for American Indian/Alaskan Native was 3.33(sometimes agree/sometimes disagree); the mean score for Other was 3.37; the mean score for White was 3.60 (sometimes agree/sometimes disagree); the mean score for Mixed Race was 3.76 (sometimes agree/sometimes disagree); for Asian was 3.80 (sometimes agree/sometimes disagree); for Hispanic/Latino is 3.82; and the highest mean found was for the responses gathered from Black/African American students, at 4.22 (agree). Black or African

American students who answered this question indicated they agreed with the statement, I feel a sense of belonging at this university.

Table 4.13a

Means and Standard Deviations of Sense of Belonging Dimension, Race on Sense of Belonging

		Sense of Belonging	
Race	*n*	*M*	*SD*
Not Answered	89	3.31	1.16
American Indian/Alaskan Native	9	3.33	1.00
Asian	51	3.80	.96
Black/African American	37	4.22	.98
Hispanic/Latino	261	3.82	1.13
Hawaiian/Pacific Islander	1	3.00	
White	822	3.60	1.11
Other	30	3.37	1.13
Mixed Race	79	3.76	1.08
Total	1379	3.65	1.11

Table 4.13b shows the means on the measure *Recommend on Social Basis* (refers to: I would recommend Xxx on a social and non-academic basis to a friend or family member) by race. In this table, mean scores between 3.0 and 3.99 indicate "sometimes agree or sometimes disagree" on the measure of *Recommend on Social Basis*. The race groups that indicated this response included Native Hawaiian/Pacific Islander mean score was 3.50, Other was 3.53; White was 3.75; and the mean score for Asian was 3.76. A means score between 4.0 and 4.99 indicates "agree" on the measure of *Recommend on Social Basis*. The race groups that indicated this response included: American Indian/Alaskan Native (4.00); Hispanic/Latino (4.06); Black/African American (4.08); and Mixed race (4.08). A statistical significance difference was found through the Post hoc Tukey HSD tests that indicated the Hispanic or Latino students (4.06 indicates agree) and the White students (3.75 indicates sometimes agree and sometimes disagree) differed significantly in their response to the item, Recommend on a social, non-academic basis to a friend or family member, with a small effect size (p = .009, d = .25). Hispanic students

agreed with this statement and would recommend the university on a social basis, whereas White students only sometimes agreed with it.

Table 4.13c indicates the mean scores for *Proud to be Part of Institution* (refers to: I am proud to be part of Xxx) by race. The Native Hawaiian/Pacific Islander group had a mean score of 3.50 which indicates sometimes agree and sometimes they disagreed with the statement, I am proud to be part of Xxx (Xxx refers to the name of the institution). All other race groups indicated they agreed (mean scores between 4.0 – 4.99 indicates agree) with this statement, to include: American Indian or Alaskan Native (4.00) ; Other (4.07); White (4.08); Asian (4.10); Mixed Race (4.27); Hispanic or Latino (4.33); and the highest mean score was for participants who self-identified as Black or African American students at 4.41(agree). Post hoc Tukey HSD tests indicated that Hispanic or Latino students and White students differed significantly in their response to the measure *Proud to be Part of Institution* with a small effect size ($p = .004$, $d = .26$). While both groups agreed with this statement, Hispanic/Latino students had a higher rate of agreement that they feel proud to be part of Xxx.

Table 4.13c indicates the mean scores for *Institution Culture is Special* (refers to: Xxx's culture is special - something you don't find just anywhere.) by race. Groups that indicated sometimes they agreed and sometimes they did not agree with this item had mean scores between 3.0 and 3.99. The race groups who indicated sometimes they agreed and sometimes they disagreed on this measure included: American Indian or Alaskan Native (3.11); Native Hawaiian or Pacific Islander (3.50); White (3.72); Other (3.73); Asian (3.76); and Mixed Race (3.94). The race groups who indicated they agreed with this statement included: Black/African American (4.00) and Hispanic/Latino (4.08). Post hoc Tukey HSD tests were conducted to determine the source of the statistical significance, and it was determined that Hispanic or Latina/o students

and White students differed significantly in their response to the measure *Institution Culture is Special* with a small effect size (p = .000, d = .32). Hispanic/Latino agreed with this statement and White students only sometimes agreed and sometimes disagreed that the culture of this institution was special.

The mean scores for the measure *Part of the Campus Community* (refers to: I see myself as part of the campus community) are displayed in Table 4.13c by race. All race groups had mean scores between 3.00 and 3.90, which indicated sometimes they agreed and sometimes they disagreed with the statement, I see myself as part of the campus community. The groups included: Other (3.00); American Indian/Alaskan Native (3.11); White (3.38); Asian (3.47); Hawaiian/Pacific Islander (3.50); Mixed Race (3.66); Hispanic/Latino (3.75); and Black/African American who had the highest mean score of 3.89. The Post hoc Tukey HSD tests indicated Hispanic/Latino students and White Students differed significantly in their response to the item of, I see myself as part of the campus community, with small effect size (p =.001, d = .30). Hispanic/Latino students and Other students differed significantly in their response to question, I see myself as part of the campus community, with a smaller than typical effect size (p = .037, d = .07).

A Kruskal-Wallis nonparametric test was conducted to determine whether significant differences existed between races on *Dealing with Discrimination* (refers to: This institution has clear and effective procedures for dealing with discrimination.). The nonparametric test was used because *Dealing with Discrimination* was positively skewed which indicates the distribution of scores were located to the right of the mean score (in the positive direction). There was no statistical significance (p =.727). Therefore the null hypothesis could not be rejected.

Table 4.13b

Means and Standard Deviations Comparing three Measures of Sense of Belonging Dimension

		Caring/Helpful Staff		Recommend Academic		Recommend on Social Basis	
Race	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Not Answered	89	3.65	.99	3.90	1.08	3.44	1.36
American Indian/Alaskan Native	9	3.78	.83	3.89	.78	4.00	1.50
Asian	51	3.92	.96	4.10	.81	3.76	1.05
Black/African American	37	4.14	.95	4.24	1.01	4.08	1.16
Hispanic/Latino	262	4.01	.86	4.26	.88	4.06	1.13
Hawaiian/Pacific Islander	2	3.50	.71	3.50	.71	3.50	.71
White	823	4.00	.85	4.17	.98	3.75	1.25
Other	30	3.83	.95	3.87	1.22	3.53	1.38
Mixed Race	79	4.10	.87	4.34	.86	4.08	1.25
Total	1382	3.98	.87	4.17	.96	3.81	1.24

Table 4.13c

Means and Standard Deviations Comparing three Measures in the Sense of Belonging Dimension Continued

		Culture Special		Proud to be Part institution		Part of Campus Community	
Race	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Not Answered	89	3.54	1.33	3.75	1.05	3.16	1.16
American Indian/Alaskan Native	9	3.11	1.36	4.00	.71	3.11	1.36
Asian	51	3.76	1.03	4.10	.83	3.47	1.16
Black/African American	37	4.00	1.11	4.41	.87	3.89	1.26
Hispanic/Latino	262	4.08	1.04	4.33	.91	3.75	1.20
Hawaiian/Pacific Islander	2	3.50	.71	3.50	.71	3.50	.71
White	822	3.72	1.17	4.08	.93	3.38	1.22
Other	30	3.73	1.36	4.07	1.20	3.00	1.29
Mixed Race	79	3.94	1.20	4.27	.80	3.66	1.25
Total	1380	3.80	1.17	4.12	.94	3.46	1.23

Table 4.13d

One-Way Analysis of Variance Summary Comparing Race and Sense of Belonging Dimension of Sense of Belonging to University, Caring and Helpful Staff, Recommend on Academic Basis, Recommend on Social Basis, Institution Culture is Special, Proud to be Part of Institution, and Part of Campus Community

Source	*df*	*SS*	*MS*	*F*	*p*
Sense of Belonging to University					
Between groups	8	36.94	4.62	3.79	**.000
Within groups	1370	1671.19	1.22		
Total	1378	1708.13			
Caring and helpful staff					
Between groups	8	13.78	1.72	2.27	*.020
Within groups	1373	1040.61	.76		
Total	1381	1054.39			
Recommend on academic basis					
Between groups	8	15.62	1.95	2.12	*.032
Within groups	1372	1266.07	.92		
Total	1380	1281.69			
Recommend on social basis					
Between groups	8	42.97	5.37	3.56	**.000
Within groups	1371	2068.04	1.51		
Total	1379	2111.01			
Institution culture is special					
Between groups	8	39.87	4.98	3.73	**.000
Within groups	1371	1830.51	1.34		
Total	1379	1870.37			
Proud to be part of institution					
Between groups	8	30.60	3.83	4.43	**.000
Within groups	1372	1183.72	.86		
Total	1380	1214.32			
Part of campus community					
Between groups	8	53.04	6.63	4.49	**.000
Within groups	1372	2025.82	1.48		
Total	1380	2078.86			

Note.* $p < .05$, ** $p < .01$ statistical significant.

Research Question 2A

Sense of Belonging at University, Race and Gender Identity

Seven one-way ANOVAs were conducted on the measure *Sense of Belonging to University* (refers to: I feel a sense of belonging at this university) through a split file analysis by race on first-generation status. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed. However, "ANOVA is robust and can be used when the dependent data is approximately normally distributed" (Morgan et al., 2011, p. 164). Assumptions of homogeneity of variances also were checked through the Levine's test. However, the Levine's test could not be conducted on Native Hawaiian/ Pacific Islander because fewer than two groups responded to this statement. A statistical significance was found on the Levine's test for participants that self-identified as American Indian/Alaskan Native (p = .005) and Black/African American, (p = .007) and therefore the assumption of equal variances was violated. The Levine's test was not significant on Black/African American, Hispanic/Latino, White, Other, or Mixed Race; therefore, the assumption of equal variances was not violated for these race groups.

Table 4.14a indicates a statistical significance for Asian students on the measure *Sense of Belonging to University*, $F(3, 47) = 3.41$, p =.025 and for Black/African American students, $F(2, 34) = 3.75$, p = .034. Therefore, further evaluation of these two groups is shown in Table 4.20a, which indicates the mean scores for Asian students split file by gender identity groups on the measure *Sense of Belonging to University*, to include: Asian Man 3.96 (sometimes disagree/sometimes agree); Asian Woman 3.57 (sometimes disagree/sometimes agree); Asian Non-binary 5.00 (agree); and Asian Gender Identity not Listed 6.00 (strongly agree). Additionally, Black or African American students split by gender identity on this measure

included: Black or African American Man 4.00 (agree); Black or African American Woman 4.43(agree); and Black or African American Gender Non-binary 2.00 (disagree).

To determine the source of the statistical significance, a Post hoc Tukey LSD test for Asian students and the Games-Howell Post hoc Test for Black/African American students could not be conducted for either group because at least one of the gender identity groups within each race had fewer than two cases and could not be analyzed.

Table 4.14a

ANOVA Sense of Belonging Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.05	.05	.04	.840
Within groups	7	7.95	1.14		
Total	8	8.00			
Asian					
Between groups	3	8.23	2.74	3.41	*.025
Within groups	47	37.81	.80		
Total	50	46.04			
Black or African American					
Between groups	2	6.19	3.10	3.75	*.034
Within groups	34	28.08	.83		
Total	36	34.27			
Hispanic/Latino					
Between groups	1	1.83	1.83	1.44	.232
Within groups	259	329.35	1.27		
Total	260	331.17			
White					
Between groups	4	7.63	1.91	1.56	.183
Within groups	815	996.97	1.22		
Total	819	1004.60			
Other					
Between groups	2	2.71	1.36	1.07	.357
Within groups	27	34.25	1.27		
Total	29	36.97			
Mixed Race					
Between groups	3	1.31	.44	.37	.777
Within groups	75	89.12	1.19		
Total	78	90.43			

Note. $p < .05$ statistical significance.

To assess whether race and gender identity each seem to have an effect on the measure *Sense of Belonging to University* (refers to: I feel a sense of belonging at this university) and if the effects of race depended upon *Sense of Belonging to University* and whether the individual

was Man, Woman, Non-binary, Gender not listed (i.e., on the interaction of race with gender identity) a Factorial ANOVA was conducted. Table 4.14b shows the mean scores and standard deviations for *Sense of Belonging to University* for race groups separated within each race by gender identity. Table 4.14c shows no significant interaction between race and gender identity on *Sense of Belonging to University* (p = .277). However, a significant main effect of race was noted on *Sense of Belonging to University*, F (8, 1350) = 2.09, p = .034. Eta for race was .11 which is a smaller than typical effect size. This significant finding by race was also previously identified in the one-way ANOVA conducted on this measure by Race. There was not a significant main effect of gender identity on *Sense of Belonging to University* (p = .466).

Table 4.14b

Means, Standard Deviations, and n for Sense of Belonging at University as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.25	1.50	5	3.40	.54										9	3.33	1.00
Asian	21	3.95	.87	28	3.57	.92	1	5.00		1	6.00					51	3.80	.96
Black	15	4.07	1.16	21	4.43	.68	1	2.00								37	4.22	.98
Hispanic	81	3.69	1.15	180	3.87	1.12										261	3.82	1.13
Hawaiian	1	3.00														1	3.00	
White	254	3.59	1.14	540	3.63	1.09	13	3.08	1.12	4	3.00	.82	9	3.11	1.36	820	3.60	1.11
Other	17	3.59	1.28	11	3.18	.87				2	2.50	.71				30	3.37	1.13
Mix. Race	24	3.83	1.17	50	3.76	1.06	3	3.67	.58				2	3.00	1.41	79	3.76	1.08
Total	435	3.64	1.15	876	3.69	1.09	17	3.22	1.11	7	3.29	1.38	41	3.07	1.10	1377	3.65	1.11

Table 4.14c

Analysis of Variance for Sense of Belonging at University as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	2.53	2.09	*.034	.012
Gender Identity	4	1.09	.90	.466	.003
Race x Gender Identity	14	1.44	1.19	.277	.012
Error	1350	1.22			

Note.* $p < .05$ statistical significance.

Caring and Helpful Staff, Race and Gender Identity

Eight one-way ANOVAs were conducted on the measure *Caring and Helpful Staff* (refers to: The staff are caring and helpful.) split file by race on gender identity. Assumptions were checked and met. However, no statistical significance was found on the ANOVA on *Caring and Helpful Staff* through the analysis of split file by race on gender identity.

To assess whether race and gender identity each seem to have an effect on the measure of *Caring and Helpful Staff* and if the effects of race on this measure depended on whether the person was Man, Woman, Non-binary, Gender not listed (i.e., on the interaction of Race with Gender Identity) a Factorial ANOVA was conducted. Table 4.15a shows the mean scores and standard deviations for *Caring and Helpful Staff* for gender identity and race groups. Table 4.15b shows that there was not a significant interaction between race and gender identity on *Caring and Helpful Staff* (p = .341). There was, however, a significant main effect of race on *Caring and Helpful Staff*, F (8, 1352) = 2.01, p = .042 and the magnitude of the difference or Eta for race was approximately .11 which is a medium effect size. There was not a significant main effect of gender identity on *Caring and Helpful Staff* (p = .880).

Table 4.15a

Means, Standard Deviations, and n for Caring and Helpful Staff as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.75	.957	5	3.80	.837										9	3.78	.833
Asian	21	4.00	.949	28	3.75	.887	1	5.00		1	6.00					51	3.92	.956
Black	15	4.07	1.223	21	4.19	.750	1	4.00								37	4.14	.948
Hispanic	81	3.99	.873	181	4.02	.859										262	4.01	.862
Hawaiian	1	3.00		1	4.00											2	3.50	.707
White	255	4.06	.856	540	3.98	.839	13	3.77	.927	4	3.50	1.291	9	3.89	.928	821	4.00	.849
Other	17	3.94	1.088	11	3.73	.786				2	3.50	.707				30	3.83	.950
Mix. Race	24	4.13	.850	50	4.14	.833	3	3.33	1.528				2	4.00	1.414	79	4.10	.871
Total	436	4.02	.893	78	3.99	.843	18	3.78	1.003	7	3.86	1.345	41	3.54	1.075	1380	3.98	.874

Table 4.15b

Analysis of Variance for Caring and Helpful Staff as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.53	2.01	*.042	.012
Gender Identity	4	.23	.30	.880	.001
Race x Gender Identity	15	.84	1.11	.341	.012
Error	1352	.76			

Note.* $p < .05$ statistical significance.

Institution Culture is Special, Race and Gender Identity

Eight one-way ANOVAs were conducted on the measure *Institution Culture is Special* (refers to: Xxx's culture is special - something you don't find just anywhere) through split file by race on gender identity. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed, therefore ANOVA was an appropriate analysis (Morgan et al., 2011). Assumptions of homogeneity of variances were checked through the Levine's test, which was significant on Black/African American (p =.006) and Mixed Race (p = .001). The Levine's test was not significant on American Indian/Native American, Asian, Hispanic/Latino, White, or Other, therefore the assumption of equal variances for these groups was not violated.

Table 4.16a indicates a statistical significance for White students on the measure *Institution Culture is Special*, $F(4, 814) = 3.04$, p =.017. Table 4.20b indicates the mean scores for White Students ranged from 3.51 to 3.81 revealing that White students sometimes agreed and sometimes disagreed to this statement. Specific mean scores included: White Men (3.51), White Women (3.81), White Non-binary (3.77), and White Gender Identity not listed (3.50). Post hoc Tukey HSD tests were conducted to determine the source of the difference between groups and indicated a significant mean difference between White Men, and White Women students, p = .005, d = .16, which is a smaller than typical effect size. A difference was noted between groups and the Null Hypothesis was rejected. The rejection of the Null Hypothesis indicated that, while both groups stated sometimes they agreed and sometimes they disagreed with the statement, Xxx's culture is special - something you don't find just anywhere, a difference was seen between White Men and White Women on their level of agreement which was not due to chance.

Table 4.16a

ANOVA Institution Culture is Special Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	2.69	2.69	1.54	.254
Within groups	7	12.20	1.74		
Total	8	14.89			
Asian					
Between groups	3	6.80	2.27	2.30	.090
Within groups	47	46.38	.99		
Total	50	53.18			
Black or African American					
Between groups	2	5.73	2.87	2.55	.093
Within groups	34	38.27	1.13		
Total	36	44.00			
Hispanic/Latino					
Between groups	1	.06	.06	.06	.817
Within groups	260	280.10	1.08		
Total	261	280.15			
White					
Between groups	4	16.37	4.09	3.04	*.017
Within groups	814	1097.04	1.35		
Total	818	113.41			
Other					
Between groups	2	7.43	3.71	2.16	.135
Within groups	27	46.44	1.72		
Total	29	53.87			
Mixed Race					
Between groups	3	8.14	2.71	1.95	.129
Within groups	75	104.55	1.39		
Total	78	112.68			

Note. *$p < .05$ statistical significance.

To assess whether race and gender identity each seem to have an effect on *Institution Culture is Special* (refers to: Xxx's culture is special - something you don't find just anywhere) and if the effects of Race on *Institution Culture is Special* depended upon whether the person is Man, Woman, Non-binary, Gender not listed (i.e., on the interaction of race with gender identity) a Factorial ANOVA was conducted. Table 4.16b shows the mean scores and standard deviations for *Institution Culture is Special* for race groups each separated by gender identity. Table 4.16c shows that there was not a significant interaction between race and gender identity on *Institution Culture is Special* (p = .077). There was, however, a significant main effect of race on *Institution Culture is Special*, $F(8, 1350) = 2.01$, p = .004. Eta for race was .13 on this measure which was a smaller than typical effect size. There was not a significant main effect of gender identity on *Institution Culture is Special* (p = .108).

Table 4.16b

Means, Standard Deviations, and n for Institution Culture is Special as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	2.50	1.73	5	3.60	.89										9	3.11	1.36
Asian	21	3.67	.86	28	3.71	1.08		5.00			6.00					51	3.76	1.03
Black	15	3.60	1.40	21	4.33	.73	1	3.00								37	4.00	1.11
Hispanic	81	4.06	.98	181	4.09	1.06										262	4.08	1.04
Hawaiian	1	3.00		1	4.00											2	3.50	.71
White	255	3.51	1.21	538	3.82	1.14	13	3.62	1.19	4	3.75	.96	9	3.67	1.32	819	3.72	1.17
Other	17	3.71	1.26	11	4.09	1.45				2	2.00	.00				30	3.73	1.36
Mix. Race	24	3.50	1.53	50	4.18	1.00	3	3.67	.58				2	3.50	.71	79	3.94	1.20
Total	436	3.61	1.21	876	3.92	1.12	18	3.67	1.09	7	3.57	1.51	41	3.20	1.15	1378	3.79	1.17

Table 4.16c

Analysis of Variance for Institution Culture is Special as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	3.69	2.83	*.004	.016
Gender Identity	4	2.48	1.90	.108	.006
Race x Gender Identity	15	2.04	1.56	.077	.017
Error	1350	1.31			

Note. **$p < .01$ statistical significance.

Proud to be Part of Institution, Race and Gender Identity

Eight One Way ANOVAs were conducted on *Proud to be Part of Institution* (refers to: I am proud to be part of Xxx) through split file by race on gender identity. Assumptions were checked and met. There was no statistical significance found on the ANOVA on *Proud to be Part of Institution* through the analysis of split file by race on gender identity.

To assess whether race and gender identity each seem to have an effect on the measure *Proud to be Part of Institution* and if the effects of race on this measure depended on whether the person was Man, Woman, Non-binary, Gender not listed (i.e., on the interaction of race with gender identity) a Factorial ANOVA was conducted. Table 4.17a shows the means, and standard deviations for the measure *Proud to be Part of Institution* for race groups each separated within by gender identity. Table 4.17b shows no significant interaction between race and gender identity on *Proud to be Part of Institution* (p = .077). There was, however, a significant main effect of race on *Proud to be Part of Institution*, F (8, 1350) = 2.01, p = .004. ETA for race was .14 which was a smaller than typical effect size. There was not a significant main effect of gender identity on *Proud to be Part of Institution* (p = .108).

Table 4.17a

Means, Standard Deviations, and n for Proud to be Part of Institution as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.75	.96	5	4.20	.45										9	4.00	.71
Asian	21	4.05	.74	28	4.04	.84	1	5.00		1	6.00					51	4.10	.83
Black	15	4.07	1.10	21	4.67	.58	1	4.00								37	4.41	.87
Hispanic	81	4.41	.92	181	4.29	.91										262	4.33	.91
Hawaiian	1	3.00		1	4.00											2	3.50	.71
White	255	4.00	.99	539	4.13	.89	13	4.00	1.16	4	3.50	.58	9	3.56	1.24	820	4.08	.93
Other	17	4.18	1.19	11	4.18	1.17				2	2.50	.71				30	4.07	1.20
Mix. Race	24	4.38	.77	50	4.24	.80	3	4.00	1.00				2	4.00	1.41	79	4.27	.80
Total	436	4.08	1.00	877	4.17	.89	18	4.06	1.06	7	3.57	1.27	41	3.66	1.02	1379	4.12	.94

Table 4.17b

Analysis of Variance for Proud to be Part of Institution as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	2.79	3.26	**.001	.019
Gender Identity	4	.70	.82	.513	.002
Race x Gender Identity	15	1.36	1.59	.069	.017
Error	1351	.86			

Part of Campus Community as a Function of Race and Gender Identity

Eight One-Way ANOVAs were conducted on the measure *Part of Campus Community* (refers to: I see myself as part of the campus community) through split file by race on gender identity. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed which determined the ANOVAs were an appropriate analysis to conduct (Morgan et al., 2011). Assumptions of homogeneity of variances were also checked through the Levine's test and determined not significant. Therefore the assumption of equal variances for these groups was not violated.

Table 4.18a indicates a statistical significance identified for White students and gender identity on the measure *Part of Campus Community*, F (4, 816) = 2.42, p = .047. Table 4.20b indicates the mean scores for this group to be: White Men was 3.33(sometimes agree/sometimes disagree); White Women was 3.43(sometimes agree/sometimes disagree); White Non-binary was 2.77(disagree); and White Gender Identity not listed was 2.75 (disagree). Post Hoc Tukey HSD tests indicated no significant mean difference within the White group separated by gender identity groups. Therefore, the null hypothesis could not be rejected. This indicated the agreement rates do not differ among White Men, White Women, White Gender Non-binary, and White Gender Identity not listed on the statement, I see myself as part of the campus community.

Table 4.18a

ANOVA Part of Campus Community Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.94	.94	.47	.515
Within groups	7	13.95	1.99		
Total	8	14.89			
Asian					
Between groups	3	9.18	3.06	2.50	.071
Within groups	47	57.52	1.22		
Total	50	66.71			
Black or African American					
Between groups	2	4.89	2.44	1.59	.219
Within groups	33	50.67	1.54		
Total	35	55.56			
Hispanic/Latino					
Between groups	1	.08	.08	.06	.815
Within groups	260	372.80	1.43		
Total	261	372.87			
White					
Between groups	4	14.35	3.59	2.42	*.047
Within groups	816	1210.60	1.48		
Total	820	1224.95			
Other					
Between groups	2	6.33	3.17	2.05	.148
Within groups	27	41.67	1.54		
Total	29	48.00			
Mixed Race					
Between groups	3	5.93	1.98	1.27	.288
Within groups	75	115.85	1.55		
Total	78	121.77			

Note. *$p < .05$ statistical significance.

To assess whether race and gender identity each seemed to have an effect on *Part of Campus Community* (refers to: I feel a sense of belonging at this university) and if the effects of race on *Part of Campus Community* depend on whether the person was Man, Woman, Gender Non-Binary, Gender not listed (i.e., on the interaction of race with gender identity) a Factorial ANOVA was conducted. Table 4.18b shows the means, and standard deviations for the measure *Part of Campus Community* disaggregated by race groups each separated by gender identity within the race group. Table 4.18c shows no significant interaction between race and gender identity on *Part of Campus Community* (p = .181). There was, however, a significant main effect of race on *Part of Campus Community*, $F(8, 1350) = 3.05$, $p = .002$. Eta for race was .13 which was a smaller than typical effect size. However, there was not a significant main effect of gender identity on *Part of Campus Community* (p = .113).

Table 4.18b

Means, Standard Deviations, and n for Part of Campus Community as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	2.75	1.71	5	3.40	1.14										9	3.11	1.36
Asian	21	3.33	1.11	28	3.43	1.10	1	5.00		1	6.00					51	3.47	1.16
Black	14	3.71	1.49	21	4.10	1.04	1	2.00								36	3.89	1.26
Hispanic	81	3.78	1.14	181	3.74	1.22										262	3.75	1.20
Hawaiian	1	3.00		1	4.00											2	3.50	.71
White	255	3.34	1.23	540	3.43	1.21	13	2.77	1.30	4	2.75	.50	9	2.56	1.33	821	3.38	1.22
Other	17	3.29	1.36	11	2.82	1.08				2	1.50	.71				30	3.00	1.29
Mix. Race	24	3.79	1.25	50	3.66	1.22	3	3.67	1.53				2	2.00	1.41	79	3.66	1.25
Total	435	3.44	1.24	878	3.51	1.21	18	3.00	1.37	7	2.86	1.57	41	2.83	1.14	1379	3.46	1.23

Table 4.18c

Analysis of Variance for Part of Campus Community as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	4.47	3.05	**.002	.018
Gender Identity	4	2.74	1.87	.113	.006
Race x Gender Identity	15	1.94	1.32	.181	.014
Error	1351	1.47			

Note. ** $p < .01$ statistical significance.

Recommend on Social Basis, Race and Gender Identity

Eight one-way ANOVAs were conducted on the measure *Recommend on Social Basis* (refers to: I would recommend Xxx on a social and non-academic basis to a friend or family member) through split file by race on gender identity. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed. Assumptions of homogeneity of variances were checked through the Levine's test and was determined significant on Black/African American (p =.003) which indicates the assumption of equal variance was violated. The Levine's test was not significant on American Indian/ Native American, Asian, Hispanic/Latino, White, Mixed Race, or Other, therefore the assumption of equal variances for these groups was not violated.

Table 4.19a indicates a statistical significance for Black/African American students on *Recommend on Social Basis*, F (2, 34) = 7.26, p = .002. Table 4.20a indicates the mean scores for Black/African American students to include: Black or African American Men was 3.64 (sometimes agree/sometimes disagree); Black or African American Women was 4.48 (agree) and Black or African American Non-binary was 1.00 (strongly disagree). The Post hoc Games-Howelll test could not be conducted to determine if there was statistical significant difference between groups because at least one group (Black/African American Non-binary) had fewer than two respondents.

Table 4.19a

ANOVA Recommend on Social Basis Split File by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	1.8	1.80	.78	.407
Within groups	7	16.20	2.31		
Total	8	18.00			
Asian					
Between groups	3	6.97	2.33	2.27	.093
Within groups	47	48.20	1.03		
Total	50	55.18			
Black or African American					
Between groups	2	14.59	7.29	7.26	**.002
Within groups	34	34.17	1.01		
Total	36	48.76			
Hispanic/Latino					
Between groups	1	.02	.02	.02	.901
Within groups	260	335.00	1.29		
Total	261	335.02			
White					
Between groups	4	12.65	3.16	2.05	.086
Within groups	815	1259.08	1.55		
Total	819	1271.73			
Other					
Between groups	2	2.30	1.15	.59	.564
Within groups	27	53.16	1.97		
Total	29	55.47			
Mixed Race					
Between groups	3	1.26	.42	.26	.852
Within groups	75	120.28	1.60		
Total	78	121.54			

Note. $^{**}p < .01$ statistical significance.

To assess whether race and gender identity each seem to have an effect on *Recommend on a Social Basis* (refers to: I would recommend Xxx on a social and non-academic basis to a friend or family member) and if the effects of race on the measure *of Recommend on Social Basis* depend upon whether the person was Man, Woman, Non-binary, Gender not listed (i.e., on the interaction of race with gender identity) a Factorial ANOVA was conducted. Table 4.19b shows the means, and standard deviations for *Recommend on Social Basis* disaggregated by race groups separated by gender identity within each race group. Table 4.19c shows no significant interaction between race and gender identity on *Recommend on a Social Basis* (p = .244). There was, however, a significant main effect of race on *Recommend on a Social Basis*, $F(8, 1350) = 2.21$, $p = .025$. Eta for race was .11 which was a smaller than typical effect size. There was also not a significant main effect of gender identity on *Recommend on a Social Basis* (p = .221).

Table 4.19b

Means, Standard Deviations, and n for Recommend on a Social Basis as a Function of Race and Gender Identity

	Man			Woman			Non-Binary			Gender not Listed			Decline			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	4	3.50	1.92	5	4.40	1.14										9	4.00	1.50
Asian	21	3.62	.92	28	3.75	1.08	1	5.00		1	6.00					51	3.76	1.05
Black	15	3.73	1.34	21	4.48	.68	1	1.00								37	4.08	1.16
Hispanic	81	4.07	1.03	181	4.06	1.18										262	4.06	1.13
Hawaiian	1	3.00		1	4.00											2	3.50	.71
White	255	3.78	1.24	539	3.76	1.24	13	3.15	1.14	4	2.50	1.29	9	3.33	1.73	820	3.75	1.25
Other	17	3.59	1.50	11	3.64	1.29				2	2.50	.71				30	3.53	1.38
Mix. Race	24	4.08	1.21	50	4.12	1.30	3	3.67	1.16				2	3.50	.71	79	4.08	1.25
Total	435	3.82	1.22	877	3.85	1.23	18	3.22	1.26	7	3.00	1.63	41	3.22	1.39	1371	3.81	1.24

Table 4.19c

Analysis of Variance for Recommend on a Social Basis as a Function of Race and Gender Identity

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	3.31	2.21	*.025	.013
Gender Identity	4	2.14	1.43	.221	.004
Race x Gender Identity	15	1.84	1.23	.244	.013
Error	1350	1.50			

Note.*$p < .05$ statistical significance.

Split File Comparison of Mean Scores, Race and Gender Identity

Table 4.20a and 4.20b indicate the mean scores and standard deviations through a split file analysis by race on gender identity for all seven measures identified in the *Sense of Belonging* Dimension which included: *Sense of Belonging to University, Caring and Helpful, Recommend on Academic Basis, Recommend on Social Basis, Proud to be Part of Institution, Institution Culture is Special, and Part of Campus Community*. The average responses are displayed for each group at the intersection of race and gender identity, which allows for the subpopulations of race by gender identity to be reviewed. The Likert scale used to measure each of the responses to these measures included: score of 1 indicated Strongly Disagree, score of 2 indicated Disagree, score of 3 indicated Sometimes Disagree and Sometimes Agree, score of 4 indicated Agree, score of 5 indicated Strongly Disagree, and score of 6 indicated Not Applicable. In reviewing only the mean scores, overall most individuals responded to these questions in the Agree, Sometimes Agree/Sometimes Disagree range. However, Native American or Alaskan Native Men responded that they disagreed (mean score of 2.75) to the measure, *Part of Campus Community* (refers to: I see myself as part of the campus community.). Additionally, individuals who self-identified as White, Gender Non-Binary (mean score of 2.77) and White, Gender Identity not listed (mean score of 2.75) also disagreed with this same measure and, therefore, did not see themselves as part of the campus community. White, Gender Identity not listed also disagreed (mean score of 2.50) with the measure *Recommend on a Social Basis* (refers to: I would recommend Xxx on a social and non-academic basis to a friend or family member).

Table 4.20a

Mean Scores and Standard Deviations for Measures of Sense of Belonging Dimension as a Function of Race and Gender Identity

Group	Sense of Belonging		Caring & Helpful		Recommend Academic		Recommend Social		Proud to be Part of Inst.		Culture Special		Part Campus Community	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
American Indian/Alaskan Native														
Man	3.25	1.50	3.75	.96	3.75	.96	3.50	1.92	3.75	.96	2.50	1.73	2.75	1.71
Woman	3.40	.55	3.80	.84	4.00	.71	4.40	1.14	4.20	.45	3.60	.89	3.40	1.14
Asian														
Man	3.96	.87	4.00	.95	4.05	.81	3.62	.92	4.05	.74	3.67	.86	3.33	1.11
Woman	3.57	.92	3.75	.89	4.04	.74	3.75	1.08	4.04	.84	3.71	1.08	3.43	1.10
Non-Binary	5.00	-	5.00	-	5.00	-	5.00	-	5.00	-	5.00	-	5.00	-
Identity Not Listed	6.00	-	6.00	-	6.00	-	6.00	-	6.00	-	6.00	-	6.00	-
Black/African American														
Man	4.00	1.18	4.00	1.24	3.79	1.31	3.64	1.34	4.00	1.11	3.50	1.40	3.70	1.49
Woman	4.43	.68	4.19	7.50	4.57	.60	4.48	.68	4.67	.58	4.33	.73	4.10	1.04
Non-Binary	2.00	-	4.00	-	3.00	-	1.00	-	4.00	-	3.00	-	2.00	-
Hispanic or Latino														
Man	3.69	1.15	3.99	.87	4.17	.89	4.07	1.03	4.41	.92	4.06	.98	3.78	1.14
Woman	3.87	1.12	4.02	.86	4.29	.88	4.06	1.18	4.29	.91	4.09	1.07	3.74	1.23
Nat.Hawaiian/Pacific Isl														
Man	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-

Table 4.20b

Mean Scores and Standard Deviations for Measures of Sense of Belonging Dimension as a Function of Gender Identity Continued

	Sense of Belonging		Caring & Helpful		Recommend Academic		Recommend Social		Proud to be Part of Inst.		Culture Special		Part Campus Community	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White														
Man	3.59	1.14	4.06	8.58	4.11	1.04	3.78	1.24	4.00	.99	3.51	1.21	3.33	1.23
Woman	3.63	1.09	3.98	.84	4.21	.94	3.76	1.24	4.13	.89	3.82	1.14	3.43	1.21
Non-Binary	3.08	1.12	3.77	.93	3.85	1.07	3.15	1.14	4.00	1.16	3.62	1.19	2.77	1.30
Identity Not Listed	3.00	.816	3.50	1.29	4.25	.96	2.50	1.29	3.50	.58	3.75	.96	2.75	.50
Decline to Answer	3.11	1.36	3.89	.93	3.44	1.51	3.33	1.73	3.56	1.24	3.67	1.32	2.56	1.33
Other														
Man	3.59	1.28	3.94	1.09	3.88	1.43	3.59	1.50	4.18	1.19	3.71	1.26	3.29	1.36
Woman	3.18	.87	3.73	.79	3.91	.94	3.64	1.29	4.18	1.17	4.09	1.45	2.82	1.08
Identity Not Listed	2.50	.71	3.50	.71	3.50	.71	2.50	.71	2.50	.71	2.00	.00	1.50	.71
Mixed Race														
Man	3.83	1.17	4.13	.85	4.33	.87	4.08	1.21	4.38	.77	3.50	1.53	3.79	1.25
Woman	3.76	1.06	4.14	.83	4.44	.79	4.12	1.30	4.24	.80	4.18	1.00	3.66	1.22
Non-Binary	3.67	.58	3.33	1.53	3.33	1.53	3.67	1.16	4.00	1.00	3.67	.58	3.67	1.53
Decline to Answer	3.00	1.41	4.00	1.41	3.50	.71	3.50	.71	4.00	1.41	3.50	.71	2.00	1.41

Research Question 2B

Sense of Belonging to University, Race and First-Generation Status

Seven One-Way ANOVAs were conducted on the measure *Sense of Belonging to University* (refers to: I feel a sense of belonging at this university) through a split file analysis by race on first-generation status. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed. "ANOVA is robust and can be used when the dependent data is approximately normally distributed" (Morgan, Leech, Gloeckner & Barrett, 2011, p. 164), therefore analyzing data through ANOVAs was determined to be appropriate. Assumptions of homogeneity of variances were checked through the Levine's test which could not be conducted on Native Hawaiian/ Pacific Islander because there were fewer than two groups on the dependent variable, *Sense of Belonging to University*. A statistical significance was found on the Levine's test for participants who self-identified as American Indian/Alaskan Native (p = .005) and Black/African American (p = .007); therefore, the assumption of equal variances was violated. However, assumptions of equal variances were not violated on American Indian/Alaskan Native, Black/African American, Hispanic/Latino, White, Other, and Mixed Race.

Table 4.21a indicates a statistical significance for Asian students on *Sense of Belonging to University*, $F(3, 47) = 3.41$, p =.025 and Black/African American students, $F(2, 34) = 3.75$, p = .034. Table 4.27 indicates the split file analysis of the mean scores of Asian students on *Sense of Belonging to University* to include: Asian not First-Generation was 3.88 (sometimes agree/sometimes disagree); and Asian First-Generation 3.75(sometimes agree/sometimes disagree). The mean scores of Black or African American Not First-Generation indicated 4.13(agree), and Black or African American First-Generation mean score was 4.21(agree).

A Post hoc Tukey LSD test on Asian students to determine the source of the statistical significance difference within the population of Asian first-generation and Asian not first-generation indicated no difference. Also a Games-Howell Post Hoc test conducted for Black/African American students to determine the within population difference of means also did not identify the source of the difference between Black/African American first-generation and Black/African American not first-generation. Therefore the null hypothesis could not be rejected because the source of the difference within racial groups was not determined.

Table 4.21a

ANOVA Split Case Sense of Belonging at University by Race on Gender Identity

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.05	.05	.04	.840
Within groups	7	7.95	1.14		
Total	8	8.00			
Asian					
Between groups	3	8.23	2.74	3.41	*.025
Within groups	47	37.81	.80		
Total	50	46.04			
Black or African American					
Between groups	2	6.19	3.10	3.75	*.034
Within groups	34	28.08	.83		
Total	36	34.27			
Hispanic/Latino					
Between groups	1	1.83	1.83	1.44	.232
Within groups	259	329.35	1.27		
Total	260	331.17			
White					
Between groups	4	7.63	1.91	1.56	.183
Within groups	815	996.97	1.22		
Total	819	1004.60			
Other					
Between groups	2	2.71	1.36	1.07	.357
Within groups	27	34.25	1.27		
Total	29	36.97			
Mixed Race					
Between groups	3	1.31	.44	.37	.777
Within groups	75	89.12	1.19		
Total	78	90.43			

Note. *p < .05 statistical significance.

To assess whether race and first-generation status each seem to have an effect on *Sense of Belonging to University* (refers to: I feel a sense of belonging at this university) and if the effects of race on this measure depend on whether the person was first-generation or not first-generation

(i.e., on the interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.21b shows the mean scores and standard deviations for *Sense of Belonging to University* for first-generation status and not first-generation status by race groups. Table 4.21c shows no significant interaction between race and first-generation status on *Sense of Belonging to University* (p = .793). There was, however, a significant main effect of race on *Sense of Belonging to University*, $F(8, 1356) = 2.09$, p = .034. Eta for race is .11 which is a smaller than typical effect size. There was not a significant main effect of first-generation status on *Sense of Belonging to University* (p = .277).

Table 4.21b

Means, Standard Deviations, and n for Sense of Belonging to University as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	2.00		8	3.50	.93				9	3.33	1.00
Asian	26	3.88	1.03	24	3.75	.90	1	3.00		51	3.80	.96
Black	9	4.22	1.09	28	4.21	.96				37	4.22	.98
Hispanic	58	3.93	1.18	200	3.80	1.10	3	3.00	2.00	261	3.82	1.13
Hawaiian				1	3.00					1	3.00	
White	469	3.57	1.07	348	3.65	1.16	5	3.40	.55	822	3.60	1.11
Other	17	3.35	1.17	12	3.50	1.09	1	2.00		30	3.37	1.13
Mix. Race	29	3.59	1.09	49	3.84	1.07	1	5.00		79	3.76	1.08
Total	643	3.60	1.09	729	3.70	1.13	15	3.20	1.21	1379	3.65	1.11

Table 4.21c

Analysis of Variance for Sense of Belonging at University as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	2.55	2.09	*.034	.012
First-Generation	2	1.57	1.29	.277	.002
Race x First-Generation	12	.80	.66	.793	.006
Error	1356	1.22			

Note.* p < .05 statistical significance.

Caring and Helpful Staff, Race and First-Generation Status

Seven One-Way ANOVAs were ran on the measure *Caring and Helpful Staff* (refers to: The staff are caring and helpful) through split file analysis by race on first-generation status. Assumptions were checked: all observations were independent. Normal distribution was checked and some groups were approximately normally distributed. Assumptions of homogeneity of variances were checked through the Levine's test which could not be conducted on American Indian/Alaskan Native because only one group had computed variance, and on Native Hawaiian/Pacific Islander because no one that self-identified in the racial group answered this question. The Levine's test was not significant on Asian, Black/African American, Hispanic/Latino, White, Other, or Mixed Race; therefore, the assumption of equal variances was not violated for these groups.

Table 4.22a indicates a statistical significance for White students on *Caring and Helpful Staff*, $F(2, 820) = 3.69$, $p = .025$. Table 4.27 indicates the mean scores for White Students on *Caring and Helpful Staff* to be: White Not First-Generation was 3.82 (sometimes agree/sometimes disagree) and White First-Generation was 3.83 (sometimes agree/sometimes disagree). Post Hoc Tukey HSD tests indicated no significant mean difference between White, first-generation students and White, not first-generation students. Therefore the null hypothesis could not be rejected. Not rejecting the null indicated there was no difference between the levels of agreement responses of White, first-generation students and White, not first-generation students on the statement, The Staff are caring and helpful. First-generation status was not a variable that had a relationship with how White students responded to this question.

Table 4.22a

ANOVA Caring and Helpful Staff Split File by Race on First-Generation

Source	*df*	*SS*	*MS*	*F*	*p*
American Indian/Alaskan Native					
Between groups	1	.68	.68	.98	.356
Within groups	7	4.88	.70		
Total	8	5.56			
Asian					
Between groups	2	1.88	.94	1.03	.364
Within groups	48	43.80	.91		
Total	50	45.69			
Black or African American					
Between groups	1	.09	.09	.10	.756
Within groups	35	32.23	.92		
Total	36	32.32			
Hispanic/Latino					
Between groups	2	.28	.14	.19	.829
Within groups	259	193.70	.75		
Total	261	193.99			
White					
Between groups	2	5.27	2.63	3.69	*.025
Within groups	820	585.73	.71		
Total	822	591.00			
Other					
Between groups	2	.03	.02	.02	.985
Within groups	27	26.14	.97		
Total	29	26.17			
Mixed Race					
Between groups	2	.84	.42	.55	.582
Within groups	76	58.35	.77		
Total	78	59.19			

Note. * $p < .05$ statistical significance.

To assess whether race and first-generation status each seem to have an effect on *Caring and Helpful Staff* (refers to: The staff are caring and helpful) and if the effects of race on this measure depend on whether the person was first-generation or not first-generation (i.e., on the

interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.22b shows the mean scores and standard deviations for *Caring and Helpful Staff* for first-generation status and not first-generations status by race groups. Table 4.22c shows no significant interaction between race and first-generation status on *Caring and Helpful Staff* (p = .581). There was also not a significant main effect of race on *Caring and Helpful Staff* (p = .316) and there was not a significant main effect of first-generation status on *Caring and Helpful Staff* (p = .964).

Table 4.22b

Means, Standard Deviations, and n for Caring and Helpful Staff as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	3.00		8	3.88	.84				9	3.78	.83
Asian	26	4.08	1.09	24	3.79	.78	1	3.00		51	3.92	.96
Black	9	4.22	.83	28	4.11	.94				37	4.14	.95
Hispanic	58	4.07	.97	201	3.99	.83	3	4.00	1.00	262	4.01	.86
Hawaiian				2	3.50	.71				2	3.50	.71
White	470	4.05	.81	348	3.95	.89	5	3.20	.45	823	4.00	.85
Other	17	3.82	1.07	12	3.83	.84	1	4.00		30	3.83	.95
Mix. Race	29	4.07	.96	49	4.10	.82	1	5.00		79	4.10	.87
Total	644	4.02	.88	723	3.94	.87	15	3.80	.86	1382	3.98	.87

Table 4.22c

Analysis of Variance for Caring and Helpful Staff as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	.89	1.17	.316	.007
First-Generation	2	.03	.04	.964	.000
Race x First-Generation	12	.66	.87	.581	.008
Error	1359	.76			

Institution Culture is Special, Race and First-Generation Status

Eight one-way ANOVAs were conducted on *Institution Culture is Special* (refers to: Xxx's culture is special - something you don't find just anywhere.) through split file by race on first-generation status. Assumptions were checked and met. No statistical significance was found on the ANOVA on the measure of *Institution Culture is Special* through the analysis of split file by race on first-generation status; consequently, no further follow-up analysis was conducted.

To assess whether race and first-generation status each seem to have an effect on the measure of *Institution Culture is Special* and if the effects of race on this measure depended on whether the person was first-generation or not first-generation (i.e., on the interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.23a shows the means, standard deviations for *Institution Culture is Special* disaggregated by race groups each also separated within by first-generation status and not first-generations status. Table 4.23b shows there was not a significant interaction between race and first-generation status on *Institution Culture is Special* (p = .128). There was not a significant main effect of race on *Institution Culture is Special* (p = .277). There was, however, a significant main effect of first-generation status on *Institution Culture is Special*, $F(8, 1357) = 3.49$, p = .031. Eta for first-generation status is .07 which was a smaller than typical effect size.

Table 4.23a

Means, Standard Deviations, and n for Institution Culture is Special as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	1.00		8	3.38	1.19				9	3.11	1.36
Asian	26	3.69	1.12	24	3.88	.95	1	3.00		51	3.76	1.03
Black	9	4.11	1.36	28	3.96	1.04				37	4.00	1.11
Hispanic	58	4.05	1.05	201	4.10	1.03	3	3.33	1.53	262	4.08	1.04
Hawaiian				2	3.50	.71				2	3.50	.71
White	469	3.69	1.13	347	3.77	1.22	5	3.20	.45	821	3.72	1.17
Other	17	3.29	1.21	12	4.33	1.44	1	4.00		30	3.73	1.36
Mix. Race	29	3.59	1.35	49	4.12	1.07	1	5.00		79	3.94	1.20
Total	643	3.71	1.15	722	3.88	1.18	15	3.40	.99	1380	3.80	1.17

Table 4.23b

Analysis of Variance for Institution Culture is Special as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	2.09	1.58	.128	.009
First-Generation	2	4.63	3.49	*.031	.005
Race x First-Generation	12	1.79	1.34	.187	.012
Error	1357	1.33			

Note.* $p < .05$ statistical significance.

Proud to be Part of Institution, Race and First-Generation Status

Eight One Way ANOVAs were conducted on the measure of *Proud to be Part of Institution* (refers to: I am proud to be part of Xxx.) through split file by race on first-generation status. Assumptions were checked and met. There was no statistical significance found on the ANOVAs, consequently no follow-tests were conducted.

To assess whether race and first-generation status each seem to have an effect on the measure of *Proud to be Part of Institution* and if the effects of race on this measure depended on whether the person was first-generation or not first-generation (i.e., on the interaction of race

with first-generation status) a Factorial ANOVA was conducted. Table 4.24a shows the means, and standard deviations for the measure of *Proud to be Part of Institution*, for first-generation status and not first-generation status within race groups. Table 4.24b shows no significant interaction between race and first-generation status on *Proud to be Part of Institution* (p = .880). There was also not a significant main effect of race on *Proud to be Part of Institution* (p = .241) and there was not a significant main effect of first-generation status on *Proud to be Part of Institution* (p = .219).

Table 4.24a

Means, Standard Deviations, and n for Proud to be Part of Institution as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	3.00		8	2.13	.64				9	4.00	.71
Asian	26	4.12	.91	24	4.13	.74	1	3.00		51	4.10	.83
Black	9	4.22	1.09	28	4.46	.79				37	4.41	.87
Hispanic	58	4.29	.94	201	4.34	.90	3	4.00	1.00	262	4.33	.91
Hawaiian				2	3.50	.71				2	3.50	.71
White	470	4.08	.91	347	4.07	.97	5	3.80	.84	822	4.08	.93
Other	17	3.94	1.09	12	4.25	1.42	1	4.00		30	4.07	1.20
Mix. Race	29	4.07	.80	49	4.37	.78	1	5.00		79	4.27	.80
Total	644	4.08	.92	722	4.16	.96	15	3.87	.83	1381	4.12	.94

Table 4.24b

Analysis of Variance for Proud to be Part of Institution as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.12	1.30	.241	.008
First-Generation	2	1.32	1.52	.219	.002
Race x First-Generation	12	.48	.55	.880	.005
Error	1358	.87			

Part of Campus Community, Race and First-Generation Status

Eight One Way ANOVAs were conducted on the measure *Part of Campus Community* (refers to: I see myself as part of the campus community.) through split file by race on first-generation status. Assumptions were checked and met. No statistical significance was found on the ANOVA on *Part of Campus Community* through the analysis of split file by race on first-generation status.

To assess whether race and first-generation status each seem to have an effect on the measure, *Part of Campus Community* and if the effects of race on *Part of Campus Community* depend on whether the person is first-generation or not first-generation (i.e., on the interaction of race with first-generation status) a Factorial ANOVA was conducted. Table 4.25a shows the means, and standard deviations for *Part of Campus Community* for first-generation status and not first-generation status within each race group. Table 4.25b shows no significant interaction between race and first-generation status on *Part of Campus Community* (p = .593). There was also not a significant main effect of race on *Part of Campus Community* (p = .114) and there was not a significant main effect of first-generation status on *Part of Campus Community* (p = .121).

Table 4.25a

Means, Standard Deviations, and n for Part of Campus Community as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	1.00		8	3.38	1.19				9	3.11	1.36
Asian	26	3.38	1.24	24	3.58	1.10	1	3.00		51	3.47	1.16
Black	8	3.88	1.36	28	3.89	1.26				36	3.89	1.26
Hispanic	58	3.74	1.33	201	3.77	1.15	3	3.00	2.00	262	3.75	1.20
Hawaiian				2	3.50	.71				2	3.50	.71
White	470	3.38	1.18	348	3.38	1.28	5	3.20	.45	823	3.38	1.22
Other	17	2.94	1.25	12	3.08	1.44	1	3.00		30	3.00	1.29
Mix. Race	29	3.28	1.13	49	3.86	1.28	1	5.00		79	3.66	1.25
Total	643	3.39	1.20	723	3.52	1.25	15	3.13	1.25	1381	3.46	1.23

Table 4.25b

Analysis of Variance for Part of Campus Community as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	2.40	1.62	.114	.009
First-Generation	2	3.13	2.12	.121	.003
Race x First-Generation	12	1.27	.86	.593	.008
Error	1358	1.48			

Recommend on Social Basis, Race and First-Generation Status

Eight One Way ANOVAs were conducted on the measure *Recommend on Social Basis* (refers to: I would recommend Xxx on a social and non-academic basis to a friend or family member) through split file by race on first-generation status. Assumptions were checked and met. There was no statistical significance found on the ANOVAs, as a result, no further analysis were conducted.

To assess whether race and first-generation status each seem to have an effect on the measure *Recommend on Social Basis* and if the effects of race on *Recommend on Social Basis* depended on whether the person is first-generation or not first-generation (i.e., on the interaction

of race with first-generation status) a Factorial ANOVA was conducted. Table 4.26a shows the means, and standard deviations for *Recommend on Social Basis* for first-generation status and not first-generation status within race groups. Table 4.26b shows that there was not a significant interaction between race and first-generation status on *Recommend on Social Basis* (p = .947). There was also not a significant main effect of race on *Recommend on Social Basis* (p = .525) and there was not a significant main effect of first-generation status on *Recommend on Social Basis* (p = .906).

Table 4.26a

Means, Standard Deviations, and n for Recommend on Social Basis as a Function of Race and First-Generation Status

	Not First-Generation			First-Generation			Didn't Answer			Total		
Race	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Am. Ind	1	5.00		8	3.88	1.55				9	4.00	1.50
Asian	26	3.69	1.16	24	3.88	.95		3.00		51	3.76	1.05
Black	9	4.11	1.05	28	4.07	1.22				37	4.08	1.16
Hispanic	58	4.03	1.20	201	4.08	1.11	3	3.33	1.53	262	4.06	1.13
Hawaiian				2	3.50	.71				2	3.50	.71
White	469	3.74	1.22	348	3.75	1.29	5	3.80	.45	822	3.75	1.25
Other	17	3.29	1.26	12	3.92	1.56	1	3.00		30	3.53	1.38
Mix. Race	29	3.93	1.36	49	4.14	1.19	1	5.00		79	4.08	1.25
Total	642	3.76	1.23	723	3.86	1.25	15	3.60	.91	1380	3.81	1.24

Table 4.26b

Analysis of Variance for Recommend on Social Basis as a Function of Race and First-Generation Status

Variable and Source	*df*	*MS*	*F*	*p*	η^2
Race	8	1.35	.89	.525	.005
First-Generation	2	.15	.10	.906	.000
Race x First-Generation	12	.67	.44	.947	.004
Error	1357	1.52			

Split File Mean Scores, Race, First-Generation Status and Sense of Belonging

Table 4.27 indicates the mean scores and standard deviations through a split file analysis by first-generation status for all seven measures identified in the *Sense of Belonging* dimension that included: *Sense of Belonging to University, Caring and Helpful, Recommend on Academic Basis, Recommend on Social Basis, Proud to be Part of Institution, Institution Culture is Special, and Part of the Campus Community*. The average responses are displayed for each group at the intersection of race and first-generation status, which allows for each race group to be separated within by first-generation status. The Likert scale used to measure each of the responses to these measures included: score of 1 indicated Strongly Disagree, score of 2 indicated Disagree, score of 3 indicated Sometimes Disagree and Sometimes Agree, score of 4 indicated Agree, score of 5 indicated Strongly Disagree, and score of 6 indicated Not Applicable. In reviewing only the mean scores, overall most individuals responded to these measures in the Agree and Sometimes Agree/Sometimes Disagree range (scores range between 3 through 4.5). However Native American or Alaskan Native, Not First-Generation disagreed (mean score of 2.00) on the *Sense of Belonging to University* measure (refers to: I feel a sense of belonging at this university), and strongly disagreed (mean score of 1.00) on the measure of *Institution Culture is Special* (refers to: Xxx's culture is special - something you don't find just anywhere) and the measure of *Part of Campus Community* (refers to: I see myself as part of the campus community) The *n* for this group, Not First-Generation, American Indian/Alaskan Native was small or equal to 1; therefore, their responses were not generalizable to the overall population of American Indian/Alaskan Native students.

Table 4.27

Mean Scores and Standard Deviations for Measures of Sense of Belonging Dimension Split File Race and First-Generation Status

	Sense of Belonging		Caring & Helpful		Recommend Academic		Recommend Social		Proud to be Part of Inst.		Institution Culture		Part Campus	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Amer. Ind./Alaskan Native														
Not First-Generation	2.00	-	3.00		3.00		5.00		3.00		1.00		1.00	
First-Generation	3.50	.93	3.88	.84	4.00	.76	3.88	1.55	4.13	.64	3.38	1.19	3.38	1.19
Asian														
Not First-Generation	3.88	1.03	4.08	1.09	4.08	.85	3.69	1.16	4.12	.91	3.69	1.12	3.38	1.24
First-Generation	3.75	.90	3.79	.78	4.17	.76	3.88	.95	4.13	.74	3.88	.95	3.58	1.10
Black or African American														
Not First-Generation	4.13	1.13	4.13	.84	4.00	1.07	4.00	1.07	4.13	1.13	4.00	1.41	3.88	1.36
First-Generation	4.21	.96	4.11	.99	4.29	1.01	4.07	1.22	4.46	.79	3.96	1.04	3.89	1.26
Hispanic or Latino														
Not First-Generation	3.93	1.18	4.07	.97	4.24	.84	4.03	1.20	4.29	.94	4.05	1.05	3.74	1.33
First-Generation	3.80	1.10	3.99	.83	4.27	.89	4.08	1.11	4.35	.91	4.11	1.03	3.77	1.15
Native Hawaiian/Pacific Isla														
First-Generation	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-	3.00	-
White														
Not First-Generation	3.57	1.07	4.05	.81	4.20	.93	3.75	1.22	4.09	.91	3.69	1.13	3.38	1.19
First-Generation	3.64	1.16	3.94	.89	4.13	1.05	3.74	1.29	4.07	.97	3.77	1.22	3.37	1.28
Other														
Not First-Generation	3.35	1.17	3.82	1.07	3.71	1.21	3.29	1.26	3.94	1.09	3.29	1.21	2.94	1.25
First-Generation	3.50	1.09	3.83	.84	4.17	1.27	3.92	1.56	4.25	1.42	4.33	1.44	3.08	1.44
Mixed Race														
Not First-Generation	3.59	1.09	4.07	.96	4.14	.83	3.93	1.36	4.07	.79	3.59	1.35	3.28	1.13
First-Generation	3.84	1.07	4.10	.82	4.45	.87	4.14	1.19	4.37	.78	4.12	1.07	3.86	1.28

Research Question 3

In order to evaluate the data to determine Research Question 3, Can we predict Sense of Belonging from perceptions of the Campus Climate for Diversity, a simple linear regression was conducted. Use of the linear regression analysis was used to investigate the extent to which Campus *Climate for Diversity* predicted *Sense of Belonging* to the institution students attend. The results were statistically significant, $F(1, 1380) = 611.46$, $p = .000$. This indicated that the campus climate for diversity can predict the sense of belonging of the individuals who attend this higher education institution. The identified equation to understand this relationship was, *Belonging* variable = 1.1 + .67 x Diversity variable. The adjusted R^2 value was .307. This indicated that 31% of the variance of the *Belonging* variable was explained by the scores of the *Diversity* variable. According to Cohen (1988), "this is a large effect size" (cited in Morgan et al., 2011, p. 140).

Table 4.28

Simple Regression Analysis for Diversity Variable Predicting Belonging Variable

Variable	*B*	*SE B*	β	*t*	*p*
Diversity Dimension	.67	.03	.55	24.73	* .000

Note. $R^2 = .307$, F (1, 1380) = 611.46, *p < .001.

Summary of Results

Research Question 1

Is there a difference in the perceptions of the *Campus Climate for Diversity* from the perspective of students from various racial backgrounds?

The *Campus Climate for Diversity* dimension included five measures: *Supportive of Diversity; Co-curricular Enhancement; Diverse Student Body; Diverse Faculty, Administration and Staff; and Dealing with Discrimination*. ANOVAs were conducted by race to determine if a

significant difference existed on the four measures of: *Supportive of Diversity; Co-curricular Enhancement; Diverse Study Body; and Diverse Faculty, Administration and Staff.* A Kruskal-Wallis nonparametric test on the *Dealing with Discrimination* measure was also conducted by race to determine difference. A statistically significant difference was found among race on the two measures of *Supportive of Diversity*, $F(8, 1373) = 2.74$, $p = .005$ and *Co-Curricular Enhancement*, $F(8, 1371) = 1.97$, $p = .047$. However, when analyzed further to determine the source of the difference between racial groups through the Post-hoc Tukey HSD test, it indicated there was no statistical significance between race groups on both measures.

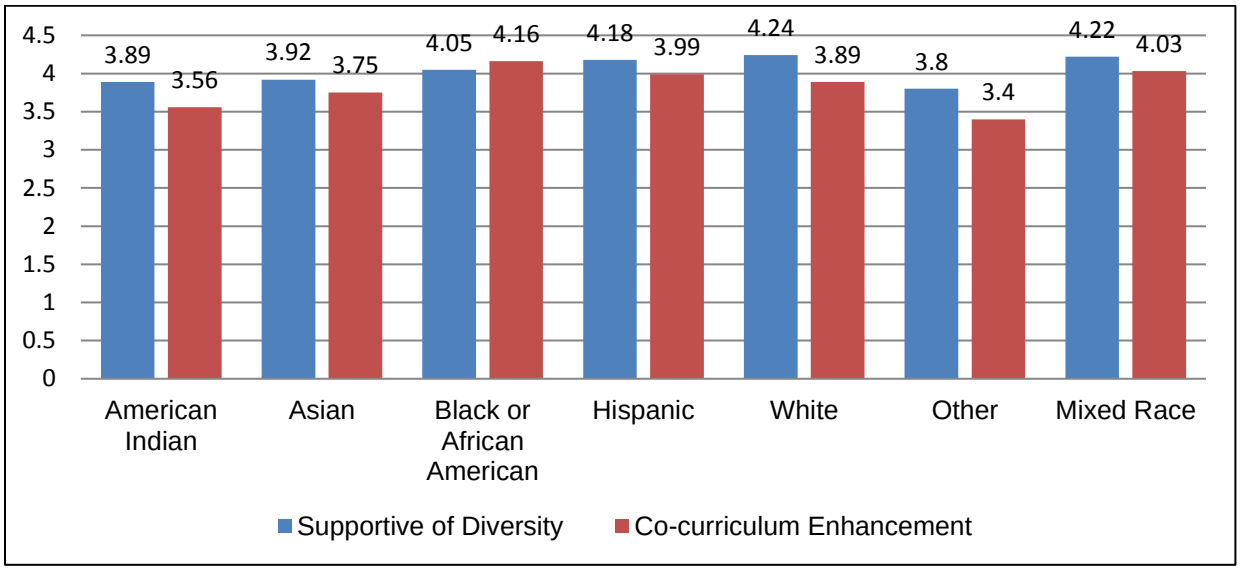

Figure 1. Mean Scores Comparison by Race for Supportive of Diversity and Co-curriculum Enhancement

Figure 1 shows the mean scores on the level of agreement for each of the race group response to these two measures. All scores were positive for all races on both of these measures. Scores between 3.0 and 3.9 indicate sometimes agree and sometimes disagree; whereas scores ranging from 4.0 to 4.24 indicate agree for both of these measures.

Research Question 1A

Are these reported perceptions of the Campus Climate for Diversity different at the intersection of race and gender identity?

The one-way ANOVAs were conducted through a split file analysis by race on gender identity on the four measures of *Supportive of Diversity; Co-curricular Enhancement; Diverse Student Body; and Diverse Faculty, Administration, and Staff* by race. There was also a split file analysis conducted on Kruskal-Wallis nonparametric test on the *Dealing with Discrimination* measure. When this measure was analyzed by race disaggregated by gender identity, it identified a statistical significance for Asian students on *Supported of Diversity*, $F(3, 47) = 2.87$, $p = .046$; however, the Post hoc Tukey test indicated no statistical significance; therefore, the source of the difference within the group (Asian Man, Asian Woman, Asian Gender Non-binary, Asian Gender Identity not listed, and Asian Decline to answer) could not be determined. Also there was a statistical significance for Asian students on the measure of *Co-Curricular Enhancement*, $F(3, 47) = 3.12$, $p = .035$, but the source of the within group difference (race separated by gender identity) also could not be determined. Also a statistical significance for Black/African American students and gender identity was found on *Diverse Student Body*, $F(2, 34) = 4.68$, $p = .016$; but the source of the within group difference (Black/African American Man, Black African American Woman, Black/African American Gender Non-binary, Black/African American Gender Identity not listed, and Black/African American Decline to answer) could not be identified through the Games-Howell post Hoc test.

The two-way Analysis of Variance (Factorial ANOVA) was conducted on the four measures of the *Campus Climate for Diversity* dimension indicated no significant interaction between race and gender identity on: *Supportive of Diversity* ($p = .810$); *Co-Curricular*

Enhancement (p = .806); *Diverse Student Body* (p = .125); and *Diverse Faculty, Administration and Staff* (p = .562).

Research Question 1B

Are these reported perceptions of the *Campus Climate for Diversity* different at the intersection of race and first-generation status?

The ANOVAs conducted by a split file analysis by race on first-generation status on the four measures of *Supportive of Diversity; Co-Curricular Enhancement; Diverse Study Body; and Diverse Faculty, Administration and Staff* by race and the split file analysis on Kruskal-Wallis nonparametric test ran on the *Dealing with Discrimination* measure on race by first-generation status, indicated a statistical significance for Asian students on *Co-Curricular Enhancement*, $F(3, 47) = 3.12$, $p = .035$, but the Post hoc Tukey test could not be conducted to determine the source of the difference within the group of Asian students (Asian first-generation status and Asian not first-generation status). There also was a statistical significant difference for White students on *Diverse Student Body*, $F(2, 820) = 4.87$, $p = .008$; however when the Post hoc Tukey test was conducted to determine the source of this difference, it indicated there was not a significant mean difference within the group of White first-generation and White not first-generation students.

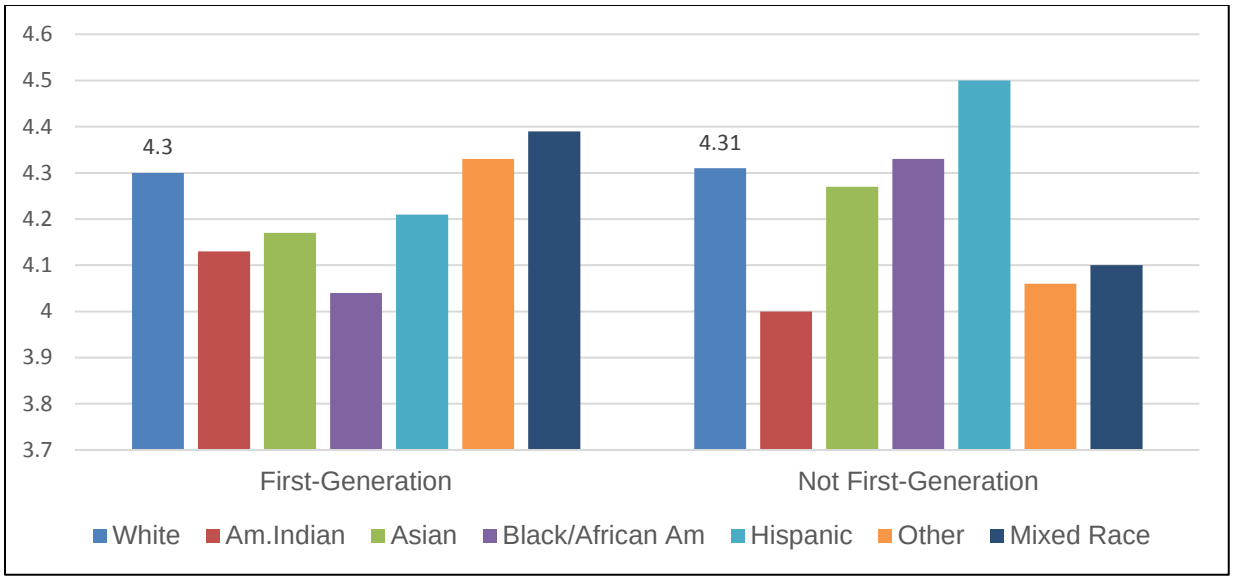

Figure 2. Mean Scores by First-Generation Status by Race on Diverse Student Body

Figure 2 illustrates a comparison of the mean scores on the level of agreement responses for each of the race groups disaggregated by first-generation status on the measure, *Diverse Student Body*. On this measure, the responses provided by White students loaded as statistically significant; however in determining the source of the difference within this group (White first-generation vs. White not first-generation) through the Post hoc Tukey test did not load as statistically significant. The scores for all race groups disaggregated by first-generation status were positive on this measure. Scores between 3.0 and 3.9 indicate sometimes agree and sometimes disagree; whereas scores ranging from 4.0 to 4.24 indicate agree for both of these measures.

The two-way ANOVAs conducted on the four measures of the *Campus Climate for Diversity* dimension as a function of race and first-generation status indicated there was not a significant interaction between race and first-generation status on *Supportive of Diversity* (p = .258); *Co-Curricular Enhancement* (p = .730), *Diverse Student Body* (p = .219); and *Diverse Faculty, Administration and Staff* (p = .624).

Research Question 2

Is there a difference in the perceptions of *Sense of Belonging* as reported by students from various racial backgrounds?

The *Sense of Belonging* dimension included seven measures of: *Sense of Belonging to University; Caring and Helpful Staff; Institution Culture is Special; Recommend on Social Basis; Recommend on Academic Basis; Proud to be Part of Institution; and Part of Campus Community*. The one-way Analysis of Variance (ANOVA) conducted on each of the six measures by race of: *Sense of Belonging at University, Caring and Helpful Staff, Institution Culture is Special, Recommend on Social Basis, Proud to be Part of Institution, and Part of Campus Community* and the Kruskal-Wallis Nonparametric test conducted on the seventh measure, *Recommend on an Academic Basis*, indicated all seven measures had a statistical significance: *Sense of Belonging to University*, $F(8, 1370) = 3.79$, $p = .000$; *Caring and helpful staff*, $F(8, 1373) = 2.27$, $p = .020$; *Recommend on an Academic Basis*, $F(8, 1372) = 2.12$, $p = .032$; *Recommend on a Social Basis*, $F(8, 1371) = 3.56$, $p = .000$; *Institution Culture is Special*, $F(8, 1371) = 3.73$, $p = .000$; *Proud to be Part of Institution*, $F(8, 1372) = 4.43$, $p = .000$; and *Part of the Campus Community*, $F(8, 1372) = 4.49$, $p = .000$. (See Figure 3 for mean scores)

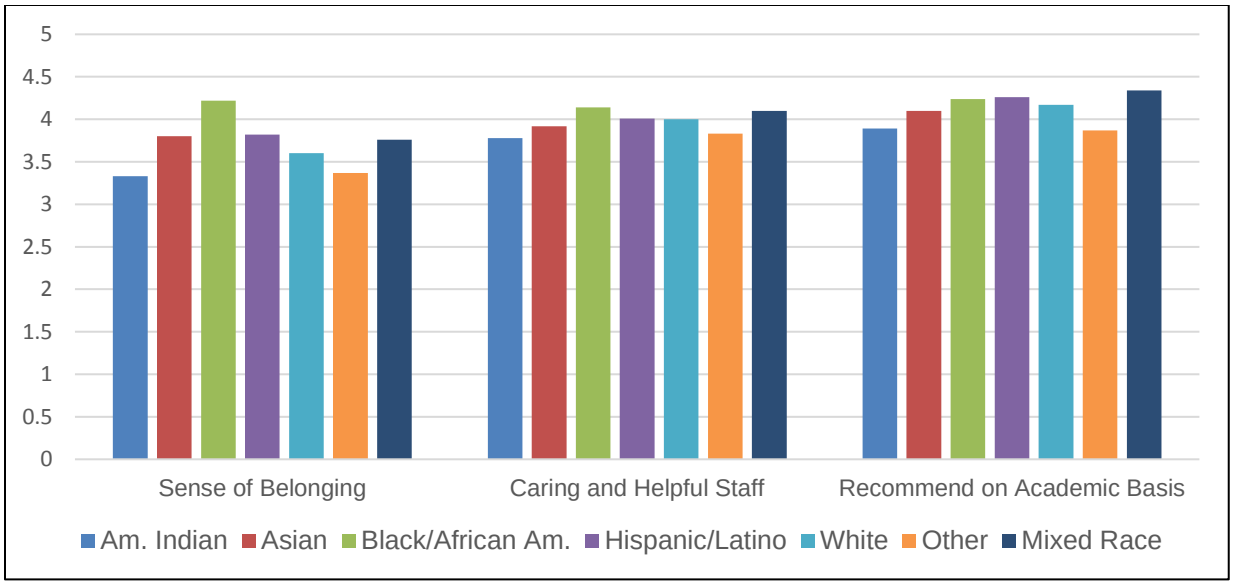

Figure 3. Mean Scores by Race on Sense of Belonging to University, Caring and Helpful Staff, Recommend on Academic Basis

Figure 3 illustrates the mean scores on the level of agreement response for each of the race groups on the measures, *Sense of Belonging to University*, *Caring and Helpful Staff*, and *Recommend on Academic Basis*. Although all three of these measures loaded significant when analyzed by race, the source of the difference through the Post hoc Tukey test did not load as statistically significant so the difference was not identified. The scores for all race groups were positive on all three measure. Scores between 3.0 and 3.9 indicate sometimes agree and sometimes disagree; whereas scores ranging from 4.0 to 4.24 indicate agree for these measures.

However, through Post hoc Tukey HSD tests the source of the difference between races were identified on the four remaining measures that also loaded significant by race in the *Sense of Belonging* dimension. There was a statistical significant difference identified between Hispanic/Latino students and White students in their responses to the measures, *Recommend on Social Basis*, *Institutional Culture is Special*, *Proud to be Part of Institution*, *Part of Campus Community* (see Figure 4 for mean scores difference). The magnitude of the difference determined between these two groups (Hispanic/Latino and White students) on all four measures

was a $d < 1$ which is a small effect size, indicating while there is a difference, the difference between the two groups is small (less than one standard deviation). Specific results include:

a) *Recommend on a Social Basis* was statistically significant with a small effect size (p = .009, d = .25). Hispanic students agreed with this statement and would recommend the university on a social basis; whereas, White students only sometimes agreed;

b) *Proud to be part of Institution* was statistically significant with a small effect size (p = .004, d = .26). Hispanic or Latino students and White students differed significantly in their response to the measure, Proud to be part of the institution. While both groups agreed with this statement, Hispanic/Latino students had a higher rate of agreement that they feel proud to be part of this University more than White students.

c) *Institution Culture is Special* was statistically significant with a small effect size (p = .000, d = .32). Hispanic or Latino Students and White students differed significantly in their response to the measure, Xxx's culture is special - something you don't find just anywhere. Hispanic or Latino students agreed with this statement and White students only sometimes agree and sometimes disagreed that the culture of this institution was special.

d) *Part of Campus Community* showed a statistically significant difference with a small effect size (p =.001, d = .30) among Hispanic/Latino and White Students. Hispanic/Latino students and White students differed significantly in their response to the measure, I see myself as part of the campus community with small effect size (p =.001, d = .30). Also, there was a statistical significance with a small effect size (p = .037, d = .07) between Hispanic/Latino students and students who identified as Other race.

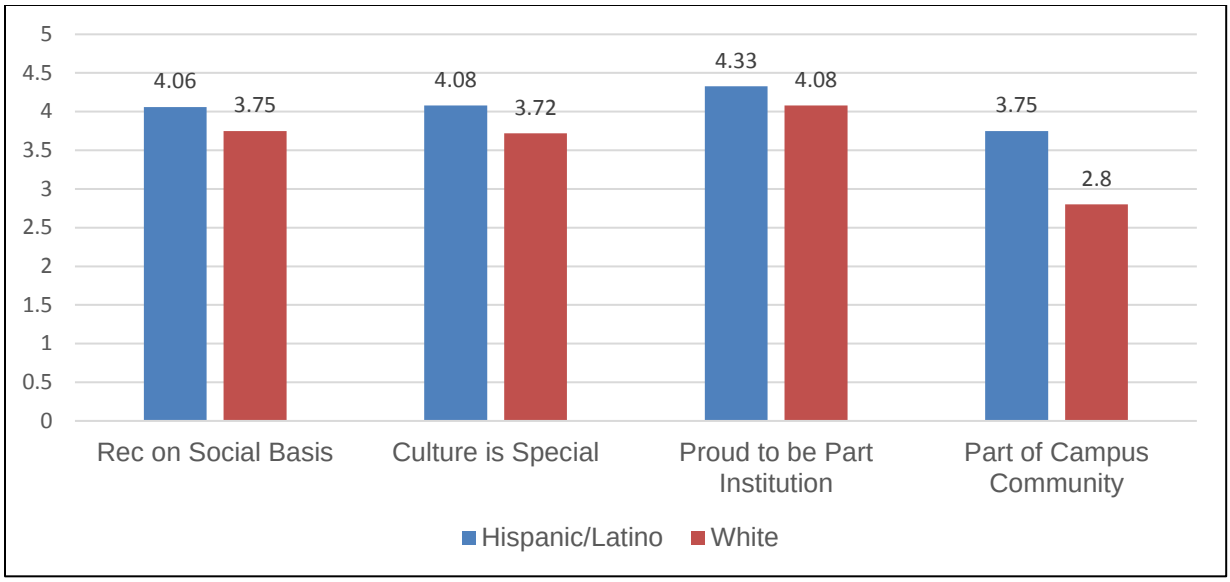

Figure 4. Mean Scores for Hispanic and White Students on Sense of Belonging Dimension Measures

Figure 4 illustrates the comparison of the mean scores on the level of agreement response for Hispanic/Latino students and White students on the measures, *Recommend on Academic Basis, Institution Culture is Special, Proud to be Part of Institution, and Part of Campus Community.* The scores for both race groups were positive on all four measures. Scores between 3.0 and 3.9 indicate sometimes agree and sometimes disagree; whereas scores ranging from 4.0 to 4.24 indicate agree for these measures.

Research Question 2A

Are these reported perceptions of Sense of Belonging different at the intersection of race and gender identity?

The ANOVA conducted through a split file analysis by race and gender identity on each of the six measures of *Sense of Belonging to University, Caring and Helpful, Institution Culture is Special, Proud to be Part of Institution, Part of Campus Community, Recommend on a Social Basis,* and the split file analysis on a Kruskal-Wallis nonparametric test ran on the seventh measure of *Recommend on Academic Basis* indicated a statistical significance for Asian students

on *Sense of Belonging to University*, $F(3, 47) = 3.41$, $p = .025$ and Black or African American students, $F(2, 34) = 3.75$, $p = .034$. However the source of the within group difference for race at the intersection of gender identity for Black/African American students (Black/African American Men, Black/African American Women, Black/African American Gender Non-Binary, and Black/African American Gender Identity not listed) could not be determined; the source of the difference within the group of Asian students (Asian Men, Asian Women, Asian Gender Non-Binary, and Gender Identity not Listed) also could not be determined.

A statistical significance also was seen for White students on the measure, *Institution Culture is Special*, $F(4, 814) = 3.04$, $p = .017$. This finding indicated that in comparison to all other racial groups, the individuals who self-identified as White responded differently to the question, Xxx's culture is special - something you don't find just anywhere. Post Hoc Tukey HSD tests indicated there was also significant mean difference within the White group disaggregated by gender identity: White Men (3.51 indicated sometimes agree and sometimes disagree), and White Women students (3.82 indicated a higher level of sometimes agree and sometimes disagree), $p = .005$, d = .16 which was a smaller than typical effect size. This indicated White Women agree more on the question of Xxx's culture is special - something you don't find just anywhere. The effect size $d < 1$ indicates the magnitude of the difference between these two groups (White Women and White Men) is small - less than one standard deviation apart.

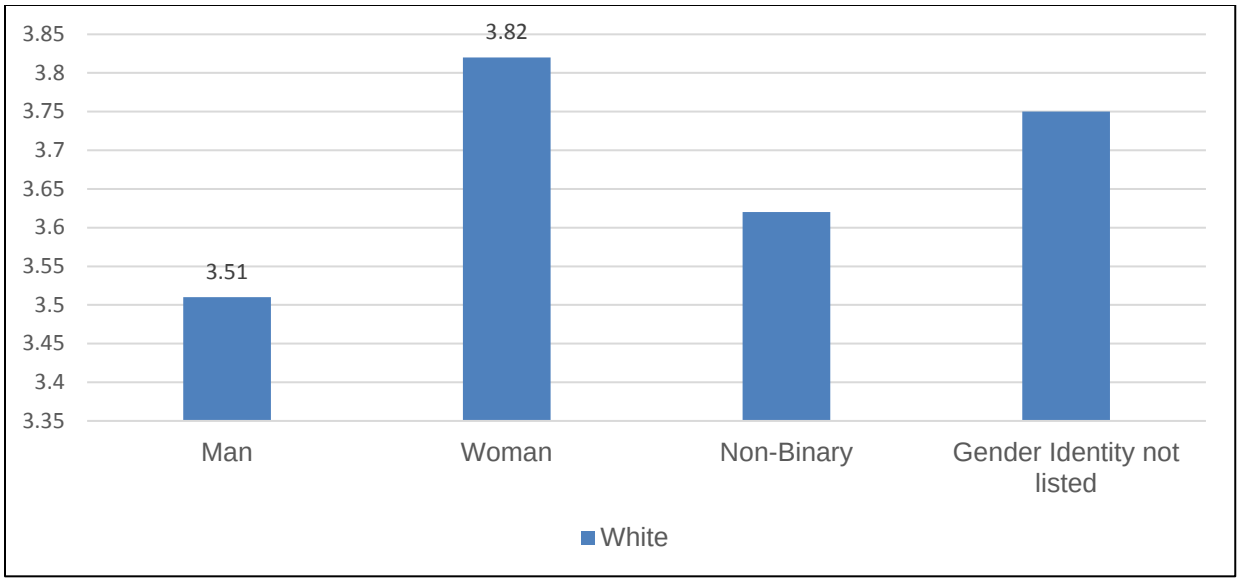

Figure 5. Means Scores by White Race on Gender Identity and Institution Culture is Special

Figure 5 illustrates the means scores of the responses provided by White students disaggregated by gender identity on the measure, *Institution Culture is Special*. The scores for all gender identity groups within race were all positive on this measure. Scores between 3.0 and 3.9 indicate sometimes agree and sometimes disagree; whereas scores ranging from 4.0 to 4.24 indicate agree for these measures.

A statistical significance was found on the race of White and gender identity on the measure, *Part of Campus Community*, F (4, 816) = 2.42, p = .047. The measure of, *Part of Campus Community* reflects the question of, I see myself as part of the campus community. This indicated a between racial group difference; the level of agreement reported for the White student population was different than all other races on this measure; however, Post hoc Tukey HSD tests indicated no significant mean difference within this group when disaggregated by gender identity (i.e., White Man, White Woman Students, White Non-binary students and White Gender Identity not listed students).

A statistical significance was found for Black/African American students on the measure of *Recommend on Social Basis*, F (2, 34) = 7.26, p = .002. Black/African American students responded differently in their level of agreement on this measure which indicates, I would recommend Xxx on a social and non-academic basis to a friend or family member. However, the Post hoc Tukey test could not determine the source of the within group difference when disaggregated by gender identity (Black/African American Men, Black/African American Women, Black/African American Gender Non-Binary, Black/African American Gender Not listed).

The two-way Analysis of Variance (Factorial ANOVA) conducted on the six measures of the *Sense of Belonging* dimension indicated there was not a significant interaction between race and gender identity on: *Sense of Belonging to University* (p = .277); *Caring and Helpful Staff* (p = .341); *Institution Culture is Special* (p = .077); *Proud to be Part of Institution* (p = .077); *Part of Campus Community* (p = .181); *Recommend on a Social Basis* (p = .244). The seventh measure, *Recommend on Academic Basis*, could not be run because it violated two of the assumptions.

Research Question 2B

Are these reported perceptions of Sense of Belonging different at the intersection of race and first-generation status?

ANOVAs were conducted through split file analysis by race and first-generation status on the six measures of *Sense of Belonging to University, Caring and Helpful, Institution Culture is Special, Proud to be Part of Institution, Part of Campus Community, Recommend on a Social Basis* and a split file analysis on a Kruskal-Wallis nonparametric test was conducted on the seventh measure, *Recommend on Academic Basis*. This analysis indicated there was a statistical

significance between racial groups on the *Sense of Belonging to University* measure which indicates, I feel a sense of belonging at this university. The statistical significant difference was between the Asian racial group, $F(3, 47) = 3.41$, $p = .025$ and Black or African American racial group, $F(2, 34) = 3.75$, $p = .034$ when disaggregated by first-generation status. However, post hoc tests could not determine the source of the difference within the Asian group or Black/African American group because the number in at least one of the groups was small and did not have sufficient power to generate significance when disaggregated by first-generation status.

There was also a statistical significance between racial groups on the measure of *Caring and Helpful Staff* (refers to: The staff are caring and helpful). The source of the difference between groups was found in the responses of the White racial group, $F(2, 820) = 3.69$, $p = .025$. However, Post hoc Tukey HSD tests indicated there was not a within group significant mean difference for White, first-generation students and White, not first-generation students on this measure.

The two-way Analysis of Variance (Factorial ANOVA) ran on the six measures of the *Sense of Belonging* dimension indicated no significant interaction between race and first-generation status on: *Sense of Belonging to University* ($p = .793$); *Caring and Helpful Staff* ($p = .581$); *Institution Culture is Special* ($p = .128$); *Proud to be Part of Institution* ($p = .880$); *Part of Campus Community* ($p = .593$); and *Recommend on Social Basis* ($p = .947$).

Research Question 3

Can we predict Sense of Belonging from perceptions of the Campus Climate for Diversity?

The linear regression conducted on the *Diversity* variable (created though a summated scale that included all five measures of the *Campus Climate for Diversity* Dimension) to investigate whether it can predict the *Belonging* variable (created through summated scale that includes all seven measures of the *Sense of Belonging* dimension) to the institution students attend, indicated statistical significance, F (1, 1380) = 611.46, p = .000. This indicated that the Campus Climate for Diversity can predict the Sense of Belonging of the individuals who attend this higher education institution. Therefore a formula was created to be used for future prediction.

Summary

This chapter reported the results from the many ways in which the data were analyzed through disaggregation by race, and then by race and gender identity and then by race and first-generation status on the measures identified in the *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension. This analysis also identified the measures that loaded with statistical significance at the p =.05, and p = .000 level indicating if the study was duplicated there is a 95% chance (at the p = .05) or 100% chance (at p = .000) the students at this one institution would respond in the same manner. Chapter 5 further demonstrates the results relevant to the research questions of this study through CRQI Framework interpretation.

CHAPTER 5: DISCUSSION AND CONCLUSION

This study was conducted to provide a deeper understanding on the way in which students experience campus climate and to determine whether significant differences exist in responses provided by students of various racial backgrounds to questions identified to measure *Campus Climate for Diversity* and *Sense of Belonging*. This study further validated the use of Critical Race Quantitative Intersectionality (CRQI) Framework for the field of education created by Covarrubias and Velez (2013). Guided through the use of CRQI, a quantitative intersectionality approach was employed; the data was disaggregated along the intersection of race, gender identity and first-generation status to investigate for differences not only between groups of students categorized by race but also within the racial groups shaped by their gender identity and first-generation status.

The data used for this study were gathered through the ModernThink LLC *Student Experience Survey* that was launched online spring of 2016 by the Diversity office. The survey measured the campus climate as felt by students who attended this one university that was considered to be diverse based on the demographic composition. The data used for the purpose of this study was secondary sourced data; the same data gathered through the efforts of the Diversity office were analyzed in a different manner. One-way ANOVAs were conducted by race for each of the measures that were identified to form the *Campus Climate for Diversity* and *Sense of Belonging* dimensions. Statistical significance was found on the *Campus Climate for Diversity* dimension on the two measures of *Supportive of Diversity and Co-curricular Enhancement*. Statistical significance also was found on all seven measures of the *Sense of Belonging* dimension: *Sense of Belonging to University, Caring and Helpful Staff, Recommend*

on Academic Basis, Recommend on Social Basis, Institution Culture is Special, Proud to be Part of Institution, Part of Campus Community.

In order to assess for within groups differences disaggregated by race, the measures were first assessed through a split file ANOVA separated by gender identity groups within each race group, and then separated by first-generation status within each race group on each of the measures of the *Campus Climate for Diversity* dimension and the *Sense of Belonging* dimension. This analysis allowed for a comparison of groups on the one-way ANOVA.

The measures involved in each dimension also were analyzed through two-way ANOVAs as a function of race and gender identity and then as a function of race and first-generation status. This analysis allowed for a crossed-design that examined the interaction of the two independent variables (race and gender identity, and race and first-generation status) on each of the dependent variables (measures involved in both dimensions) (Morgan, Leech, Gloeckner, & Barrett, 2011). Through review of statistical significance; however, it was determined that there were no statistical significance on any of the interactions. Linear Regression was conducted on the *Diversity* variable and *Belonging* variable which were created through a summated scale process. The variables were then used to determine whether campus climate for diversity could predict the sense of belonging of students to this institution. A statistical significance was found and an equation was created to understand the relationship.

Summary of Important Findings

In evaluating the Campus Climate for Diversity dimension and Sense of Belonging dimension by race through One-way ANOVAs, all measures identified in both of these dimensions loaded positive with no negative responses. The racial group mean scores translated indicates that all race groups on all measures identified for this study either sometimes agree and

sometimes disagree (mean scores of 3.0 to 3.99) or agree (mean scores of 4.0 to 4.99) on the 12 questions. Two of the measures in the *Campus Climate for Diversity* dimension and all seven of the measures in the *Sense of Belonging* dimension also loaded statistically significant when analyzed by race which means there was a difference between race groups and therefore the Null Hypothesis could be rejected. Additionally, these positive responses are different than previous research, which indicated students of color experience their environment differently and more negative than White students. Students of color experience more direct or observed racism than White students, perceive their climate more hostile (Hurtado, 1992) and feel singled out or isolated because of their background (Nora, & Cabrera, 1996; Hurtado, S., Griffin K. A., Arellano, L., & Cuellar, M., 2008).

In research conducted by Johnson, Soldner, Leonard, and Alvarez (2007), for example, the campus racial climate along with other variables were studied to determine association(s) with sense of belonging. Significant findings revealed there was a difference among race on sense of belonging and the source of the difference was attributed to White students as they expressed the greatest sense of belonging, more so than all other races. Measurement of the campus racial climate in this study also had a strong significant relationship to sense of belonging. Negative experiences or perceptions of the campus racial climate also had a negative impact on feelings of belonging.

Research conducted by Hurtado and Alvarado (2012), determined Latinos still continue to experience hostile racial climates but at lower rates when institutions were more diverse. The institution involved in this study is considered diverse with a large ethnic/racial student population at 34% and therefore the results of the positive findings of Hispanic/Latino and

students of other race backgrounds may possibly reflect this compositional diversity paired with the other variables identified as positive that measured the Campus Climate for Diversity.

Additionally, in research conducted by Nunez (2009) exploring the background characteristics and experiences associated with Latino students' sense of belonging. It was determined that Latino students had experienced a hostile climate the most strongly and negatively and that this experience predicted their sense of belonging (which was also negative). In a longitudinal study conducted on second year students, Hurtado and Ponjuan (2005) found Latina/o students experienced feeling singled out because of their backgrounds, heard faculty express stereotypes and felt discrimination in the classroom. The results of these previous studies are contrary from the findings of this study which identified that Hispanic/Latino students responded more positively than White students on four measures of the sense of belonging dimension. These positive responses indicated a stronger response agreeing that the culture of the institution was special compared to White students. Hispanic or Latino students also more likely had good social experiences that influenced their more likelihood to recommend this institution on a social basis to a friend of family member. They also felt they belonged in the community at this institution because they indicated they agreed that they see themselves as part of the campus community. Additionally, they expressed they were more proud to be attending this institution more so, than White students.

Additional findings added to the past research which determined there was an association between campus climate for diversity or the racial campus climate and sense of belonging (Hurtado et al, 2007; Locks et al, 2008; Nunez, 2005; Hurtado, Ruiz, Guillermo-Wann, 2012; Chavous, 2012). This study also identified campus climate for diversity through simple Linear Regression analysis as a predictive variable in determining sense of belonging.

Discussion

The important findings listed were gathered through evaluation of the data by traditional method, analysis by Race. However, this study explored more inclusive techniques of analysis to determine if there existed differences within race populations. Guided through the use of the tenets of the CRQI Framework created by Covarrubias and Velez (2013), the research questions used in this study allowed for the researcher to determine whether a difference existed in students' responses to each of the measures involved in creating the *Campus Climate for Diversity* and the *Sense of Belonging* dimensions. The sub-questions delved deeper into the data, recognizing that the variability of the experiences of each student are also shaped and interpreted through the multitude of their identities. Therefore, analysis employed an intersectionality approach, evaluating at the intersection of race with gender identity, and race with first-generation status.

The source of the data was the *Student Insight Experience* survey, specifically selected because it was a validated tool used to measure the experiences of students at university and college campuses across the United States. The analysis of the data through split file ANOVA and Factorial ANOVA analyses allowed for intersectional data mining to be disaggregated first by race, through an analysis of the intersection of race and gender identity, and through the intersection of race and first-generation status; and then analyzed to determine whether both demographic variables had an effect on the measures of both dimensions. Through this method of disaggregating the data, the experiences and perceptions between and within populations were uncovered, providing a deeper understanding of the students at this one institution.

CRQI Tenet I

The use of Tenet I of CRQI involves Quantifying the Material Impact of Racism at its intersections through intersectional data mining (Covarrubias & Velez, 2013). Through employing intersectional data mining, the researcher was able to explore the variations between and within groups (Nunez, 2013) of the social constructs of race, gender identity, and first-generation status used to define the individuals in these groups (Covarrubias & Velez, 2013). Much like Critical Race Theory, CRQI recognizes the social constructs that have been created to sustain inequality; e.g., "gender is a social construction that has been shaped over time to privilege men above women, or the masculine over the feminine (Lorber, 1995 cited in Covarrubias & Velez, 2013, p. 277). Originally created by Colonists in the 17th century for the purpose of educating White Christian men, higher education remained exclusionary and elite (Cohen, & Kisker, 2010). Many institutions exist today within the original systems, practices or policies put in place since their beginnings. Therefore, in order to understand the experience of current diverse students, it is important to understand the historical impact these outdated systems have caused and recognize the need to remedy past injustice through diversity inclusive practices, policies and supportive services to institute change in the systems put in place today. This effort begins and is continued through ongoing assessment of the campus climate and evaluation for hidden patterns of experiences. Therefore this study intentionally evaluated the data disaggregated through race at the intersection of gender identity and first-generation status to search for experiences of populations hidden amongst from the overall averages of the larger racial groups. The following demonstrates the use of CRQI Tenet I relevant to the Research Questions that guided this study.

Research Question 1

In Research Question 1, Is there a difference in the perceptions of the Campus Climate for Diversity from the perspective of students from various racial backgrounds, the measures involved in comprising the *Campus Climate for Diversity* dimension were analyzing by race. In most research involving campus climate for diversity, race is a demographic variable identified in evaluating the experiences of students (Hurtado, 2007); likewise, an important variable used in this study was race. While an identified statistical significant mean difference was not found between racial groups on any of the five measures of the *Campus Climate for Diversity* dimension, when the variables of gender identity and first-generation status were added, statistical significance was found within groups on a few of the measures. Indicating, by examining only the race group category the within group differences among gender identity and first-generation status would was hidden within the overall race group experience.

Five different variable intersections were identified as having a statistical significant difference when the race groups were further disaggregated by gender identity and first generation status. Asian students were more likely to only sometimes agree that people are supportive of other people regardless of their heritage, background, race and ethnicity and sexual orientation (Asian and gender identity on *Supportive of Diversity*, $F(3, 47) = 2.87$, $p = .046$); however determining if there was a difference within the Asian group when separated by gender identity could not be determined. Asian students also only sometimes agree that there were sufficient co-curricular activities outside of the classroom designed to specifically enhance student academic development (Asian and gender identity on *Co-Curricular Enhancement*, $F(3, 47) = 3.12$, $p = .035$; and Asian and first-generation status, $F(3, 47) = 3.12$, $p = .035$); however, the source of the difference with disaggregated by gender identity and first-generation status

unfortunately could not be determined. Black/African American students agreed that the institution placed sufficient emphasis on having a diverse student body (Black/African American and gender identity on *Diverse Student Body*, F (2, 34) = 4.68, p = .016). While the source of the difference within the groups when separated by gender identity could not be determined, it should be notes there was a difference (not determined significant because the Post hoc Test could not be conducted due to small numbers) between Black/African American Men who only sometimes agreed with this statement and Black/African American Women who agreed with this statement. White students also agreed that the institution placed sufficient emphasis on having a diverse student body but there was not a statistical significant within groups when disaggregated by first-generation status (*Diverse Student Body*, F (2, 820) = 4.87, p =.008).

In searching for hidden patterns in the data, through only reviewing the mean scores for the gender identity groups within the Asian student population, the Asian Gender Identity not Listed group indicated a 6.00 on all measures of the *Campus Climate for Diversity* dimension which indicates Not Applicable. Therefore it is the researcher's interpretation that the answer was not an accurate reflection of how this group perceived any of the measures and, instead, hurriedly indicated NA throughout the survey.

On the measure of *Diverse Student Body*, Black/African American Gender Non-binary students responded with a mean score of 2.0. This score indicated that they disagreed with the question, At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation. This group was the only group to disagree with this question within their racial group and all other racial groups. It could be assumed that this is the source of the difference; however, the number of individuals in this group was too small to analyze further.

A result while not statistically significant also should be noted, individuals who self-identified as Gender Non-Binary in each of the racial groups on the measure, *Supportive of Diversity* which reflects the question, At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation, scored less than all other groups in their race:

1) White, Gender Non-binary indicated 3.92 (sometimes agree/sometimes disagree) and all other gender identity groups within the White student population scored in the 4.29 (agree) and above;
2) Mixed Race Gender Non-Binary indicated 3.67 (sometimes agree/sometimes disagree) and all other gender identity groups in the mixed race group scored 4.00 (agree) and above;
3) Black/African American Gender Non-Binary indicated 2.00 (disagree) and all other gender identity groups within the Black/African American group indicated a 3.73 (sometimes agree and sometimes disagree) and above.

It is suggested further research on gender identity Non-binary group should be explored.

Additionally, White first-generation students and White not first-generation students only sometimes agree that the institution places sufficient emphasis on creating a diverse student body, this is different from all other racial group responses disaggregated by first-generation status, all agreed (mean scores between the range of 4.0 and 4.50) with this statement.

Research Question 2

In Research Question 2, Is there a difference in the perceptions of Sense of Belonging as reported by students from various racial backgrounds, the seven measures identified in the *Sense of Belonging* dimension were analyzed first by only race. The same research question was

analyzed through split file ANOVA analysis and Factorial ANOVA by race and gender identity and then by race and first-generation status.

All seven measures of the *Sense of Belonging* dimension loaded as statistically significant when analyzed by race. Sense of belonging, has been indicated in research, as a psychological variable that reflects the individual's perceived integration into a group or environment (Bollen & Hoyle, 1990). When applied to higher education, the level of sense of belonging felt by the student reflects the extent that a student has integrated into the environment and/or has become part of a social group (Harper & Hurtado, 2007). This significant finding is important, because when considering the mean scores of all races, all were positive indicating that regardless of race all students felt they belonged to this institution.

Additionally, when the data were further analyzed to determine the source of the difference between groups a statistical significant difference was noted between Hispanic/Latino students and White students. The Hispanic/Latino students had higher levels of agreement on four measures of the *Sense of Belonging* dimension: *Recommend on Social Basis, Institution Culture is Special, Proud to Be Part of Institution, and Part of Campus Community*. The measure of *Recommend on a Social Basis*, F (8, 1371) = 3.56, p = .000, was statistically significant with a small effect size (p = .009, d = .25). Hispanic students more likely would agree that they would recommend this institution on a social and non-academic basis to a friend or family member; whereas, White students only sometimes would recommend this institution to a friend of family member. When this same measure, was analyzed at the intersection of race and gender Black/African American students was also recommend this institution on a social basis (*Recommend on Social Basis*, F(2, 34) = 7.26, p = .002); however, the source of within group difference could not be determined because when separating this population by gender identity

groups, one of the groups had a small number of individuals (n=1). Interpreting the comparison of the mean scores for only the Black/African American racial group disaggregated by gender identity; Black/African American women agreed that they would recommend this institution on a social basis; whereas, Black/African American men agreed only sometimes with this statement. This could be interpreted that a Black/African American Women have social experiences that are favorable and therefore would recommend to others; whereas, Black/African American men do not.

Hispanic students more strongly agree that the culture of this institution is special (*Institution Culture is Special*, $F(8, 1371) = 3.73$, $p = .000$ with a small effect size ($p = .000$, $d = .32$); whereas White students would only sometimes agree that the culture is special. This finding of a reported more positive experience of students of color, higher than the level of agreement reported by White students, has been counter to most past research.

Past research conducted for the purpose of understanding factors that influence persistence and completion rates of students have found, Hispanic/Latino students and other students of color populations perceived their campus more negatively than White students (Ancis, Sedlacek, & Mohr, 2000; Cabrera & Nora, 1994; Fischer, 2007; Hurtado, 1992; Locks, Hurtado, Bowman, & Oseguera, 2008; Museus, Nichols, & Lambert, 2008; Nora & Cabrera, 1996; Pewewardy & Frey, 2002; Rankin & Reason, 2005; Alvarado & Hurtado, 2013). The significant finding revealing a more positive response to this measure, implies the culture of this institution is different than others experienced by Hispanic/Latina/o students. An organization's culture, "…pertains to the norms, values and ideologies that are created and shaped in an organization" (Tierney, 2008, p. 27). As such, the norms, values and practices of this institution was one that is recognized for valuing diversity and therefore as members of a diverse

population, this could be reflected in their responses, however would need further investigation to determine the correlation.

When further analyzing the measure of *Institution Culture is Special* through the intersection of race and gender identity, the split file analysis indicated a statistical significant within group difference, $F(4, 814) = 3.04$, $p = .017$. The Post hoc Tukey HSD tests revealed the source of the significant mean difference was found between White Men (3.51), and White Women students (3.82), with a smaller than typical effect size of $p = .005$, $d = .16$. This finding, while both reflecting these populations sometimes agree with the institution's culture being special, White women felt more strongly about this statement then do White men. The effect size of $d = .16$ (also referred to as the Cohen's d variable) was a small effect size, indicating the magnitude of the size of the difference between these two groups is small.

The measure of *Proud to be Part of Institution*, $F(8, 1372) = 4.43$, $p = .000$ was statistically significant with a small effect size ($p = .004$, $d = .26$) when analyzed by race. Hispanic/Latino/a students more strongly agreed (mean score of 4.33) than White students (4.08) that they are proud to be part of this institution.

The measure of *Part of Campus Community*, reflected the question of, I see myself as part of the campus community, was statistically significant, $F(8, 1372) = 4.49$, $p < .001$ with the source of the difference found between Hispanic and White students with a small effect size, $p = .001$, $d = .30$ and a difference was found between Hispanic and Other with a small effect size, $p = .037$, $d = .07$. Hispanic or Latino students (3.75) sometimes agree more than they disagree that they see themselves as part of the campus community, more so than White students (3.38); and more so than individuals who identified as Other race (3.00).

Through further analysis, at the intersection of race and gender identity, a statistical significance was identified on the measure, *Part of Campus Community*, $F(4, 816) = 2.42$, $p = .047$ for White students however there was no within group difference at the intersection of gender identity. Through a comparison of mean scores, a pattern of agreement was noted that would need further exploration: White Men and White Women both indicated they sometimes agree that they see themselves as part of the campus community. However, the population that responded in the White Gender Non-binary and White Gender Identity not listed groups indicated they disagreed that they saw themselves as part of the campus community. These results deserve further analysis; however, caution is advised in generalizing this finding to other individuals in this population because the lack of significance found on the test for this within group analysis indicated that this finding is reflective only of the population who responded to this survey at this time and is not generalizable. If this study was duplicated, then the results for White students analyzed through gender identity may not be the same.

Through a within group analysis involving the intersection of race and first-generations status on the measure, *Caring and Helpful Staff* a statistical significance was found $F(2, 820) = 3.69$, $p = .025$ for White students. This finding demonstrates White students feel differently than other races on this measure. However, there was no significant difference found within the White group. White not first-generation students more likely agree that the staff are caring and helpful, whereas, the White First-Generation students only sometimes agree with this statement.

Tenet I in CRQI apprised of the importance of quantifying the impact of racism through intersectional data mining. Through this guidance data was disaggregated by race and through gender identity and first-generations status. Most populations experience their surroundings and perceive treatment through the eyes of their many identities. Hispanic/Latina/o, for example, are

a heterogeneous group and when their experiences are lumped together in one group it fails to recognize their differences. According to Hurtado and Alvarado (2013) "…it is important to understand the within-group variability of social identities shaping their unique experiences" (Hurtado & Alvarado, 2013, p. 9). Through employing intersectional data mining analysis, guided by CRQI Tenet I, findings revealed within group differences that would have been hidden and missed.

CRQI Tenet II

Tenet II of CRQI involves challenging the neutrality of quantitative data and acknowledging that the numbers do not speak for themselves (Covarrubias & Velez, 2013). In conducting quantitative research, a perception exists that the numbers are neutral and the method used for analysis is unbiased because there is no personal interaction of the participant. Additionally, as the method for analysis can be proved and repeated, emphasis is largely placed on the numbers when universities attempt to implement "data driven decisions." However, the numbers by themselves are insignificant and have little meaning to the general population without the interpretive narrative provided by the researcher. The decisions on the way in which data are analyzed, the analysis method used, and the interpretation of the data, is based on the goal related to that which the individual conducting the analysis is trying to achieve (Covarrubias & Velez, 2013). In this study, the researcher created guiding questions, determined appropriate data to analyze and the method of analysis for the purpose of examining the experiences of students, and acknowledged the intersectionality of the multitude of the identities through which they view their experiences.

Additionally, the analysis conducted in this study was chosen to identify the differences between racial groups at this seemingly diverse institution and to evaluate the data different than

the original analysis. Through intentional intersectional data mining, the intent was to seek out hidden results. As expected, differences emerged in within group populations specifically through using gender identity and race on each of the measures. It was determined, for example, White Women experienced sense of belonging at higher levels than White Men. A tendency also was found on the population who self-identified as Gender Non-Binary across all races, reported lower mean scores than all other within group populations on all seven measures in the *Sense of Belonging* dimension. While significance was not found to support this result as a generalizable finding, it is a finding that should be further investigated.

Surprisingly, it was found that Hispanic/Latina/o students reported higher levels of agreement than White students on four of the seven measures in the *Sense of Belonging* dimension. These statistical significant findings revealed a stronger sense of belonging felt by Hispanic/Latina/o students to this institution that based on the significance indicates is not likely due to chance. Also reflected was the results of an institution whose commitment to diversity and diversifying their population has provided opportunities (i.e., diversity embracing culture, social belonging which impacted recommendation and pride to be part of this institution) for the types of interactions that would foster belonging.

Prior research has suggested high compositional diversity (large numbers of ethnically and racially diverse students) can increase opportunities for the types of interactions to occur that could foster a perception of positive climate (Chang, 2002; Gurin Dey, Hurtado & Gurin, 2012; Hurtado et al., 2013) but the existence of diverse populations alone does not guarantee acceptance and inclusion (Hurtado et al., 2012). These students for the most part, feel both accepted and included, consequently revealing a strong sense of belonging to this institution, more so than White students. In an effort to understand this phenomenon, the linear regression

was conducted to determine if there was a causal relationship between campus climate for diversity and sense of belonging. The third research question asked, Can campus climate for diversity predict sense of belonging? The analysis indicated that yes campus climate for diversity could predict sense of belonging. In order to understand this result it is also important to understand the questions involved in providing this finding. The *Diversity* variable was created through a summation of the five questions that measured the *Campus Climate for Diversity* dimension. The questions allowed for the measurement of structural diversity of the campus (existence of or the numbers of ethnically and racially diverse individuals on campus), the behavioral diversity (the institution's efforts toward creating a campus that embraces diversity), and the psychological diversity (which measured how diverse the campus feels and whether it embraces diversity). Based on the analysis, this institution's efforts relative to diversifying and moving toward inclusiveness were positively perceived. As such, the findings could predict that the positive campus climate for diversity was a factor that impacted the positive sense of belonging reported by Hispanic/Latino populations.

CRQI Tenet III

Tenet III of CRQI involved "Originating from the Experiential and Material Experiences of People of Color" (Covarrubias & Velez, 2013). Much like Critical Race Theory, this tenet recognizes and values the personal and professional experiences of the researcher. According to Covarrubias and Velez (2013), "Our questions, our data analysis and the transformative intent of our scholarship are rooted in our personal and professional experiences" (p. 280). The personal experiences of the researcher provide the foundation for this study and drive the career interest in determining that which creates a campus climate that embraces students in diversity. Being Latina and female, I have always struggled to "establish" intellectual ability. I experienced my

education and my career in higher education through the brown-ness of my skin and the femininity of my mannerisms; always over prepared for questions and ready to demonstrate, albeit argue, my merit for the seat at the table. In my efforts to support and to mentor, similar experiences have also been shared by others.

In my experience, many students of color struggle in higher education, despite their academic preparedness or in addition to their lack of academic preparedness; they struggle psychologically in their feelings of belongingness, struggle to navigate systems, and struggle to persist. Frequently students have indicated they were the "only" person like them in class; they felt isolated and often marginalized, being asked to speak on behalf of their entire racial population. For the most part, students struggled to belong and in their quest for "fitting in" must lose a piece of themselves. Therefore, they rarely reported, if ever, an institution that embraces them. At this higher education institution, some would argue the positive sense of belonging was the result of the existence of a highly diverse student population that includes 37.2% students of color enrolled in the spring semester 2016. When disaggregating the enrollment numbers by race, the populations were smaller compared to the 58% self-identified as White students. Therefore, similar to past research conducted by Hurtado, Alvarado and Guillermo-Wann (2012), the mere existence of a large number of students of color is not the only factor impacting the positive sense of belonging of students. There exists other diversity variables that must also be present together with structural diversity to create an environment that embraces all students.

In Research Question 1, assessing for the *Campus Climate for Diversity* dimension in this study was intended to determine whether the student population perceived or felt the campus climate was diverse. The various measures, or questions, in this dimension allowed for the measurement of the structural, psychological, and behavioral diversity of the campus climate

thereby, creating a campus climate for diversity. It was found that students of color overall (includes racial populations of American Indian/Alaskan Native, Asian, Black/African American, Hispanic/Latino, Mixed Race, and Other) responded positively on all measures that formed the *Campus Climate for Diversity* dimension:

1) *Supportive of Diversity*, 4.01 (agreed) compared to 4.24 (agreed) mean score for white students, At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation;
2) *Co-curricular Enhancement*, 3.85 (sometimes agreed and sometimes disagreed) compared to white students 3.89 (sometimes agreed and sometimes disagreed) on the question of, There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development;
3) *Diverse Faculty, Administration and Staff*, 3.95 (sometimes agreed and sometimes disagreed) compared to 4.07 (agreed) for white students on the question of This institution places sufficient emphasis on having diverse faculty, administration, and staff;
4) *Diverse Student Body*, 4.19 (agreed) compared to 4.3 (agreed) for white students on the question, This institution places sufficient emphasis on having a diverse student body;
5) *Dealing with Discrimination*, 4.16 (agreed) compared to 4.23 (agreed) for white students on the question, This institution has clear and effective procedures for dealing with discrimination.

While not statistically significant, students of color who participated in this survey viewed their *Campus Climate for Diversity*, positively. This result based on the questions answered, indicated

students of color positively perceived the institution's commitment to diversifying the population; felt supported as a diverse population; provided with co-curricular activities that support their development; and perceived that incidents of discrimination are dealt with effectively.

CRQI Tenet IV

Tenet IV of CRQI involved being "Intentionally Committed to Addressing Injustice and Seeking Transformation" (Covarrubias & Velez, 2013, p. 280). Much like Critical Race Theory, CRQI is committed to social justice and aims to transform educational policy and practice through detecting the educational inequities found in populations of students (Covarrubias & Velez, 2013). Through this identification of variables and quantitative data analysis, a stronger support for funding and resources can be made to move towards educational equity.

The data gathered and analyzed in this study will be shared with the Diversity Office and administrators of this institution. The data had been analyzed in the past through chi-square analysis and cross-tabulations to determine the overall picture or relationship of the demographic variables to the various measures identified in the survey to measure campus climate. The data gathered from this past survey were re-evaluated in a different manner to determine whether there was a statistical significant difference between groups and within groups of the enrolled student population. Intentional efforts were taken toward revealing hidden patterns of response through conducting one-way ANOVAs through split file analysis and two-way ANOVAs using the variables of race, gender identity and first-generation status. Through this manner of evaluation, differences among groups were revealed through disaggregated responses to the measures of the *Campus Climate for Diversity* dimension and the measures of the *Sense of Belonging* dimension. This type of analysis is informative and important when using data to

inform or for making change that potentially could impact a population whose experience had been hidden in the overall average of the larger population.

In addition, Research Question 3 of this study, "Can we predict sense of belonging from the perceptions of the campus climate for diversity", utilized a simple linear regression to investigate this relationship. The results were statistically significant, $F(1, 1380) = 611.46$, $p = .000$ with a large effect size of $R^2 = .307$ or more specifically the *Diversity* variable accounted for 31% of the variance of the scores on the *Belonging* variable. This finding identified an equation (*Belonging* variable = 1.1 + .67 x (scores of the *Diversity* variable)) to understand the predictive relationship between these two variables. Previous research has indicated a student's sense of belonging is a contributing variable to their persistence in college (Hurtado, Ruiz Alvarado, Guillermo-Wann, 2012) and "…positive experiences with the campus climate have been linked with Latina/o students' degree completion (Museus, Nichols, & Lambert, 2008) and sense of belonging" (Hurtado & Carter, 1997 cited in Hurtado & Alvarado, 2013, p.3).

While this study did not verify the relationship between sense of belonging and persistence, it identified a potential piece of the persistence puzzle for this population of students – an environmental factor, specifically campus climate for diversity, served to predict sense of belonging. Informed by this research and for the purpose of searching for ways to improve the retention and persistence rates of students, it is important for administrators to begin to understand the impact of the environment on personal perceptions of belonging and to determine the causal relationship on student persistence for these variables.

CRQI Tenet V

Tenet V of CRQI involved, "Taking a Transdisciplinary Perspective and Methods for revealing Elusive and Hidden Patterns" (Covarrubias & Velez, 2013). Taking a transdisciplinary

approach to research recognizes the inclusivity of many fields as vital to advise the research methodology and to provide a comprehensive understanding of the phenomenon being studied. Grounded in quantitative methodology, this study used data gathered through a survey instrument created to measure the organizational climate of an educational environment. Analyzed through measures and variables that were identified by literature as psychological, environmental and social constructs, this research evaluated some of the factors previously identified in the Campus Climate for Diversity framework and variables identified in research that define sense of belonging. It searched for the hidden patterns within the groups, comparing gender identities within race and comparing first-generation status within race.

Through this analysis, a between group (Hispanic vs White) and within group (White Men vs. White Women) statistically significant mean score difference was found for on the question, “Xxx's culture is special - something you don't find just anywhere”. Borrowed from Organizational Psychology, an organizations culture consists of a system of shared assumptions, values, and beliefs that dictate individual’s behavior and determines that which is important in the organization (Tierney, 1988). The dimensions key to the culture of higher education, as identified by William G. Tierney (1988), includes the environment, mission, socialization practices, information sharing, strategy, and leadership. The culture of this institution is different from any other in the state; however, in an effort to protect its identity, the mission will not fully be shared. It is committed to serving a diverse student population in an atmosphere of respect, and this commitment is apparent in its efforts to diversify student and employee populations, retention priorities, implementation of policies and processes and, allocation of resources. The culture of this institution values diversity and is committed to educating the students of the state.

An important result revealed was that Hispanic/Latino students reported higher levels of agreement, higher than White students on four of the questions that measure the *Sense of Belonging* dimension. Sense of belonging is a psychological concept that reflects feelings of acceptance and connection to a group or something larger than the individual (Hill, 2014). It reflects the groups in which individuals belong that may include academic, cultural, athletic, and social or similarity in self-identity. As such, this populations' positive sense of belonging is an important finding to be shared with the institution, as multiple stakeholders are invested in the goal to become a Hispanic Serving Institution (HSI) by 2018. A task force has been convened comprised of various departments across the institution to not only understand the variables that can improve enrollment and retention efforts of their Hispanic/Latino population, but also, to implement efforts to reach the required 25% full-time enrollment for this HSI designation.

In order to maximize the relevance of information gathered in this CRQI guided research, the inclusion of multiple stakeholders to collaboratively examine the information collected is essential. Utilizing the views of multiple disciplines and departments that are experts in specific aspects of the university systems to scrutinize the data can ensure that patterns and trends are found in the analysis and an effective strategic plan is realized when an organization determines the use of the data produced. Inclusion of these groups is a natural transdisciplinary effort and it ensures that the structure towards inclusivity of all is realized and actualized within the strategic efforts of the larger and smaller components and departments of the institution.

Recommendations for Further Study

Based on the findings, the following recommendations are offered for future research.

1. Using the dimensions of Diversity and Belonging, linear regression revealed that the diversity of the campus climate can predict the sense of belonging of students; however, this analysis was not tested through split file analysis. Further testing through split file analysis by race, first-generation status and gender identity is suggested to determine whether differences exist among groups.
2. The formula (Belonging = 1.1+.67 x Diversity) that emerged through the linear regression analysis was not tested to determine whether its use could apply to other student populations. Therefore, it is recommended that this formula be further tested.
3. A separate analysis should occur using data gathered from the other demographic questions of this survey to include sexual orientation, class, socioeconomic status, sex, age, etc., to determine if the other categories impact the results. The degree area data should also be disaggregated to determine whether there is a difference in the responses on campus climate for diversity and sense of belonging of students taking their primary degree focused coursework in a specific college or school.
4. The data used from this study originated from one university; therefore, this study should be replicated with the use of student populations from different institutions.
5. When conducting quantitative research on diverse student populations, it is recommended that an intersectionality approach be used to ensure experiences of individuals are not lost in the averaged data. When averaging all demographic information together and failing to recognize differences exist in experiences within each group, the dominant group is reported; thus, it is important to disaggregate the

data (Covarrubias & Velez, 2013) to fully understand the experiences of all students through a more inclusive approach to data analysis.

6. Campus Climate for diversity and sense of belonging was found as positive responses when analyzed by race. While the significance was small between groups, this may indicate the beginning of a shift in the populations' perceptions and/or experiences so this warrants examination over time.

Implications for Practice

This work suggests implications for practice should focus on creating an environment that embraces diversity beyond recruiting a critical mass of diverse students. It requires a continuous evaluation of campus climate specifically as it relates to diversity. To fully understand students, intentional efforts should also involve evaluation of the heterogeneity of specific ethnic groups in order to best address issues for specific populations (Hurtado et al., 2012). This effort has the capacity to identify concerns and solutions that more accurately account for the needs of their diverse communities. It also provides an opportunity for all voices to be heard, and for those voices to be included; something the many campuses dealing with student led protests failed to recognize as important until situations on campus progressed beyond repair. Students, unfortunately, will not feel they belong if their campus fails to understand the diversity of their individuality and employs efforts that only cater to the benefit of White privilege and power. White privilege and racism are invisible systemic structures in operations within higher education institutions; administration must become aware of how to socially transform systemic advantages that divide and exclude diverse students (A. Aragon, personal communication, March 29, 2017).

As the administrators of this institution forge forward in their commitment to serve the population living in the state in which this university exists, the intentional surveying of the student population on the campus climate is worthwhile and informative. Past efforts have also included surveying employees on campus climate; together these efforts have produced data identified for benchmarking toward improvement, and have provided rationale for process, policy, and allocation of resources to the benefit of its diverse populations. This effort of understanding the populations served has provided information to inspire improvement and to create an institution that works toward inclusive diversity. Efforts to diversify employees and faculty is one of these priority efforts, specifically to employ a population that reflects the diversity of the student population to provide diverse professionals that understand and appreciate diverse backgrounds and who can serve as leaders, mentors and role models to the students. Ongoing cultural competence training occurs to ensure everyone is aware of their rights and the processes for reporting and dealing with discrimination. Much larger initiatives, such as becoming a Hispanic Serving Institution, has required a task force to evaluate and identify needs for improvements of services and infrastructure to better support all students holistically. It is the researcher's belief that the positive responses to the various measures involved in the campus climate for diversity and sense of belonging are reflective of these implemented efforts.

Similar to past research, it was determined that campus climate for diversity did have an association (specifically a predictive association) to sense of belonging. A formula was established relevant to the specific population of students attending this institution, it needs to be tested to determine feasibility of its use for this population and for others. Additionally, since the Diversity variable accounted for 31% of the variance of the Belonging variable, researchers should further identify other contributing factors.

An additional purpose of this research was to further validate the use of CRQI framework for the field of education (Covarrubias & Velez, 2013). Essential to this framework is an emphasis on disaggregating data so that the experiences of groups within groups are not lost in the interests of the dominant groups (Covarrubias & Velez, 2013). Therefore, use of this framework for this study was appropriate, as it provided guidance in research methodology to look for hidden patterns and missed populations. Most individuals view the world and learn from the lens of their individuality, shaped by the multitude of identities they possess.

The case for CRQI use in educational discourse reacts to the need for all students' voices to be heard and their experiences to be recognized. Therefore, by requiring the disaggregation of data to identify and determine the needs of the populations within groups, CRQI does not allow for the privileging of one group over another and guards against the potential to cause an adverse impact on a population that has been lost in the larger populations' data. Its use recognizes an inclusive approach to understanding the experiences of all populations to identify potential issues and to distribute resources and proactive efforts accounting for all needs.

Likewise, through the guidance of the CRQI framework, this study examined within group experiences and perceptions through the intersectional datamining and disaggregated techniques. Through employing CRQI methods and analysis hidden patterns were discovered regardless of the limitations of current quantitative methods, the difference within the smaller groups were found. This method allowed for a deeper understanding of the racial populations attending this one higher education institution and made sure the experiences of groups within races by first-generation status and by gender identity were not missed.

Conclusion

This study began with an introductory chapter citing the protests and racial injustice felt by students of color attending higher education institutions across the United States. Many of these institutions continue to feel the aftermath of the incidents, continue to profess and to claim their commitment to diversity, and strive to develop trust in administration to make the necessary improvements toward embracing all of their students in their quest for degree attainment. Evaluating the campus climate is an essential first step in this process and a crucial ongoing effort. Real or perceived, campus climate is a unit of measurement reflecting interpersonal, professional and academic interactions that occur within the environment. Addressing climate, therefore, benefits all campus members.

Additionally, given the recent state of administration changes of a new president whose executive orders seem to eradicate or target past affirmative action efforts and civil rights, the impacts of his priorities on students are yet to be discovered. Across the nation, higher education institutions in the US have experienced bias and racially motivated incidents, many occurring within his first ten days of office according to the Chronicle of Higher Education Ticker (Dreid, & Najmabadi, 2016). Immigrant and undocumented students have felt unsafe, fearing deportation, unable to travel and calling for institutions to serve as sanctuary institutions. Efforts towards gender equality and gender identity inclusion remain on shaky ground as he works to revoke Title IX, gay marriage and transgendered bathroom rights. Educational programs that have been put in practice to remedy past and present discriminating effects and move toward equity in education are at risk for distinction with budget cuts aimed at these efforts. This *Trump effect* of "Make America Great Again" calls for a return to a time when the diversity of individuals was not valued and equity in education was non-existent. If actualized, the *Trump*

effect may have grave lasting implications on the state of higher education and the students it serves.

Therefore, the commitment to diversify the student, faculty, and staff populations of an institution is a small step in the direction toward an institution that values diversity. Institutions committed to this effort must also create an inclusive environment and forge an institutional priority that embraces diversity, practiced by all. This effort must be strong enough to stand against past wrongs and to socially transform in the face of adversity. This study identified sense of belonging to be a factor that is dependent on an institutional commitment to diversity and has been identified in previous research associated with influencing the likelihood of persistence. Given such findings, the intentional efforts to enhance sense of belonging through the understanding of the experience of all students is an imperative focus for future research. It is vitally important to further nurture this commitment to diversity, equity and sense of belonging and create an environment where all students will thrive, achieve and graduate.

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APPENDIX A: SURVEY INSTRUMENT

Student Experience Survey

Text1: Welcome to the MSU Denver Student Experience Survey. As a current student of MSU Denver, you are in a unique position to provide feedback on the university's climate and culture. For the past two surveys, MSU Denver has engaged ModernThink LLC, to administer this student survey in order to better understand and improve the student experience. MSU Denver is conducting this survey and has opened it to all students. We hope you will be candid with your answers. Your participation is voluntary and you may decline to answer any question. Your individual responses to all close-ended questions/statements will be kept confidential. Your responses will only be reported when five or more surveys can be combined for a demographic group. Your individual responses to the open-ended questions may be included verbatim in reports. The report itself will not tie comments back to individual students in any way. Please refrain from including any self-identifying language in them

Text2 Instructions: The following survey should take approximately 25 minutes to complete. Your honest and candid feedback is an essential part of this process. For each statement in the survey, click on the response option that best describes your experience. At the top of each page you will find additional instructions for answering the questions on the page below. Important: The final section of the survey includes a series of demographic questions. These questions (e.g. gender identity, age, race, etc.) will help us better understand the patterns and themes in the survey data. As the confidentiality of your responses is critical, your individual demographic data will not be reported. Group demographic data will only be reported when there are five or more respondents in a particular group. Although the demographic questions are optional, you are strongly encouraged to complete this information as it will help us better understand the results.

Text3 Definitions: Below are the definitions of terms that appear in the survey. The terms that are defined appear in various statements throughout the survey. Institution refers to the entire University. Senior Leadership refers to the senior members of the institution (i.e. President, Vice Presidents, Deputy Provost, Associate Vice Presidents, Deans and those that report directly to the President.) Faculty refers to all instructors except graduate teaching assistants. Staff refers to non-faculty employees of the college. Administration refers to the academic and administrative management of the university.

Text4 Privacy Statement: We go to great lengths to ensure the anonymity of survey responses. First, we control all aspects of data collection, storage and reporting on our own servers. Second, you will be able to access the survey through a link. No participant will be able to access another participant's data, since all of the collected information is password-protected and survey

participants will not provide any identifiable information (e.g. name, email, or student id number). Third, during the reporting process, we do not provide information in any way that would enable your answers to be traced back to a specific person -- even within small demographic groups. We require a threshold minimum of survey respondents in any particular demographic group before reporting results back. Students are reminded not to include self-identifying information in the open-ended comments.

Academic Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometimes Agree / Sometimes Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I am provided sufficient support and resources from the university to succeed academically. (1)	❍	❍	❍	❍	❍	❍
I have regular opportunities to interact with faculty members on activities other than coursework (committees, orientation, student life, etc.) (2)	❍	❍	❍	❍	❍	❍
I am comfortable asking faculty for help when I don't understand something or am struggling with an assignment. (3)	❍	❍	❍	❍	❍	❍

Faculty members care about me as an individual. (4)	❍	❍	❍	❍	❍	❍
I receive meaningful feedback from faculty about my academic performance. (5)	❍	❍	❍	❍	❍	❍
Faculty members regularly model MSU Denver's values. (6)	❍	❍	❍	❍	❍	❍
Faculty members are consistent and fair. (7)	❍	❍	❍	❍	❍	❍
The quality of instruction I receive in most of my classes is excellent. (8)	❍	❍	❍	❍	❍	❍
I have opportunities to discuss my academic plans with a faculty member or advisor. (9)	❍	❍	❍	❍	❍	❍

Personal Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I have been encouraged to develop my strengths and talents at MSU Denver. (1)	❍	❍	❍	❍	❍	❍
I have been able to find balance between academics and extracurricular activities/other responsibilities. (2)	❍	❍	❍	❍	❍	❍
There are sufficient activities outside the classroom designed specifically to enhance students' personal and non-academic development. (3)	❍	❍	❍	❍	❍	❍
I know where to turn if I am overwhelmed or stressed. (4)	❍	❍	❍	❍	❍	❍
My academic experiences will help me make better life decisions. (5)	❍	❍	❍	❍	❍	❍

My overall experience at this institution will help me make better life decisions. (6)	❍	❍	❍	❍	❍	❍

Diversity Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
My college experiences have exposed me to diverse opinions, cultures and values. (1)	❍	❍	❍	❍	❍	❍
At this institution, people are supportive of other people regardless of their heritage, background, race, ethnicity or sexual orientation. (2)	❍	❍	❍	❍	❍	❍
There are sufficient co-curricular activities outside of the classroom designed specifically to enhance student academic development. (3)	❍	❍	❍	❍	❍	❍
This institution places sufficient emphasis on having diverse faculty, administration, and staff. (4)	❍	❍	❍	❍	❍	❍

This institution places sufficient emphasis on having a diverse student body. (5)	❍	❍	❍	❍	❍	❍
This institution has clear and effective procedures for dealing with discrimination. (6)	❍	❍	❍	❍	❍	❍

Campus Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
The facilities (e.g., classrooms/labs, recreation center, student union) adequately meet my needs. (1)	❍	❍	❍	❍	❍	❍
The admission/recruitment materials portrayed MSU Denver accurately. (2)	❍	❍	❍	❍	❍	❍
MSU Denver's orientation services help students adjust to college. (3)	❍	❍	❍	❍	❍	❍
MSU Denver takes reasonable steps to provide a safe and secure environment for the campus. (4)	❍	❍	❍	❍	❍	❍
MSU Denver's policies and practices ensure fair treatment for students. (5)	❍	❍	❍	❍	❍	❍

Community Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I feel a sense of belonging at this university. (1)	❍	❍	❍	❍	❍	❍
The staff are caring and helpful. (2)	❍	❍	❍	❍	❍	❍
This institution actively contributes to the community. (3)	❍	❍	❍	❍	❍	❍
I would recommend MSU Denver on an academic basis to a friend or family member. (4)	❍	❍	❍	❍	❍	❍

I would recommend MSU Denver on a social and non-academic basis to a friend or family member. (5)	❍	❍	❍	❍	❍	❍
I am proud to be part of MSU Denver. (6)	❍	❍	❍	❍	❍	❍
MSU Denver's culture is special - something you don't find just anywhere. (7)	❍	❍	❍	❍	❍	❍
I see myself as part of the campus community. (8)	❍	❍	❍	❍	❍	❍

Leadership Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I understand the mission of MSU Denver. (1)	❍	❍	❍	❍	❍	❍
I am comfortable speaking up about academic dishonesty/cheating when I see it. (2)	❍	❍	❍	❍	❍	❍
Senior leadership regularly models MSU Denver's values. (3)	❍	❍	❍	❍	❍	❍
I believe what I am told by senior leadership. (4)	❍	❍	❍	❍	❍	❍
Administrators are accessible and approachable. (5)	❍	❍	❍	❍	❍	❍
Senior leadership shows a genuine interest in the well-being of students. (6)	❍	❍	❍	❍	❍	❍
MSU Denver is well run. (7)	❍	❍	❍	❍	❍	❍
This school provides good value for the money. (8)	❍	❍	❍	❍	❍	❍

Communicate Please rate each of the below statements on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I can speak up or challenge a traditional way of doing something without fear of harming my academic advancement. (1)	❍	❍	❍	❍	❍	❍
Students have opportunities to contribute to important decisions at MSU Denver. (2)	❍	❍	❍	❍	❍	❍
Senior leadership communicates openly about important matters. (3)	❍	❍	❍	❍	❍	❍
Faculty, administration, and staff work together to ensure the success of MSU Denver's programs and initiatives. (4)	❍	❍	❍	❍	❍	❍

There is regular and open communication among faculty, administration, staff, and students. (5)	❍	❍	❍	❍	❍	❍
Expectations regarding student behavior are clear and well communicated. (6)	❍	❍	❍	❍	❍	❍
MSU Denver values student opinions. (7)	❍	❍	❍	❍	❍	❍

Bullying Please rate each of the below statements are on the same Five-Point Scale - Strongly Agree, Agree, Sometime Agree/Sometime Disagree, Disagree, Strongly Disagree, and Not Applicable

	Strongly Disagree (1)	Disagree (2)	Sometime Agree / Sometime Disagree (3)	Agree (4)	Strongly Agree (5)	Not Applicable (6)
I have experienced bullying (i.e., the persistent use of aggressive, overbearing, or unreasonable behaviors) directed toward me by a member of the MSU Denver community. (1)	❍	❍	❍	❍	❍	❍
I am aware of other students at this institution who have experienced bullying at MSU Denver. (2)	❍	❍	❍	❍	❍	❍
I believe that MSU Denver's policies and practices are effective at preventing bullying. (3)	❍	❍	❍	❍	❍	❍
Students understand that bullying is not tolerated in this institution. (4)	❍	❍	❍	❍	❍	❍

Instances of alleged bullying are taken seriously by the administration. (5)	❍	❍	❍	❍	❍	❍

Q14 Please rate your overall level importance with various support services, policies, and programs. Importance: Very Important, Important, Neutral, Unimportant, and Very Unimportant, Not Applicable

	Very Unimportant (1)	Unimportant (2)	Neutral (3)	Important (4)	Very Important (5)	Not Applicable (6)
Registration Process (1)	❍	❍	❍	❍	❍	❍
Variety of Courses (2)	❍	❍	❍	❍	❍	❍
Availability of Courses (3)	❍	❍	❍	❍	❍	❍
Variety of Majors (4)	❍	❍	❍	❍	❍	❍
Class Size: Within Major (5)	❍	❍	❍	❍	❍	❍
Class Size: General Education Courses (6)	❍	❍	❍	❍	❍	❍
Study Abroad Programs (7)	❍	❍	❍	❍	❍	❍
Undergraduate Research Opportunities (8)	❍	❍	❍	❍	❍	❍
Online Courses (9)	❍	❍	❍	❍	❍	❍
Distance-learning Programs (10)	❍	❍	❍	❍	❍	❍
New Student Orientation Process (11)	❍	❍	❍	❍	❍	❍
First-year Success Program (12)	❍	❍	❍	❍	❍	❍
Honors Programs (13)	❍	❍	❍	❍	❍	❍
Academic Enrichment Centers (14)	❍	❍	❍	❍	❍	❍

Leadership Programs (15)	❍	❍	❍	❍	❍	❍
Volunteer Opportunities (16)	❍	❍	❍	❍	❍	❍
Internships (17)	❍	❍	❍	❍	❍	❍
Service Learning (18)	❍	❍	❍	❍	❍	❍

Q68 Please rate your overall satisfaction with various support services, policies, and programs.
Satisfaction: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, Not Applicable

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)	Not Applicable (6)
Registration Process (1)	❍	❍	❍	❍	❍	❍
Variety of Courses (2)	❍	❍	❍	❍	❍	❍
Availability of Courses (3)	❍	❍	❍	❍	❍	❍
Variety of Majors (4)	❍	❍	❍	❍	❍	❍
Class Size: Within Major (5)	❍	❍	❍	❍	❍	❍
Class Size: General Education Courses (6)	❍	❍	❍	❍	❍	❍
Study Abroad Programs (7)	❍	❍	❍	❍	❍	❍
Undergraduate Research Opportunities (8)	❍	❍	❍	❍	❍	❍
Online Courses (9)	❍	❍	❍	❍	❍	❍
Distance-learning Programs (10)	❍	❍	❍	❍	❍	❍
New Student Orientation Process (11)	❍	❍	❍	❍	❍	❍
First-year Success Program (12)	❍	❍	❍	❍	❍	❍
Honors Programs (13)	❍	❍	❍	❍	❍	❍
Academic Enrichment Centers (14)	❍	❍	❍	❍	❍	❍

Leadership Programs (15)	❍	❍	❍	❍	❍	❍
Volunteer Opportunities (16)	❍	❍	❍	❍	❍	❍
Internships (17)	❍	❍	❍	❍	❍	❍
Service Learning (18)	❍	❍	❍	❍	❍	❍

Q66 Have you used any of the following offices, departments, or programs? (please select all apply)

- ❑ Academic Advising Center (1)
- ❑ Access Center (2)
- ❑ Admissions (3)
- ❑ Applied Learning Center (4)
- ❑ Auraria Early Learning (5)
- ❑ Auraria Library (6)
- ❑ Bookstore (Tivoli Station) (7)
- ❑ Bursar's Office (8)
- ❑ Campus Recreation (9)
- ❑ Career Services (10)
- ❑ Center for Urban Connections (11)
- ❑ CO-AMP (Colorado Alliance for Minority Participation) (12)
- ❑ College Assistance Migrant Program (CAMP) (13)
- ❑ Counseling Center (14)
- ❑ Computer Labs (15)
- ❑ Equal Opportunity (16)
- ❑ Excel Program (17)
- ❑ Financial Aid & Scholarships (18)
- ❑ First Year Success (24)
- ❑ Food Bank (48)
- ❑ LGBTQ Student Resource Center (19)
- ❑ Health Center at Auraria (20)
- ❑ Honors Program (21)
- ❑ Intercollegiate Athletics (22)
- ❑ Internship Program (23)
- ❑ New Student Orientation (25)
- ❑ Nightrider Services (26)
- ❑ Ombuds Office (27)
- ❑ Phoenix Center at Auraria (28)
- ❑ Registrar's Office (29)
- ❑ Service Learning Program (30)
- ❑ Student (Met) Media (31)
- ❑ Student Academic Success Center (32)
- ❑ Student Activities (33)
- ❑ Student Engagement & Wellness/Dean of Students (34)
- ❑ Student Government Assembly (35)
- ❑ Student Clubs & Organizations (36)
- ❑ Student Travel Program (37)

- ❑ Testing Services (38)
- ❑ Tivoli Student Union (39)
- ❑ TRIO High School Upward Bound (40)
- ❑ TRIO Student Support Services (41)
- ❑ Undergraduate Research Program (42)
- ❑ Urban Leadership Program (43)
- ❑ Veterans/ Military Student Center & Support Services (44)
- ❑ Veterans Upward Bound (45)
- ❑ Women's Studies and Services (46)
- ❑ Writing Center (47)

Display This Question:

If Have you used any of the following offices, departments, or programs? (please select all apply) q://QID66/SelectedChoicesCount Is Greater Than or Equal to 1

Q69 Please rate your overall satisfaction with various support services, policies, and programs.

Satisfaction: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, Not Applicable

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)	Not Applicable (6)
If Have you used any of the following offices, departments, or programs? (please select all apply) Academic Advising Center Is Selected Academic Advising Center (1)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Access Center Is Selected Access Center (2)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Admissions Is Selected Admissions (3)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Applied Learning Center Is Selected Applied Learning Center (4)	❍	❍	❍	❍	❍	❍
a If Have you used any of the following offices, departments, or programs? (please select all apply) Auraria Early Learning Is Selected Auraria Early Learning (5)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Auraria Library Is Selected Auraria Library (6)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Bookstore (Tivoli Station) Is Selected Bookstore (Tivoli Station) (7)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Bursar's Office Is Selected Bursar's Office (8)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Campus Recreation Is Selected Campus Recreation (9)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Career Services Is Selected Career Services (10)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Center for Urban Connections Is Selected Center for Urban Connections (11)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) CO-AMP (Colorado Alliance for Minority Participation) Is Selected CO-AMP (Colorado Alliance for Minority Participation) (12)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) College Assistance Migrant Program (CAMP) Is Selected College Assistance Migrant Program (CAMP) (13)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Counseling Center Is Selected Counseling Center (14)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Computer Labs Is Selected Computer Labs (15)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Equal Opportunity Is Selected Equal Opportunity (16)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Excel Program Is Selected Excel Program (17)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Financial Aid & Scholarships Is Selected Financial Aid & Scholarships (18)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) First Year Success Is Selected First Year Success (24)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Food Bank Is Selected Food Bank (48)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) LGBTQ Student Resource Center Is Selected LGBTQ Student Resource Center (19)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Health Center at Auraria Is Selected Health Center at Auraria (20)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Honors Program Is Selected Honors Program (21)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Intercollegiate Athletics Is Selected Intercollegiate Athletics (22)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Internship Program Is Selected Internship Program (23)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) New Student Orientation Is Selected New Student Orientation (25)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Nightrider Services Is Selected Nightrider Services (26)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Ombuds Office Is Selected Ombuds Office (27)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Phoenix Center at Auraria Is Selected Phoenix Center at Auraria (28)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Registrar's Office Is Selected Registrar's Office (29)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Service Learning Program Is Selected Service Learning Program (30)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Student (Met) Media Is Selected Student (Met) Media (31)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Student Academic Success Center Is Selected Student Academic Success Center (32)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Student Activities Is Selected Student Activities (33)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Student Engagement & Wellness/Dean of Students Is Selected Student Engagement & Wellness/Dean of Students (34)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Student Government Assembly Is Selected Student Government Assembly (35)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Student Clubs & Organizations Is Selected Student Clubs & Organizations (36)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Student Travel Program Is Selected Student Travel Program (37)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Testing Services Is Selected Testing Services (38)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Tivoli Student Union Is Selected Tivoli Student Union (39)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) TRIO High School Upward Bound Is Selected TRIO High School Upward Bound (40)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) TRIO Student Support Services Is Selected TRIO Student Support Services (41)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Undergraduate Research Program Is Selected Undergraduate Research Program (42)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Urban Leadership Program Is Selected Urban Leadership Program (43)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Veterans/ Military Student Center & Support Services Is Selected Veterans/ Military Student Center & Support Services (44)	❍	❍	❍	❍	❍	❍

If Have you used any of the following offices, departments, or programs? (please select all apply) Veterans Upward Bound Is Selected Veterans Upward Bound (45)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Women's Studies and Services Is Selected Women's Studies and Services (46)	❍	❍	❍	❍	❍	❍
If Have you used any of the following offices, departments, or programs? (please select all apply) Writing Center Is Selected Writing Center (47)	❍	❍	❍	❍	❍	❍

Q70 Please rate your overall level importance with various support services, policies, and programs. Importance: Very Important, Important, Neutral, Unimportant, and Very Unimportant, Not Applicable

	Very Unimportant (1)	Unimportant (2)	Neutral (3)	Important (4)	Very Important (5)	Not Applicable (6)
Academic Advising Center (1)	❍	❍	❍	❍	❍	❍
Access Center (2)	❍	❍	❍	❍	❍	❍
Admissions (3)	❍	❍	❍	❍	❍	❍
Applied Learning Center (4)	❍	❍	❍	❍	❍	❍
Auraria Early Learning (5)	❍	❍	❍	❍	❍	❍
Auraria Library (6)	❍	❍	❍	❍	❍	❍
Bookstore (Tivoli Station) (7)	❍	❍	❍	❍	❍	❍
Bursar's Office (8)	❍	❍	❍	❍	❍	❍
Campus Recreation (9)	❍	❍	❍	❍	❍	❍
Career Services (10)	❍	❍	❍	❍	❍	❍
Center for Urban Connections (11)	❍	❍	❍	❍	❍	❍
CO-AMP (Colorado Alliance for Minority Participation) (12)	❍	❍	❍	❍	❍	❍
College Assistance Migrant Program (CAMP) (13)	❍	❍	❍	❍	❍	❍

Counseling Center (14)	❍	❍	❍	❍	❍	❍
Computer Labs (15)	❍	❍	❍	❍	❍	❍
Equal Opportunity (16)	❍	❍	❍	❍	❍	❍
Excel Program (17)	❍	❍	❍	❍	❍	❍
Financial Aid & Scholarships (18)	❍	❍	❍	❍	❍	❍
LGBTQ Student Resource Center (19)	❍	❍	❍	❍	❍	❍
Health Center at Auraria (20)	❍	❍	❍	❍	❍	❍
Honors Program (21)	❍	❍	❍	❍	❍	❍
Intercollegiate Athletics (22)	❍	❍	❍	❍	❍	❍
Internship Program (23)	❍	❍	❍	❍	❍	❍
First Year Success (24)	❍	❍	❍	❍	❍	❍
Food Bank (48)	❍	❍	❍	❍	❍	❍
New Student Orientation (25)	❍	❍	❍	❍	❍	❍
Nightrider Services (26)	❍	❍	❍	❍	❍	❍
Ombuds Office (27)	❍	❍	❍	❍	❍	❍
Phoenix Center at Auraria (28)	❍	❍	❍	❍	❍	❍
Registrar's Office (29)	❍	❍	❍	❍	❍	❍

Service Learning Program (30)	❍	❍	❍	❍	❍	❍
Student (Met) Media (31)	❍	❍	❍	❍	❍	❍
Student Academic Success Center (32)	❍	❍	❍	❍	❍	❍
Student Activities (33)	❍	❍	❍	❍	❍	❍
Student Engagement & Wellness/Dean of Students (34)	❍	❍	❍	❍	❍	❍
Student Government Assembly (35)	❍	❍	❍	❍	❍	❍
Student Clubs & Organizations (36)	❍	❍	❍	❍	❍	❍
Student Travel Program (37)	❍	❍	❍	❍	❍	❍
Testing Services (38)	❍	❍	❍	❍	❍	❍
Tivoli Student Union (39)	❍	❍	❍	❍	❍	❍
TRIO High School Upward Bound (40)	❍	❍	❍	❍	❍	❍
TRIO Student Support Services (41)	❍	❍	❍	❍	❍	❍
Undergraduate Research Program (42)	❍	❍	❍	❍	❍	❍
Urban Leadership Program (43)	❍	❍	❍	❍	❍	❍

Veterans/ Military Student Center & Support Services (44)	❍	❍	❍	❍	❍	❍
Veterans Upward Bound (45)	❍	❍	❍	❍	❍	❍
Women's Studies and Services (46)	❍	❍	❍	❍	❍	❍
Writing Center (47)	❍	❍	❍	❍	❍	❍

Q16 Please rate your overall level importance with various support services, policies, and programs. Importance: Very Important, Important, Neutral, Unimportant, and Very Unimportant, Not Applicable

	Very Unimportant (1)	Unimportant (2)	Neutral (3)	Important (4)	Very Important (5)	Not Applicable (6)
Student Housing/Residence Halls (1)	❍	❍	❍	❍	❍	❍
Availability of Off-campus Housing (2)	❍	❍	❍	❍	❍	❍
Classroom Facilities (3)	❍	❍	❍	❍	❍	❍
Computer Facilities/Labs (4)	❍	❍	❍	❍	❍	❍
Lab Facilities and Equipment (5)	❍	❍	❍	❍	❍	❍
Library Facilities (6)	❍	❍	❍	❍	❍	❍
Programming/ Event Areas (7)	❍	❍	❍	❍	❍	❍
Study Areas (8)	❍	❍	❍	❍	❍	❍
Socializing Areas (9)	❍	❍	❍	❍	❍	❍
Recreational Facilities (10)	❍	❍	❍	❍	❍	❍
Parking (11)	❍	❍	❍	❍	❍	❍
Public Transportation (12)	❍	❍	❍	❍	❍	❍
Child Care Facilities (13)	❍	❍	❍	❍	❍	❍

Q71 Please rate your overall satisfaction with various support services, policies, and programs. Satisfaction: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, Not Applicable

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)	Not Applicable (6)
Student Housing (1)	❍	❍	❍	❍	❍	❍
Availability of Off-campus Housing (2)	❍	❍	❍	❍	❍	❍
Classroom Facilities (3)	❍	❍	❍	❍	❍	❍
Computer Facilities/Labs (4)	❍	❍	❍	❍	❍	❍
Lab Facilities and Equipment (5)	❍	❍	❍	❍	❍	❍
Library Facilities (6)	❍	❍	❍	❍	❍	❍
Programming/ Event Areas (7)	❍	❍	❍	❍	❍	❍
Study Areas (8)	❍	❍	❍	❍	❍	❍
Socializing Areas (9)	❍	❍	❍	❍	❍	❍
Recreational Facilities (10)	❍	❍	❍	❍	❍	❍
Parking (11)	❍	❍	❍	❍	❍	❍
Public Transportation (12)	❍	❍	❍	❍	❍	❍
Child Care Facilities (13)	❍	❍	❍	❍	❍	❍

Q17 Please rate your overall level importance with various support services, policies, and programs. Importance: Very Important, Important, Neutral, Unimportant, and Very Unimportant, Not Applicable

	Very Unimportant (1)	Unimportant (2)	Neutral (3)	Important (4)	Very Important (5)	Not Applicable (6)
Overall Academic Experience (1)	❍	❍	❍	❍	❍	❍
Overall Extracurricular Activities (2)	❍	❍	❍	❍	❍	❍
Overall Social Life (3)	❍	❍	❍	❍	❍	❍
Overall College Experience (4)	❍	❍	❍	❍	❍	❍

Q72 Please rate your overall satisfaction with various support services, policies, and programs. Satisfaction: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, Not Applicable

	Very Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Very Satisfied (5)	Not Applicable (6)
Overall Academic Experience (1)	❍	❍	❍	❍	❍	❍
Overall Extracurricular Activities (2)	❍	❍	❍	❍	❍	❍
Overall Social Life (3)	❍	❍	❍	❍	❍	❍
Overall College Experience (4)	❍	❍	❍	❍	❍	❍

Q1 What have been the best parts of your experience at MSU Denver?

Q2 What three things would you change at MSU Denver and why?

Q3 All in all, if you had it to do all over again, would you enroll at MSU Denver?

- ❍ Yes (1)
- ❍ No (2)

Q3.1 Please elaborate why you would or would not enroll again at MSU Denver.

Q4 Have you witnessed bias/harassment/discrimination based on race/ethnicity, gender, religious affiliation, gender identity or sexual orientation at MSU Denver?

- ❍ Yes (1)
- ❍ No (2)

Display This Question:

If Have you witnessed bias/harassment/discrimination based on race/ethnicity, gender, religious affi... Yes Is Selected

Q4.1 Please elaborate on what you have experienced or witnessed.

Q5 Have you witnessed academic dishonesty/cheating at MSU Denver?

- ❍ Yes (1)
- ❍ No (2)

Display This Question:

If Have you witnessed academic dishonesty/cheating at MSU Denver? Yes Is Selected

Q5.1 Please elaborate on what you have witnessed.

Q67 What is your preferred method of communication with MSU Denver?

- ❑ School Email (1)
- ❑ Personal Email (2)
- ❑ Phone Call (3)
- ❑ Text Message (4)
- ❑ Social Media (please specify) (5) _____
- ❑ Other (please specify) (6) _____

Q6 Did you participate in the First Year Success program?

- ❍ Yes (1)
- ❍ No (2)

Display This Question:

If Did you participate in the First Year Success Program? Yes Is Selected

Q6.1 Please elaborate on your experience, what is the most beneficial aspects of the First Year Success program.

Display This Question:

If Did you participate in the First Year Success Program? Yes Is Selected

Q74 Please elaborate, what you would change in the First Year Success program to improve your experience.

Q64 Do you think MSU Denver should have a multicultural center? A Multicultural Center serves to provide support, resources and programing for diverse student populations. It also promotes race conscious development through programming for the entire campus community.

- ❍ Yes (1)
- ❍ No (2)
- ❍ Undecided (3)

Display This Question:

If Do you think MSU Denver should have a multicultural center? Yes Is Selected

Or Do you think MSU Denver should have a multicultural center? Undecided Is Selected

Q65 Please elaborate why you think that MSU Denver should have a multicultural center.

Display This Question:

If Do you think MSU Denver should have a multicultural center? No Is Selected

Or Do you think MSU Denver should have a multicultural center? Undecided Is Selected

Q73 Please elaborate why you think that MSU Denver should not have a multicultural center.

Q7 Please feel free to comment on any topics relevant to your student experience that have not been raised in this survey.

Text1 In this final section of the survey includes a series of demographic questions. These questions will help us better understand the patterns and themes in the survey data. As the confidentiality of your responses is critical, your individual demographic data will not be reported. Group demographic data will only be reported when there are five or more respondents in a particular group. Although the demographic questions are optional, you are strongly encouraged to complete this information as it will help us better understand the results.

D1 What is you sex?

- ❍ Male (1)
- ❍ Female (2)
- ❍ Intersex (3)
- ❍ Identity not listed (4) _____
- ❍ Decline to answer (5)

Q53 What is your gender identity?

- ❍ Man (1)
- ❍ Woman (2)
- ❍ Non-Binary / Gender Non-Conforming (3)
- ❍ Identity not listed (4) _____
- ❍ Decline to answer (5)

Q54 Do you identify as transgender?

- ❍ Yes (1)
- ❍ No (2)
- ❍ Decline to answer (3)

D6 What is your sexual orientation?

- ❍ Heterosexual/Straight (1)
- ❍ Gay (2)
- ❍ Lesbian (3)
- ❍ Bisexual (4)
- ❍ Queer (5)
- ❍ Asexual (6)
- ❍ Identity not listed (7) _____
- ❍ Decline to answer (8)

D2 What is your age?

- ❍ 17 and Under (1)
- ❍ 18-20 (2)
- ❍ 21-24 (3)
- ❍ 25-29 (4)
- ❍ 30-34 (5)
- ❍ 35-39 (6)
- ❍ 40-44 (7)
- ❍ 45-49 (8)
- ❍ 50-54 (9)
- ❍ 55-59 (10)
- ❍ 60-64 (11)
- ❍ 65+ (12)
- ❍ Decline to answer (13)

D4 What is your race? (Select all that apply)

- ❑ American Indian or Alaska Native (1)
- ❑ Asian (2)
- ❑ Black or African American (3)
- ❑ Hispanic or Latino (4)
- ❑ Native Hawaiian or Other Pacific Islander (5)
- ❑ White (6)
- ❑ Identity not listed (7) _____
- ❑ Decline to answer (8)

D3 Are you of Hispanic or Latino origin?

- ❑ No (1)
- ❑ Yes, Mexican American/Chicano (2)
- ❑ Yes, Puerto Rican (3)
- ❑ Yes, Cuban (4)
- ❑ Yes, Central American (5)
- ❑ Yes, Other Hispanic or Latino (6)
- ❑ Decline to answer (7)

Q52 Do you identify as multiracial?

- ❍ Yes (1)
- ❍ No (2)

D5 What is your relationship status?

- ❍ Single (1)
- ❍ Married (2)
- ❍ Divorced/Widowed (3)
- ❍ Identity not listed (4) _____
- ❍ Decline to answer (5)

Q62 Do you have children?

- ❍ Yes (1)
- ❍ No (2)

D7 What is your preferred religious affiliation?

- ❑ Atheist or Agnostic (1)
- ❑ Baptist (2)
- ❑ Buddhist (3)
- ❑ Church of Christ (4)
- ❑ Eastern Orthodox (5)
- ❑ Episcopalian (6)
- ❑ Hindu (7)
- ❑ Jewish (8)
- ❑ LDS (Mormon) (9)
- ❑ Lutheran (10)
- ❑ Methodist (11)
- ❑ Muslim (12)
- ❑ Pagan (13)
- ❑ Presbyterian (14)
- ❑ Roman Catholic (15)
- ❑ Quaker (16)
- ❑ Seventh-day Adventist (17)
- ❑ United Church of Christ/Congregational (18)
- ❑ Christian, not listed (19) _____
- ❑ Religion not listed (20) _____
- ❑ Decline to answer (21)

D8 Did you begin college at MSU Denver or did you transfer from another institution?

- ❍ Started at MSU Denver (1)
- ❍ Transferred from another Institution (2)

Display This Question:

If Did you begin college at MSU Denver or did you transfer from another institution? Transferred from another Institution Is Selected

D8.1 From what type of institution did you transfer?

- ❍ In-State Public 2-Year Institution (Example - Community College of Denver) (1)
- ❍ In-State Public 4-Year Institution (Example - Colorado State University) (2)
- ❍ In-State Private 4-Year Institution (Example - University of Denver) (3)
- ❍ Out-of-State Public 2-Year Institution (Example - Western Wyoming Community College) (4)
- ❍ Out-of-State Public 4-Year Institution (Example - University of Utah) (5)
- ❍ Out-of-State Private 4-Year Institution (Example - Seattle University) (6)

D9 How long have you been attending or taking courses at MSU Denver?

- ❍ 1 year or less (1)
- ❍ 2 years (2)
- ❍ 3 years (3)
- ❍ 4 years (4)
- ❍ 5 years (5)
- ❍ 6 years or more (6)

Q55 How many credit hours have you completed?

- ❍ No credits have been completed (1)
- ❍ 1-15 (2)
- ❍ 16-30 (3)
- ❍ 31-45 (4)
- ❍ 46-60 (5)
- ❍ 61-75 (6)
- ❍ 76-90 (7)
- ❍ 91-105 (8)
- ❍ 106-120 (9)
- ❍ 120 or more (10)

D11 How many credit hours are you taking this semester?

- ❍ None (1)
- ❍ 1-6 (2)
- ❍ 7-11 (3)
- ❍ 12-14 (4)
- ❍ 15-16 (5)
- ❍ 17 or more (6)

Q10A During the time school is in session, about how many hours a week do you spend working at an off-campus job for pay?

- ❍ None, I don't have a job (1)
- ❍ 1-10 hours (2)
- ❍ 11-20 hours (3)
- ❍ 21-30 hours (4)
- ❍ 31-40 hours (5)
- ❍ More than 40 hours (6)

Q10B During the time school is in session, about how many hours a week do you spend working at a campus job for pay?

- ❍ None, I don't have a job (1)
- ❍ 1-10 hours (2)
- ❍ 11-20 hours (3)
- ❍ 21-30 hours (4)
- ❍ 31-40 hours (5)
- ❍ More than 40 hours (6)

D12 What degree are you pursing?

- ❍ Not degree seeking (1)
- ❍ Bachelor's degree (B.A., B.S., etc) (2)
- ❍ Master's degree (3)

D13 Please select your major(s) or your expected major(s) (not minor, concentration, etc.).

- ❑ Do not know what my major will be (1)
- ❑ Accounting (2)
- ❑ Africana Studies (3)
- ❑ Anthropology (4)
- ❑ Art (5)
- ❑ Art History, Theory and Criticism (6)
- ❑ Athletic Training (7)
- ❑ Aviation and Aerospace Management (8)
- ❑ Aviation and Aerospace Science (9)
- ❑ Biochemistry (10)
- ❑ Biology (11)
- ❑ Chemistry (12)
- ❑ Chicano Studies (13)
- ❑ Civil Engineering Technology (14)
- ❑ Communication Design (15)
- ❑ Computer Information Systems (16)
- ❑ Computer Science (17)
- ❑ Criminal Justice and Criminology (18)
- ❑ Early Childhood Education (19)
- ❑ Economics (20)
- ❑ Electrical Engineering Technology (21)
- ❑ Elementary Education (22)
- ❑ English (23)
- ❑ Environmental Science (24)
- ❑ Finance (25)
- ❑ Health Care Management (26)
- ❑ History (27)
- ❑ Hospitality, Tourism and Events (28)
- ❑ Human Development (29)
- ❑ Human Nutrition - Dietetics (30)
- ❑ Human Performance and Sport (31)
- ❑ Human Services (32)
- ❑ Individualized Degree Program (Please specify) (33) _____
- ❑ Industrial Design (34)
- ❑ Integrative Healthcare (35)
- ❑ Journalism (36)
- ❑ Land Use (37)
- ❑ Linguistics (38)
- ❑ Management (39)

- ❑ Marketing (40)
- ❑ Mathematics (41)
- ❑ Mechanical Engineering Technology (42)
- ❑ Meteorology (43)
- ❑ Modern Languages (44)
- ❑ Music (45)
- ❑ Music Education (46)
- ❑ Nursing (47)
- ❑ Philosophy (48)
- ❑ Physics (49)
- ❑ Political Science (50)
- ❑ Psychology (51)
- ❑ Recreation Professions (52)
- ❑ Social Work (53)
- ❑ Sociology (54)
- ❑ Special Education (55)
- ❑ Speech Communication (56)
- ❑ Speech, Language, and Hearing Sciences (57)
- ❑ Technical Communication (58)
- ❑ Theatre (59)
- ❑ Women's Studies (60)

D14 Please indicate your current residence.

- ❍ Campus Village (1)
- ❍ Regency Student Housing (2)
- ❍ Auraria Student Lofts (3)
- ❍ Rent house/apartment/room (4)
- ❍ Own house (5)
- ❍ Living with parent/family (6)
- ❍ Not a permeant living (stay with friends/ couch surfing) (8)
- ❍ Other (7) _____

D15 Please indicate your current GPA.

- ❍ 1.99 or below (1)
- ❍ 2.0-2.49 (2)
- ❍ 2.5-2.99 (3)
- ❍ 3.0-3.49 (4)
- ❍ 3.5 or above (5)
- ❍ I did not receive grades in my courses (6)

Q17B How do you meet your college expenses? Select the response that best approximates the amount of support you receive from the sources below.

	None (1)	Very little (2)	Less than half (3)	About half (4)	More than half (5)	All or nearly all (6)
Self (job, savings, etc.) (1)	❍	❍	❍	❍	❍	❍
Parents (2)	❍	❍	❍	❍	❍	❍
Spouse or Partner (3)	❍	❍	❍	❍	❍	❍
Employer Support (4)	❍	❍	❍	❍	❍	❍
Scholarship and grants (5)	❍	❍	❍	❍	❍	❍
Loans (6)	❍	❍	❍	❍	❍	❍
Other Sources (7)	❍	❍	❍	❍	❍	❍

D18 What is your parents'/family household income?

- ❍ $25,000 or less (1)
- ❍ $25,001 to $50,000 (2)
- ❍ $50,001 to $75,000 (3)
- ❍ $75,001 to $100,000 (4)
- ❍ $100,001 to $125,000 (5)
- ❍ $125,001 to $150,000 (6)
- ❍ $150,001 or more (7)

Q56 What is the highest level of education achieved by your parents/guardian?

	Not Applicable (1)	Did not complete high school (2)	Graduated from high school (3)	Attended college but did not complete a degree (4)	Completed an associate's degree (5)	Completed a bachelor's degree (6)	Completed a master's degree (7)	Completed a doctoral degree (8)
Parent/Guardian 1 (1)	❍	❍	❍	❍	❍	❍	❍	❍
Parent/Guardian 2 (2)	❍	❍	❍	❍	❍	❍	❍	❍
Step Parent/Guardian 3 (3)	❍	❍	❍	❍	❍	❍	❍	❍
Step Parent/Guardian 4 (4)	❍	❍	❍	❍	❍	❍	❍	❍

Q58 Are you an in-state, out-of-state, or international student?

- ❍ In-state student (1)
- ❍ Out-of-state student (2)
- ❍ International student (3)

Q59 What are the number of hours you spend on academic activities such as studying, reading, writing, and/or completing assignments?

- ❍ 5 or fewer hours a week (1)
- ❍ 6-10 hours a week (2)
- ❍ 11-15 hours a week (3)
- ❍ 16-20 hours a week (4)
- ❍ 21-25 hours a week (5)
- ❍ 26-30 hours a week (6)
- ❍ 31 or more hours a week (7)

Q60 Please select the top three reasons you selected MSU Denver.

- ❑ Academic Reputation (1)
- ❑ Campus Appearance (2)
- ❑ Cost (3)
- ❑ Diversity (4)
- ❑ Financial Aid (5)
- ❑ Geographic Setting / Location (6)
- ❑ Opportunity to Play Sports (7)
- ❑ Recommendation from family/friend (8)
- ❑ Size of Institution (9)
- ❑ Personalized attention prior to enrollment (10)
- ❑ Other, please specify (11) _____

Q61 What are your expected plans after graduation?

- ❑ Not actively looking for a job (1)
- ❑ Looking, but no offers yet (2)
- ❑ Received a job offer, but declined (3)
- ❑ Currently considering a job offer (4)
- ❑ Accepted a job offer (5)
- ❑ Not planning on employment right after graduation (6)
- ❑ Attending graduate school (7)
- ❑ Other plans not listed (8) _____

APPENDIX B: INFORMED CONSENT PARTICIPATION EMAIL

Dear XXX Student, We invite you to participate in the Student Experience Survey. We are committed to having as many student voices heard as possible at XXX.

You could WIN an iPad mini or free parking for the rest of the Spring Semester 2016 by participating in the survey.

This online survey is confidential and easy! This is your chance to let your voice be heard, so please take a few minutes and share your opinions. Your privacy will be maintained throughout the process with no name, email, or ID number being attached to your survey. Please complete the survey by February 21, 2016.

Take the Survey

For more information about this important opportunity for your feedback to be heard by xxx leadership, please visit the Student Experience Survey website at NEW WEBSITE LINK. If you have any question or concerns about the survey please contact XXX

Thank you!

XXX, Ph.D.

President

APPENDIX C: CSU IRB APPROVAL

Colorado State University

Research Integrity & Compliance Review Office
Office of Vice President for Research
Fort Collins, CO 80523-2011
(970) 491-1553
FAX (970) 491-2293

Date: November 10, 2016

To: Antoinette Aragon, Ph.D., School of Education
Angela Marquez, School of Education

From: IRB Coordinator, Research Integrity & Compliance Review Office
(RICRO_IRB@mail.colostate.edu)

Re: Campus Climate for Diversity and Its Impact on Sense of Belonging

After review of information regarding the continued analyzing of secondary de-identified data, it was determined that this activity does not meet the requirements of the federal definition of human subject research. "Human subject means a living individual **about whom** an investigator conducting research obtains data through **intervention or interaction with the individual**, or **identifiable private information**" 45CFR46.102(f).

Living individual – Y
About Whom – Y
Intervention/Interaction – N
Identifiable Private Information – N

Thank you for submitting this information. If you have more projects that are similar, please contact us prior to submission. The IRB must determine whether a project needs to have IRB approval.

APPENDIX D: HOST INSTITUTION IRB APPROVAL

METROPOLITAN STATE UNIVERSITY℠ OF DENVER

Human Subjects Protection Program (HSPP)

Metropolitan State University of Denver
P.O. Box 173362, Campus Box 48, Denver, CO 80217-3362
303-352-7330 – hspp@msudenver.edu – www.msudenver.edu/irb/

APPROVAL

July 18, 2016

Dear Angela Marquez:

On July 18, 2016 the IRB reviewed the following protocol:

Type of Review:	New Project
Title:	Campus Climate for Diversity and Its Impact on Sense of Belonging
Investigator:	Angela Marquez
HSPP ID:	912896-1
Funding:	None
Grant Title:	None
Grant ID:	None
IND, IDE or HDE:	None
Documents Reviewed:	HRP 211 Initial Review Form (UPDATED 7/18/2016) HRP 503A Template Protocol (UPDATED 7/18/2016) Survey Instrument (UPDATED 7/18/2016) CITI Training Transcript for A Marquez (UPDATED 7/18/2016

The IRB approved the protocol on July 18, 2016. The study is determined exempt, and there is no requirement for continuing or final review.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

MSU Denver's Institutional Review Board