QUEERLY BELONGING:

LGBTQA STUDENT PERCEPTIONS OF CAMPUS CLIMATE, PERSISTENCE, AND SUCCESS OUTCOMES AT RUTGERS UNIVERSITY- NEW BRUNSWICK

By

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ABSTRACT OF THE DISSERTATION

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Research on the lesbian, gay, bisexual, transgender, queer, and asexual (LGBTQA) college student experience is an emerging area of inquiry. While the majority of empirical studies surrounding LGBTQA students have focused on their perceptions of peer-to-peer campus climate or academic achievement, little attention has been paid to employing a queer theoretical lens in order to diagnose institutions themselves as binary and restrictive structures (Renn, 2010). Additionally, LGBTQA college student research often focuses on disparate health and success outcomes, as opposed to highlighting where LGBTQA students may be outperforming their heterosexual and cisgender peers (Garvey et al., 2017; Rankin et al., 2017; Warikoo & Carter, 2009). This research project is an institutional campus climate case study that utilizes responses from the Diverse Learning Environments survey to examine campus climate factors (bias and discrimination, harassment, conversations across difference, satisfaction with the institutional commitment to diversity, academic validation, interpersonal validation) and student outcomes (habits of mind, pluralistic orientation, social agency, civic engagement, critical consciousness, academic self-concept, sense of belonging). The study builds on existing research surrounding climate, explores risks of LGBTQA attrition, investigates where LGBTQA students *are* succeeding, and constructs a critical theoretical and practical framework to build a connection between these three areas of inquiry.

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This dissertation is dedicated to my given and chosen family, especially my mother Toni Marie Rago, who always told me I could be whoever I wanted. I promised you I would be a doctor some day, and I am keeping that promise.

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CHAPTER I: INTRODUCTION

Statement of Purpose

Lesbian, gay, bisexual, transgender, queer, and asexual (LGBTQA) college students navigate institutions of higher education that were not historically designed to include them. From policies and ecological structures, to sensitivity of faculty, staff, and peers, LGBTQA students have reported experiencing bias, discrimination, and exclusionary practices at rates far higher than their heterosexual and cisgender peers (Rankin, 2003; Rankin et al., 2017; Renn, 2010). However, there is a lack of insight within the literature as to whether or not these inequitable experiences have a significant and measurable impact on LGBTQA student success and retention. In addition, there is very little literature that explores LGBTQA college student experiences from a non-deficit model framework (Garvey et al., 2017; Rankin et al., 2017; Warikoo & Carter, 2009).

Decades of race-based exploration of campus climate and student success outcomes *do* exist within the literature. Historically underrepresented racial communities within institutions of higher education, specifically those who are Black and Latino, have lower rates of college completion when compared to white students (Hu & St. John, 2001). While college persistence is not the sole indicator of success, it is certainly a major component in national dialogues surrounding educational equity (Tinto, 2012). Multi-disciplinary research studies have been dedicated to monitoring, exploring, and improving this reality (Kim, 2011). Researchers and policy-makers have explored college readiness as a major contributor to completion inequity (Venezia et al., 2005), while others have examined the negative impact of hostile campus climates (Astin, 1993; Chickering & Reisser, 1993; Hurtado, Carter, & Kadia, 1998), and some have focused on identifying high impact practices and testing the effectiveness of support structures designed to reduce these inequities (Clauss-Ehlers & Wibrowski, 2007).

What is omnipresent throughout all of these studies is that they are rooted in statistical analysis of institutionally reported data that is able to establish there is indeed a racial inequity in college completion and other student outcomes. However, because institutions are not federally required to collect data on LGBTQA identities, and national surveys have been historically inconsistent in their design of demographic questions, there is no national empirical parallel dedicated to exploring LGBTQA student college completion and success (Garvey, 2014; Garvey et al., 2017; Rankin, 2003; Renn, 2010). Currently, only a handful of higher education institutions record, and hence are able to utilize, transgender-inclusive and sexuality-based demographics to examine retention and success (Beemyn, 2016). Instead, other methods have been utilized to explore the state of higher education for LGBTQA students such as institution-specific case studies, national survey analysis, and small-scale qualitative research projects (Renn, 2010).

Currently, much of the literature concerning LGBTQA college students surrounds perceptions of campus climate (Rankin, 2003; Renn, 2010), but the ability for practitioners and scholars to demonstrate a correlation between climate, success, and retention is limited by gaps in institutional student data. In other words, it is known that LGBTQA students navigate hostile campus climates, but researchers have been unable to concretize three important questions: how many LGBTQA students are on college campuses, are they successful, and to what extent do they experience inequitable attrition (Longerbeam et al., 2007; Rankin et al. 2017; Sanlo, 2004). This institution-specific case study will build on existing research surrounding campus climate, empirically explore LGBTQA college attrition, investigate where LGBTQA students *are* succeeding, and construct a theoretical and practical framework to build a connection between these three areas of inquiry.

Institutional Context

Rutgers University-New Brunswick, considered one of the most LGBTQA-friendly colleges in the country based on policies, administrative structures, academic offerings, and student programming initiatives, will be the site for this research project (Windmeyer, 2017). A large, public, research-university, Rutgers-New Brunswick boasts one the oldest LGBTQA-student organizations and LGBTQA student services center in the country (Sanlo, 2000; Sanlo, Rankin, & Schoenbuerg, 2002; Rankin, 2003). However, it has been well over thirty years since an LGBTQA-specific campus climate study has been initiated on the campus (Cavin, 1987).

The journey of LGBTQA progress at Rutgers University- New Brunswick is deeply tied to the journey of LGBTQA people as a whole. In 1969, the Stonewall Riots in Greenwich Village in New York City sparked a national dialogue about the collective injustices faced by the LGBTQA community. The riots along with unrest across the country sparked the Gay Liberation movement, which included parallel organizing on college campuses (Sanlo, Rankin, & Schoenbuerg, 2002). Rutgers College and its increasingly political student body were no different. Under the leadership of sophomore Lionel Cuffie, the Student Homophile League was established in 1969 (Consoli & Gorder, 2000). During the height of the Gay Liberation movement, this organization set out to provide support, guidance, and a space for marginalized students to combat the discrimination, exclusion, and violence they faced on campus. The organization was the second oldest campus-based LGBTQA organizations in the country, and the first post-Stonewall organization on a college campus preceded only by Columbia University (Nichols & Kafka-Holzschlag, 1988).

LGBTQA student organizing across all Rutgers campuses over the next three decades pushed the college to reconcile the climate and needs of the sexually and gender diverse student body (Cavin, 1987). The League often galvanized the campus following high-profile anti-gay

incidents while demanding resources and accountability. Following years of student pressure and a damning campus climate study, which became increasingly more necessary as the community faced heightened discrimination during the AIDS crisis, in 1988 Rutgers College President Bloustein created the President's Select Committee for Lesbian-Gay Concerns which addressed the issues of LGBTQA students as well as University faculty members (Consoli & Gorder, 2000). In 1989, the Select Committee for Lesbian and Gay Concerns assembled and presented specific courses of action the university could take to seriously mitigate the injustices directed towards LGBTQA people on campus.

The first objective of the Select Committee for Lesbian and Gay Concerns was to establish an Office of Diverse Community Affairs and Lesbian Gay Concerns with a minimum of a one full-time staff member, who would monitor the future implementation of policies, practices, and resources aimed at creating an environment free of fear, violence, and harassment. The center opened in 1992 under the leadership of founding director Dr. Cheryl Clarke (Consoli & Gorder, 2000). The center, now renamed as the Center for Social Justice Education and LGBT Communities, was part of a larger movement across colleges and universities to formalize support structures for LGBTQA students (Sanlo, Rankin, & Schoenbuerg, 2002). The creation of these centers, in addition to the decades of student advocacy that pre-date them, have worked to enhance both campus-specific resources and national dialogue surrounding LGBTQA campus climate and equity in higher education.

Research Questions

This research project will employ quantitative methodology to analyze existing cross-sectional survey data from the Diverse Learning Environments survey, a campus climate assessment tool produced by the Higher Education Research Institute (HERI) and conducted at Rutgers University-New Brunswick in the spring of 2017 (Hurtado & Guillermo-Wann, 2013).

Latent factor construct analysis and descriptive statistics will be used to explore student perceptions of campus climate, student success-related outcomes, and the frequency of LGBTQA student contemplation of dropping out in comparison to their heterosexual and cisgender peers. My research questions are as follows:

Research Question 1: Are there statistically significant differences between LGBTQA students and their heterosexual and cisgender peers in regards to perceptions of campus climate when measured by their experiences of bias and discrimination, harassment, conversations across difference, satisfaction with the institutional commitment to diversity, academic validation, and interpersonal validation?

Research Question 2: Are there statistically significant differences between LGBTQA students and their heterosexual and cisgender peers in regards to student success outcomes as measured by their habits of mind, pluralistic orientation, social agency, civic engagement, critical consciousness, academic self-concept, and sense of belonging?

Research Question 3: Are there statistically significant differences *within* the LGBTQA community based on race, Pell Grant eligibility, and disability status for the first two research questions?

Research Question 4: Are there statistically significant differences in the frequency between LGBTQA students and their heterosexual and cisgender peers in regards to their consideration to drop out of college?

In my analysis, I hypothesized that LGBTQA students reported more negative perceptions of campus climate and higher frequencies of contemplating dropping out of college than their heterosexual and cisgender peers. However, I predicted that LGBTQA students reported higher scores in student success outcomes, with the exception of sense of belonging, than their peers. I claimed these predictions with a theoretical understanding that even while

experiencing inequitable campus climates, LGBTQA students are still able to exhibit positive outcomes especially as it relates to openness to others, lifelong learning, and civic engagement. Within these hypotheses, I predicted that students with layered disenfranchised social identities, specifically LGBTQA students who are also people of color, Pell grant eligible, or living with a disability, held more negative perceptions of campus climate, higher scores in student success outcomes and lowered sense of belonging than their LGBTQA peers without the same marginalized intersecting identity. With these research questions in mind, I aimed to better understand the LGBTQA student experience from multiple perspectives in order to gain insight into common barriers, inequities, resilience, and implications for practice.

Significance of the Study

While there are a plethora of LGBTQA campus climate studies in existing literature, few employ a queer theoretical framework to understand campus ecological structures (Renn, 2010). Too often, inequitable outcomes or experiences of LGBTQA students are framed as deficits in LGBTQA students themselves, as opposed to symptoms of an inequitable environment and institutional structures. In addition, many of the single-institution studies have been limited by small sample sizes or were conducted at institutions with knowingly finite support structures as a means of demonstrating a need for increased resources (Renn, 2010; Tetreault et al., 2013). A campus climate study at a large public institution that has been recognized for its LGBTQA inclusion, and where many of the institutional policies have shifted, may reveal the more deeply seeded behaviors and pervasive experiences that continue to marginalize LGBTQA students despite available resources.

A Note on Language

Throughout this study, I will be using the terms queer spectrum, trans spectrum, gender nonbinary, cisgender and the acronym LGBTQA all of which are in need of defining, albeit

imperfectly as terminology is constantly evolving and deeply individualistic. Still, defining language and hence identity constructs for the purpose of empirical inquiry, critical understanding, and practical implications is an important and worthy exercise (Rankin & Garvey, 2015). Queer spectrum as both a concept and variable construct will include students who identify with a sexual orientation other than heterosexual including lesbian, gay, bisexual, pansexual, queer, and asexual. Trans spectrum will include any student whose sex assigned at birth is different than their current gender identity (Bornstein, 2016; Coyote & Spoon, 2014). Trans spectrum students may identify as men, women, trans men, trans women, agender, gender fluid, and gender nonbinary, meaning someone who does not identify as either a man or a woman. Cisgender is used to describe an individual whose gender identity *does* align with their sex assigned at birth. Cisgender is the gender-based equivalent of the term heterosexual as it relates to sexual orientation, and originated in the trans community as a way to discuss privilege and dominance (Bornstein, 2016). LGBTQA will be used as an all-encompassing acronym to include students who are queer spectrum and/or trans spectrum, while heterosexual and cisgender will be used to describe all those who do not identify within the LGBTQA community (Rankin et al., 2017).

CHAPTER II: LITERATURE REVIEW

Theoretical Framework

This study will utilize two, interconnected, theoretical frameworks to explore LGBTQA student success, college persistence, perceptions of campus climate, and the impact of campus climate on the student experience; Judith Butler's queer theory (1990) and Vincent Tinto's interactional theory of individual student departure (1993). I selected Tinto's theory primarily because it has been utilized by dozens of empirical studies that examine college completion while employing quantitative, qualitative, and mixed methodologies (Berger & Milem, 1999; Clauss-Ehlers & Wibrowski, 2007; Hu & St. John, 2001; Kuh et al., 2005; Rankin, 2003; Tetreault et al., 2013; Tinto, 2012; Venenzia et al., 2005). In addition, the Diverse Learning Environments Survey, which was the survey instrument used for this research, was designed with an expanded model of Tinto's college environment framework (Hurtado & Guillermo-Wann, 2013). I chose Butler's interpretation of queer theory because it captures the diversity and fluidity of gender and sexuality in positive and critical ways that dated development models, rooted in pathology and the medical industrial complex, do not (Bilodeau & Renn, 2005; Coyote & Spoon, 2014; Cass, 1979).

Vincent Tinto's (1993) interactional theory of individual departure from higher education provides a solid foundation from which to view the issue of college attrition and student success as a whole. Tinto suggests that both internal and external variables contribute to a student's likelihood of college persistence, in addition to the theorizing of an institution as an ecological environment. Ecological forces impacting student attrition include financial access, familial support, college preparation, self-efficacy, and level of engagement and connectedness to the campus community. Tinto (2012) also theorizes that students who enter campus with specific risk factors, such as economic limitations or being the first in their families to attend college, are

more likely to remain in college if they feel both academically and socially integrated within the campus community. Tinto's explanation of campus integration has served as the foundation to study campus climate as an ecological structure and influencer of student success (Hurtado & Guillermo-Wann, 2013).

Tinto's theory of individual departure has however been expanded and critiqued for its lack of a critical lens (Baird, 2000; Guiffrida, Gouveia, Wall, & Seward, 2008; Hurtado et al., 1998). Campus environments are "complex social systems defined by the relationships between the people, bureaucratic procedures, structural arrangements, institutional goals and values, traditions, and larger socio-historical environments" (Hurtado et al., 1998, p. 296). When attempting to assist students within these complex environments, educational practitioners must view the student within the entirety of their social contexts to help increase success and persistence, creating an opportunity to apply a critical queer theoretical lens to Tinto's student attrition theory. Not only are the components of a student's lived experiences important to understand, but the historical legacies that have shaped societal and institutional positions of power, privilege, and constructed normalcy must be taken into consideration as well which is where Butler's queer theory (1990) intersects with Tinto's (1993) interactional theory.

Queer theory is considered a post-structural critical theory that expands the binaries of gender, sexuality, desire, and identity (Butler, 1990). Queer theory does not exist in a singular form, but is instead a body of theories that "critically analyzes the meaning of identity, focusing on intersections of identities and resisting oppressive social constructions of sexual orientation and gender" (Abes & Kasch, 2007, p. 620). This framework was born out of feminist and gender theories, and provides a lens through which to view the structural and interpersonal climates on a college campus. Beginning from a place of gender, traditional and westernized definitions of gender are often equated to biological sex, and both exist on a male and female binary (Turner,

1999). Queer theory suggests that not only is gender and sexuality a socio-political construct, but that heterosexuality and cisgender identity is a compulsive performance imposed through behavioral monitoring by members of society (Foucault, 1990; Pascoe, 2007). Queer theorists suggest that one's understanding of personal gender identity and sexual orientation, and more broadly identity categories as a whole, are not static and may develop over time especially when influenced by interpersonal, institutional, and societal experiences (Bornstein, 2016; Butler, 1990).

Combining the theories of Tinto (1993) and Butler (1990) provides a complimentary perspective on LGBTQA college student persistence and success. Unfortunately social, economic, and academic barriers are familiar obstacles for the LGBTQA community, and transgender and gender nonconforming students of color are often disproportionately impacted (Beemyn, Curtis, Davis, & Tubbs, 2005; Rankin, 2003). If it is known that college students are more likely to remain in college if they are connected to and supported by their families, institutions, and peers, then it is plausible to assume that LGBTQA students who statistically experience hostile campus climates more frequently will face particularly heightened barriers to maintaining a sense of connection and belonging. Institutions may not be able to instantly change the homophobic, transphobic, and binary conditions, values, systems and beliefs within the campus environment, however, institutions *can* do their best to resist binary structures and provide opportunities for diverse students to seek out critical experiences in an equally affirming and challenging environment (Astin, 1991; Chickering & Reisser, 1993; Kuh et al., 1991). The opportunity these theoretical frameworks provide is the ability to more fully grasp the intricate web of student experience and to intervene more equitably across families, institutional practices, and peer-to-peer interactions.

Student Success

Within the realm of higher education and student affairs research, there is a multitude of definitions and markers of student success. As the United States struggles to compete and move up in the ranks of nation-wide student graduation rates, many researchers and policymakers have focused on improving measurable and concrete outcomes such as enrollment, grade point averages, first-year dropout rates, amount of time for degree completion, and overall degree attainment (Venezia et al., 2005). In the process of exploring the environmental factors that may negatively impact these outcomes, more abstract concepts such as student satisfaction, perception of the campus environment, and identity development have emerged as important areas of inquiry due to the work of student development-based researchers such as Astin (1993) and Tinto (1993). Redefining and improving student success has become a more blended practice of considering academic, co-curricular, and interpersonal experiences (Hurtado & Guillermo-Wann, 2013).

The evolution of understanding student success beyond purely numerical measures has been influential to academic and administrative practitioners' ability to more holistically improve the student experience, particularly for those who are historically underrepresented. Students' opinions on their academic and co-curricular experiences, satisfaction, and social connections have become early indicators of future student success, especially in terms of academic achievement, identity development, college-persistence and peer-to-peer integration (Strauss & Volkwein, 2002; Tinto, 1993). For example, racially and ethnically marginalized students tend to have a more difficult time engaging in experiential learning and student engagement activities at institutions where they are in the minority (Kuh et al. 2005; Pascarella & Terenzini, 1991). Experiences of racism among their peers and authority heavily impact this reality. Sense of inclusion and belonging on college campuses are directly linked to how much a student will

invest in educational activities both inside the classroom and outside the classroom in co-curricular activities (Kuh, 2001; Kuh et al., 2005; Pascarella, 2001).

The importance of having an interpersonal connection to a campus community is critical to student persistence as explored within multiple well-known works of research (Astin, 1977; Kuh et al., 2005; Pascarella & Terenzini, 1991; Tinto, 1993). With regards to social interaction and student diversity, many institutions of higher education become spaces in which students learn to appreciate difference, grow the ability to problem solve in diverse group settings, and further their personal sense of identity (Baxter-Magolda, 2001, 2004). However, the ability to build positive social connections to their campus community is difficult for many students, especially when students are underrepresented (Berger & Milem, 1999). The literature suggests students of color who experience a hostile campus climate have lower rates of college persistence and have problems with social adjustment (Guiffrida, Gouveia, Wall, & Seward, 2008; Hurtado & Ponjuan, 2005). When the campus climate is positively experienced, and students have the opportunity to engage with diverse peers, students are more likely to develop positive learning outcomes and remain in college (Hurtado & Ponjuan, 2005).

LGBTQA Campus Climate

While there is a wealth of research available surrounding the experiences and college persistence of racial and ethnic minoritized students and the impact of campus climate on their overall success (Clauss-Ehlers & Wibrowski, 2007; Hu & St. John, 2001; Kim, 2011), LGBTQA campus climate is an emerging area of study, worthy of review and further exploration. There has been a mix of both quantitative and qualitative studies examining the negative or discriminatory experiences of LGBTQA students on college campuses (Rankin, 2003, Renn 2010). Much of the research focuses on key areas including peer-to-peer verbal and physical bias, perception of faculty or administrative prejudice, and campus policy and structural resource

deficiencies in regards to diverse gender and sexuality inclusion (Hong, Woodford, Long, & Renn, 2016; Woodford & Kulick, 2015; Woodford, Chonody, Kulick, Brennan, & Renn, 2015). Several researchers also have documented the impact of these experiences including social isolation, depression, closeting of identity, poor academic performance, and desire to drop out (Garvey & Rankin, 2015; Rankin et al. 2017; Singh, Meng, & Hansen, 2013; Tetreault, Fette, Meidlinger, & Hope, 2013). While many institutions have worked to counteract these realities, support interventions are widely diverse, and are often inconsistent or under-resourced (Garvey et al., 2017; Rankin, 2003; Singh et al., 2013).

Campus climate can be defined as "the overall ethos or atmosphere of a college campus mediated by the extent individuals feel a sense of safety, belonging, and engagement within the environment and value as members of the community" (Renn & Patton, 2010, p. 248). In the field of higher education inquiry as it relates to LGBTQA campus climate, there is a myriad of methodologies and theoretical frameworks employed by researchers. Primarily, researchers have examined three main areas: perceptions of campus climate from LGBTQA students, perceptions of LGBTQA students by their cisgender and heterosexual peers, and existence of policies, structures, and practices meant to improve the LGBTQA college student experience (Renn, 2010). Within these three identified approaches, researchers utilize a blend of quantitative, qualitative, and mixed methodologies. However partly due to the ever-changing landscape of gender and sexuality, the manner in which researchers have investigated campus climate is even more varied within individual methodological categories. In other words, there is no standard or universally accepted methodological approach to exploring campus climate for LGBTQA students, and the differences reveal both opportunities and limitations for new research (Rankin et al., 2017).

One mixed-methods study by Tetreault, Fette, Meidlinger, and Hope (2013) highlights how multiple biased experiences can lead to negative sense of campus climate, and hence negatively influence the student experience. Utilizing a primarily quantitative survey, with some open-ended survey responses, and focusing on one institution with a response number of 72, it was discovered that students were more likely to experience verbal and physical harassment than their heterosexual counterparts. They also uncovered that experiences of biased harassment occurred overwhelmingly between students, as opposed to faculty or staff. The respondent size was relatively limited, and not fully encompassing of the entire LGBTQA community on campus, particularly those who were questioning their identity. While the pool of respondents was small, additional research indicates that students from other institutions face similar challenges.

In a significantly larger study of 530 students across various institutions by Hong et al. (2016), researchers made similar findings around the experiences of bias from peers and instructors. However, bias was examined at multiple levels including the documentation of both blatant and subtle instances of homophobia at colleges and universities. Blatant discrimination included physical threats, verbal threats, and sexuality-based epithets. More subtle instances of homophobia included insensitive jokes, invalidating statements or questions, and perception of peer avoidance based on perceived gender identity and sexuality. Subtle instances of bias, or implicit bias, were more likely in this study than overt instances of bias.

Implicit bias has been more deeply explored in additional studies (Woodford et al., 2015). Given that the occurrences of implicit bias are generally more prevalent for LGBTQA students, understanding the nature of subtle forms of bias is important to better understanding LGBTQA student perceptions of campus climate. In this study, researchers conducted a mixed methods study that included a 14-person focus group at a Midwestern university and an analysis of

anonymous survey responses conducted on a national level. While the initial focus group was small, results from the focus group and their description of subtle bias correlated to the survey. Whether or not these experiences are typical for LGBTQA students has been explored in larger-scale studies.

One of the largest national LGBTQA student studies to date was conducted by Dr. Sue Rankin (2003) and consisted of over 1,500 respondents from around the country. Fourteen campuses, consisting of ten public colleges and four private universities, participated in the study. All of the campuses deployed an identical assessment tool, which measured both campus experiences and perceptions of the university response to support LGBTQA students. The results of the study indicated that more than one-third of LGBTQA undergraduate students have experienced harassment. Harassment was defined as derogatory remarks, spoken harassment or threats, anti-LGBTQA defacement of property, pressure to conceal one's sexual orientation or gender identity, and physical assaults. Seventy-nine percent of those harassed identified their fellow students as the source of the biased encounters. These findings were reinforced in the largest LGBTQA campus climate study to date which utilized similar methodology to the 2003 Rankin study. Rankin, Weber, Blumenfeld, and Frazier (2010) analyzed 5,149 students, faculty, and staff responses at colleges and universities in all fifty states across diverse institution types. The findings show queer respondents were more than twice as likely to be targets of derogatory remarks (61%) when compared with their heterosexual counterparts (29%).

Campus Climate Impact on LGBTQA Student Outcomes

Clearly, LGBTQA students experience bias and discrimination on college campuses in various forms; however some studies have also documented the achievement-based impact of negative perceptions of campus climate. Woodford and Kulick (2015) found that a perception of anti-LGBTQA environments results in decreased student sense of academic importance,

increased academic disengagement, and correlated with a lower grade point average. In addition, the study documented negative psychological effects including limited social integration, depression, desire to escape the campus community, and lower sense of self-worth. These findings were particularly prevalent for closeted students who were hesitant to live openly out of fear of harassment. An interesting finding in this study included that while students who were out on campus and associated openly with other LGBTQA students performed better academically, they also had an increased likelihood of experiencing anti-LGBTQA bias. This finding indicates that even though LGBTQA students are more likely to experience stronger social integration by being open about their identity, this choice has the potential to intensify verbal and physical harassment.

Other research supports the correlation between level of openness about identity and frequency of identity-based harassment, although homophobia and transphobia can be experienced based on actual and/or perceived identity. As part of their study, Tetreault et al. (2013) discovered that LGBTQA students who negatively perceived the campus climate were more likely to hide their identities from other students. However, participants who were open about their identity to other students were more likely to report instances of verbal and physical harassment. Also uncovered in this study included how perceived instructor bias and lack of supportive friend circles, when coupled with lack of parental support at home, resulted in LGBTQA students being less likely to feel as though they would persist in their college careers. The researchers measured how often students contemplated dropping out of college completely, and discovered that both experiences of bias and perception of potential harassment increased these thoughts. While the study did hypothesize that a negative perception of campus climate was a high-risk factor for LGBTQA dropout, because it was anonymous and not longitudinal, it could not fully assess actual retention over time.

Garvey and Rankin (2015) further explored the impact of campus climate on the coming out experience of LGBTQA students. Acknowledging that many LGBTQA adolescents navigate the coming out process at the college age, they utilized data from a national campus climate survey of over 5,000 LGBTQA college students, faculty, and staff. The respondents were narrowed down to only include the 2,100 students, and the questions were narrowed to only examine the section of levels of being open about sexual or gender identity. Levels of being out included separate questions for being open with family, with peers, with faculty, and with administration. Data showed that students navigated the coming out process while seriously weighing factors such as perceived campus climate, whether or not curriculum in the classroom was inclusive of LGBTQA narratives, and anticipated family rejection.

Students who were cisgender and women identified were more likely to be out at multiple levels (Garvey & Rankin, 2015). Transgender and male-identified students were more likely to stay closeted at various levels. The research suggests that campus climate, curriculum inclusion, and familial support exist disproportionately for transgender and cisgender students, and between men and women. Students who were closeted in most of their social, academic, and familial settings were significantly more likely to seek out campus resources. This study implies that accessible resources on campus are important for closeted students and those who struggle to find peer-to-peer communities, and that statistically these students are disproportionately transgender. Other research has also shown that LGBTQA students must be treated as diverse individuals with multiple social group memberships, including but not limited to race, ethnicity, religion, immigration status, income, and gender identity, in order to provide effective support services (Love, Bock, Jannarone & Richardson, 2005; Yeung, Stombler & Wharton, 2006).

LGBTQA students also display resiliency and success in the face of discrimination and marginalization, although these themes are explored significantly less frequently in peer-

reviewed literature. In one recent study, Abustan (2017) used co-constructed participatory action research to examine the collective emotional impact of navigating and organizing on an oppressive campus environment for queer and transgender students of color. The research was grounded in what the author describes as a queer critical race feminist theoretical framework, which is unique when compared to quantitative campus climate research. While the framework is similar to the tenets of intersectionality, the author chooses to pull from specific feminist of color and queer scholars of color to understand her participants.

Abustan's study contained similar findings to more common literature including themes of depression and anxiety, isolation, invisibility, and frustration with lack of support on campus. However, the participants also revealed mechanisms for healing, survival, resistance, civic engagement, and mentorship building. These themes provide insight on how queer and transgender students of color build networks and engage in collective action in order to successfully navigate the campus and exclusionary student organizations. While disproportionate health and achievement disparities are a reality of navigating chilly campus climates, these are not the only stories to tell. Educational research that relies solely on individual social identities to explain achievement gaps, as opposed to interpersonal, institutional, and societal environments, have painted incomplete narratives and produced deficit model reform frameworks for educational research and reform (Collins, 2009). Abustan resists this framework by examining what keeps marginalized students engaged and active on campus.

Queer Theory as a Lens for Inequity

Much of the literature explores educational stratification with a particular focus on the deficits of learners who are Black, Latino/a/x, Native American, Southeast Asian, women, poor and working class, second language learners, immigrant, LGBTQA, and/or students with disabilities (Anyon, 1990; Minow, 1990; Renn, 2010; Teranishi, 2002; Warikoo & Carter, 2009).

In actuality, inequity continues to persist when it is assumed that educational environments are designed equally and that there is such a thing as a standard learner (Anyon, 1980; Minow, 1990). It is further strengthened by the systematically perpetuated belief that social identities by themselves serve as the source of unequal achievement instead of the institution and its actors (Ladson-Billings, 2006). While inequities in educational achievement have often been attributed to individual characteristics, in truth student success is inextricably linked to systems of power, privilege, structural discrimination, sociopolitical representation, economic disparity, and societal investment (Carter, 2003; Ladson-Billings, 1998, 2006).

The expectations placed on individuals based on their gender designation changes from culture to culture, and often family to family. Gender is a complex set of societal norms, roles, and characteristics assigned to individuals based on a dichotomous classification of biological sex (Connell, 2002). While one's gender identity may seem innate, researchers grounded in feminist and queer pedagogies understand gender as a performance, and one that is closely linked with the expectation of heterosexuality (Butler, 1990; Connell, 2002; Lugg, 2006). The performance of gender has tangible roots in and implications for institutions of education. Educational institutions have historically either been completely exclusionary of genders other than men, or have created environments designed only for heterosexual and cisgender men's success (Karabel, 2006). LGBTQA students navigate these binary environments in which individuals perpetuate gendered and sexualized normalcy through behavioral monitoring (Pascoe, 2007).

At an ideological level, societal stereotypes around gender "normalcy" are taught both consciously and subconsciously. Metro-Roland (2011), utilizes the philosophies of Foucault to support this theory. The propensity for society to maintain rule and order is often done through group conformity and community surveillance. Foucault also speaks specifically to discipline as

a mode of encouraging inequitable conformity. Whether stated or unstated, femininity and masculinity are understood as polar opposites from one another. If men are expected to be strong, dominant, and logical, then women are expected to be weak, submissive, and emotional (Connell, 2002; Pascoe, 2007). At a more basic level assumption, everyone is expected to identify either as man or a woman, and certainly people are expected to be heterosexual, or attracted to members of the "opposite" sex (Pascoe, 2007; Turner, 1999).

Students who are perceived to blur the binary of gender or openly identify outside of the gender and sexual binary open themselves up for ridicule by their peers, often unchecked by those in authority, especially in schools (Pascoe, 2007). At the primary school level, countless activities are gendered. Children often police gendered activities and interests of their peers, even in activities as seemingly benign as their choice of toy (Pascoe, 2007). Boys who are encouraged to play with building blocks and racecars can become architects and mechanics. Dolls connect to child rearing, and the easy bake oven to homemaking. To express an interest in a toy or activity usually utilized by the "opposite" gender may be met with ridicule, shame, and potentially social rejection (Butler, 1990; Connell, 2002). With this theoretical lens in place, peer-to-peer bias and harassment can be better understood as a mechanism of social policing and forced norming.

Another example of gender-based institutional inequity that materializes in schools is the phenomenon of compulsory heterosexuality (Pascoe, 2007). At the K-12 level, the assumption that everyone identifies as heterosexual is present in various forms, but perhaps the most obvious in sex education. Most sex education, at least those that are comprehensive and not abstinence only, are taught from a heterosexual lens (Gowen & Winges-Yanez, 2014). Curriculum is designed under the guise that all sex involves one man and one woman engaging in a penetrative act (Johnson & Lugg, 2010). Risk is defined under the lens of both STI transmission, and pregnancy, and safer sex methods focus on prevention of these two risks. However, not all sex

involves the risk of pregnancy, and barrier methods serve as a tool outside of contraception, particularly for same sex couples. Perhaps a more fundamental oversight of traditional sex education is that assumption that all those who identify as men will have a penis, and all those who identify as women will have a vagina (Coyote & Spoon, 2014). This does not ring true for a growing population of transgender and gender nonbinary students (Singh, Meng, & Hansen, 2013). Any deviation from this scripted "norm" may leave an individual vulnerable and challenged by institutional and socially reinforced binaries (Seidman, 2010).

In higher education, gender policing and gendered expectations arise in structural policies. When students enter campuses, they are divided based on legal sex status into sports teams, residential halls, restrooms and locker rooms (Coyote & Spoon, 2014). These spaces rely on the assumption of gender identity and performance as being stagnant and as binary, as opposed to more nuanced understanding of gender as a spectrum (Tetreault, Fette, Meidlinger, & Hope, 2013). Students who navigate gender fluidity or who are in transition in college often face a lack of inclusive policies, accommodations, and discrimination from peers, faculty, and staff (Rankin, 2003). The harsh reality of being seen as a misunderstood "other" can lead to isolation, depression, and violence (Garvey & Rankin, 2015; Rankin, 2003). Institutions that refuse to recognize self-expressed gender, preferred name use for transgender students, and lack of avenues to actively report incidents of bias only serve to perpetuate these inequalities (Rankin, 2003; Singh, Meng, & Hansen, 2013).

Chapter Summary

Ultimately, the literature indicates that there is a relationship between LGBTQA student perception and experiences with exclusion on campus and their overall success. However, what is consistently missing from the research is longitudinal analysis of college completion and the framing of LGBTQA identity as an asset, rather than solely a deficit or risk-factor. While

researchers have explored potential warning signs of college attrition, such as the frequency of thinking about leaving college, studies have been unable to capture whether or not LGBTQA students do ultimately leave (Garvey et al., 2017; Tetreault et al., 2013). Currently, these gaps in research present an opportunity to utilize the Diverse Learning Environments survey in order to better understand the experiences, barriers, development, and resilience of LGBTQA students at Rutgers University.

CHAPTER III: RESEARCH METHODS

Research Design

Secondary quantitative analysis of responses to the Diverse Learning Environments (DLE) survey were used to test the research hypotheses (Creswell, 2014). Using a non-experimental descriptive research design, the cross-sectional survey collected data "from selected individuals at a single point in time…providing a snapshot of the current behaviors, attitudes, and beliefs in a population" (Gay, 2009, p.176). While the DLE ensured a real time analysis, the limitations of the cross-sectional design limits forecasting trends or capturing change over time (Gay, 2009). The DLE consisted of close-ended demographic, opinion scales, and frequency questions with statistically validated latent variable construct indicators of campus climate and student success outcomes (Hurtado & Guillermo-Wann, 2013). In addition, this survey instrument was in part selected for its construction of demographic questions, which allowed students to self-report gender and sexuality along a spectrum.

The dataset for this study was pre-existing as Rutgers University-New Brunswick participated in the campus climate survey in the spring of 2017, and the results were received for analysis from HERI in September of 2017. The survey has been widely used at a number of diverse universities including California State University, Northern Arizona University, San Jose State University, Texas A&M University, University of Denver, University of Illinois at Chicago, University of Nevada, Las Vegas, and University of San Diego (Hurtado & Guillermo-Wann, 2013).

Sampling

Census sampling was utilized for dissemination of the DLE as all upper-class undergraduate students were invited to participate in the survey. The DLE survey was administered electronically to all undergraduate students at Rutgers University – New Brunswick

who enrolled in classes before the fall semester of 2016. First-year students were excluded from survey participation as the DLE is designed to target students with more substantial and sustained familiarity with their respective campus environments (Hurtado & Guillermo-Wann, 2013). The survey received a 17% response rate (*n*=4,147). Out of the respondents, approximately 11% (*n*=461) identified as queer and or trans spectrum.

Data Collection

The original survey dissemination and data analysis was conducted by a small research team, on which I served, within the Division of Student Affairs at Rutgers University-New Brunswick and IRB approval was received for this study in January of 2017. The DLE survey was administered electronically over a four-week period via email in February. A series of marketing initiatives were implemented including posters, tabling, and emails from key administrative and student leaders on campus. All eligible students received at least four emails with reminders throughout the survey period. Those who completed the survey were entered into a random drawing for monetary rewards ranging from $500 to $25 Visa gift-cards.

Measures

Latent factor variable scores from the Diverse Learning Environments (DLE) core survey was used to measure campus climate including experiences of bias and discrimination, conversations across difference, opinion of institutional commitment to diversity, academic validation in the classroom, and general interpersonal validation (Brown, 2006). The survey tool is grounded in a framework from research indicating that optimizing diversity in learning environments can facilitate achievement of key success outcome measures such as habits of mind, pluralistic orientation, social agency, civic engagement, critical consciousness and action, sense of belonging, and academic self-concept (Hurtado & Guillermo-Wann, 2013). Each climate and success outcome factor score was scaled to a population mean of 50 with a standard

deviation of 10. Below are brief descriptions of each measure, including factor construct reliabilities using Cronbach's α, however the full variable constructs are attached in Appendix A.

Discrimination and bias - climate. This eight-item scale was used to evaluate the frequency of experiencing subtle forms of discrimination. Items are scored on a five-point Likert scale with 1 = Never to 5= Very Often, with higher scores indicating more frequent experiences of subtle discrimination. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .876 for the bias and discrimination scale.

Harassment - climate. This seven-item scale was used to measure the frequency that students experience threats or harassment. The items are scored on a five-point Likert scale with Items are scored on a five-point Likert scale with 1 = Never to 5= Very Often, with higher scores indicating more frequent experiences of blatant harassment. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .879 for the harassment scale.

Conversations across difference - climate. This six-item scale was used to evaluate the frequency of student conversations across lines of class, religious, sexual orientation, immigration status, disability, and gender differences. The six items are scored on a three-point Likert scale with 1 = Not At All to 3 = Frequently, with higher scores indicating more frequent conversations across difference. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability for at .752.

Institutional commitment to diversity - climate. This four-item scale was used to evaluate the extent to which students agree that the institution is committed to diversity. Items are scored on a four-point Likert scale with 1 = Strongly Agree to 4 = Strongly Disagree. For these items, lower scores indicate greater agreement that students feel as though there is an institutional commitment to diversity. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .857 for this scale.

Academic validation in the classroom - climate. This four-item scale was used to measure students' experiences specifically within the classroom in regards to feeling that faculty have concern for their academic success. Items are scored on a five-point Likert scale with 1= Never to 5 = Very Often, with higher scores indicating more frequent academic validation within the classroom. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .893 for this scale.

General interpersonal validation - climate. This six-item scale was used to measure students' agreement that faculty and staff are invested in their development. Items are scored on a four-point Likert scale with 1= Strongly Agree to 4 = Strongly Disagree, with lower scores indicating stronger agreement. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .867 for this scale.

Habits of mind - outcome. This nine-item scale was used to evaluate student development of behaviors associated with academic success. The nine items are scored on a three-point Likert scale with 1 = Not At All to 3 = Frequently, with higher scores being associated with a stronger foundation for lifelong learning. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .864.

Pluralistic orientation - outcome. This five-item scale was used to evaluate student self-opinion of their skills for living and working in a diverse society. The five items are scored on a five-point Likert scale with 1 = Lowest 10% to 5 = Highest 10%, with higher scores being associated with a stronger orientation. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .820.

Social agency - outcome. This six-item scale was used to evaluate the extent to which students value social involvement and political engagement as a personal goal. The six items are scored on a four-point Likert scale with 1 = Not Important to 4 = Essential with higher scores

being associated with stronger social agency. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .821.

Civic engagement - outcome. This four-item scale was used to evaluate the extent to which students are involved in political and civic activities. The six items are scored on a five-point Likert scale with 1 = Never to 5 = Very Often with higher scores being associated with more frequent civic engagement. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .816.

Critical consciousness and action - outcome. This six-item scale was used to evaluate the frequency of student reflecting on their own biases, and challenging others. The six items are scored on a three-point Likert scale with 1 = Not At All to 3 = Frequently, with higher scores indicating more frequent bias reflection and challenge. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .814.

Sense of belonging - outcome. This four-item scale was used to evaluate the extent to which students agree they have developed a sense of belonging on campus, and reflects student social integration. Items are scored on a four-point Likert scale with 1= Strongly Agree to 4 = Strongly Disagree, with lower scores indicating stronger agreement. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .725.

Academic self-concept - outcome. This four-item scale was used to evaluate student self-opinion of their academic skills and confidence. The four items are scored on a five-point Likert scale with 1 = Lowest 10% to 5 = Highest 10%, with higher scores being associated with stronger confidence. Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability at .864.

Data Analysis

Research question 1. Are there statistically significant differences between LGBTQA students and their peers in regards to perceptions of campus climate when measured by their experiences of bias and discrimination, harassment, conversations across difference, satisfaction with the institutional commitment to diversity, academic validation, and interpersonal validation? For this research question, t-tests and descriptive statistics were used to compare group means for significant differences between queer and trans-spectrum students and their heterosexual and cisgender peers for each latent variable construct (Creswell, 2014). To address my third research question, t-tests and descriptive statistics were used to examine group differences *within* the LGBTQA community across race, Pell grant eligibility, and disability status.

Research question 2. Are there statistically significant differences between LGBTQA students and their peers in regards to student success outcomes as measured by their habits of mind, pluralistic orientation, social agency, civic engagement, critical consciousness and action, academic self-concept, and sense of belonging? For this research question, t-tests and descriptive statistics were used to compare group means for significant differences between queer and trans-spectrum students and their heterosexual and cisgender peers for each latent variable construct (Creswell, 2014). To address my third research question, t-tests and descriptive statistics were used to examine group differences *within* the LGBTQA community across race, Pell grant eligibility, and disability status.

Research question 4. Are there statistically significant differences in the frequency between LGBTQA students and their heterosexual and cisgender peers in regards to their consideration to drop out of college? Outside of the latent factor constructs, the DLE contains dozens of other variables. In order to assess risk for attrition, I analyzed student responses to what extent in the past year they have contemplated dropping out of college. This question was

asked on a three-point scale including 1-Not at all, 2- To Some Extent, 3-To Great Extent. For this research question, a chi-square test for independence and descriptive statistics were used to measure if the frequency of contemplation is significantly influenced by sexual orientation and/or gender identity (Creswell, 2014).

Epistemology

While there exists a considerable amount of variability across campus climate research, the large majority of LGBTQA specific research is situated in constructivist epistemology and employs critical qualitative methodology. I deeply value these approaches, however as a practitioner actively engaged in LGBTQA functional areas for nearly 10 years, I also recognize the urgent need for larger datasets, numerical data, and the ability to interpret trends within queer and trans spectrum students across time. I also am aware of the inherent political nature of collecting, interpreting, and sharing data with administration that may be more receptive to quantitative research over solely qualitative. This is especially important when it comes to resource allocation and inclusion in national dialogues regarding retention. While quantitative research is most often associated with positivism, and hence the ability to verify or reject hypotheses in an objective and mathematical manner, I do not believe that knowledge exists as a universal truth, nor do I believe that any researcher can ever be truly objective. Instead, knowledge is relative and research is subjectively produced through individual and collective interaction with socially constructed realities (Jones, Torres, & Arminio, 2014). For this study, I engaged in pragmatism as an epistemological approach. Pragmatists are focused on research as a vehicle to diagnose educational environments in order to disrupt inequities, with the ultimate goal of influencing change in their respective environments.

Positionality

As a person with multiple marginalized identities, who struggled to find inclusive and holistic support structures during my own educational experience, I am not objective in my assumptions, my research, or my practice. I identify as a queer woman of color, raised working poor, and also as a social justice practitioner and student advocate. I specifically chose campus climate research for my dissertation because everyday I see the negative impact of hostile experiences for historically underrepresented students, and I truly believe institutions and interpersonal environments must be diagnosed as producers of inequitable risk rather than those with historically underrepresented identities. As an advocate, I am consistently trying to utilize my research for practical and tangible change. In fact, it was because of the student demand for a campus climate study two years ago that my current research project even exists.

As someone who works alongside marginalized students, I was able to advocate within administration to reinforce the need to listen and respond to our students. My positionality as someone who actively shares similar social identities as those I am centering in my research, in addition to serving as a visible advocate, also made it easier to recruit participants. That being said, I am also in the position of an administrator. So while I may share some of the social identities of my research participants, the institution in which my participants are potentially reporting negative experiences is also my employer. As an insider-outsider researcher that actively recognizes the inherent limitations of being an administrator within the institution students are critiquing, I also have to actively resist the pressure to tell more institutionally palatable stories from the collected data (Jones, Torres, & Arminio, 2014). I have to ensure I am being both fair and honest in my data analysis, while also weighing the potential risk to my livelihood, reputation, and ability to continue to influence the college. Ultimately, I am accountable to those that have shared their truths, and I must honor their experiences.

CHAPTER IV: RESULTS

Descriptive Statistics

SPSS analytical software was used for all analyses. The survey received a 17% response rate (*n*=4,147), and select participant demographics relevant to this study are reported in Table 1.

Table 1

Frequencies and Percentages for Select Demographic Characteristics of Participants

Variable	*n*	%
Gender Identity*		
Cisgender Woman	2,718	66.5
Cisgender Man	1,314	32.1
Trans Spectrum	56	1.4
Trans Man	2	.06
Trans Woman	7	.17
Nonbinary/Gender Queer	47	1.17
Sexual Orientation*		
Heterosexual	2,846	86.2
Queer Spectrum	454	13.8
Lesbian	39	1.2
Gay	69	2.1
Bisexual/Pansexual	235	7.1
Queer	86	2.6
Asexual	25	.8
Race/Ethnicity*		
Black/African American	263	6.7
Latinx	294	7.5
East Asian	553	14
South Asian	510	12.9
Southeast Asian, Pacific Islander, Other Asian	146	3.7
Multiracial	674	17.1
White/European	1,407	35.7
Middle Eastern	89	2.3
Native American/Alaskan Native	4	.1
Pell Grant Eligibility*		
Eligible	1,100	56.5
Not Eligible	848	43.5
Disability Status*		
No Disability	3,124	75.3
Disability	1,023	24.6
Physical Disability	167	4
Emotional, Cognitive, Learning Disability	856	20.6

*Note** Missing responses were omitted from *n* and percentages.

Research Question 1

An independent samples t-test was conducted to compare climate factor scores for LGBTQA students and their heterosexual and cisgender peers. Prior to conducting the analysis, the assumption of normally distributed scores was examined and satisfied, as the skew < |2.0| and kurtosis < |9.0| for all factors (Posten, 1984). Table 2 shows the results of the t-tests for sexual orientation, and indicates there was no significant difference between the mean scores of heterosexual students and queer spectrum students in harassment, academic validation, and interpersonal validation. The results of the t-tests did, however, indicate queer spectrum students scoring significantly higher in bias and discrimination and conversations across difference. Queer students also scored significantly lower in satisfaction with the institutional commitment to diversity. The magnitude of the differences in the significantly different means ranged from small to medium based on Cohen's *d* (1988). The guidelines proposed by Cohen (1988) for interpreting this value are: <.2 = small effect, .5 = moderate effect, >.8 = large effect.

Table 2

Differences in Campus Climate Scales by Sexual Orientation

Climate Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Bias and Discrimination +	Heterosexual	2,796	52.79	10.36	2.75	.000***	.25
	Queer Spectrum	449	55.54	11.50			
Harassment	Heterosexual	2,786	52.07	11.43	.64	.275	
	Queer Spectrum	443	52.71	11.92			
Conversations Across Difference +	Heterosexual	2,814	51.27	8.73	3.74	.000***	.47
	Queer Spectrum	449	55.01	7.13			
Institutional Commitment to Diversity	Heterosexual	2,787	48.87	7.84	-1.61	.000***	.20
	Queer Spectrum	442	47.27	8.10			
Academic Validation +	Heterosexual	2,815	47.00	9.71	.57	.246	
	Queer Spectrum	450	47.57	9.66			
Interpersonal Validation	Heterosexual	2,759	47.26	9.93	.90	.079	
	Queer Spectrum	440	48.15	10.22			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 3 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there was statistically no significant difference between the mean scores of cisgender students and trans spectrum students in harassment, academic validation, and interpersonal validation. The results of the t-tests did, however, indicate a significant difference in the mean sores for bias and discrimination, conversations across difference, and satisfaction with the institutional commitment to diversity. Trans spectrum students scored higher in bias and discrimination and conversations across difference, while they scored lower in satisfaction with the institutional commitment to diversity. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988).

Table 3

Differences in Campus Climate Scales by Gender Identity

Climate Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Bias and Discrimination	Cisgender	3,376	53.14	10.53	4.88	.001***	.42
	Trans Spectrum	51	58.02	12.73			
Harassment	Cisgender	3,359	52.28	11.72	2.94	.077	
	Trans Spectrum	51	55.22	15.66			
Conversations Across Difference	Cisgender	3,458	51.69	8.62	2.89	.018*	.29
	Trans Spectrum	51	54.58	11.06			
Institutional Commitment to Diversity	Cisgender	3,568	48.64	8.01	-3.16	.004**	.40
	Trans Spectrum	54	45.48	7.79			
Academic Validation	Cisgender	3,300	46.98	9.72	.54	.702	
	Trans Spectrum	49	47.51	10.59			
Interpersonal Validation	Cisgender	3,624	47.20	10.00	.60	.664	
	Trans Spectrum	54	46.61	10.32			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.

Research Question 2

An independent samples t-test was conducted to compare outcome factor scores for LGBTQA students and their heterosexual and cisgender peers. Prior to conducting the analysis, the assumption of normally distributed scores was examined and satisfied, as the skew < |2.0| and kurtosis < |9.0| for all factors (Posten, 1984). Table 4 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were significant differences between the mean scores of heterosexual students and queer spectrum students in all outcome factors. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988). Queer students scored higher than their peers in habits of mind, pluralistic orientation, social agency, civic engagement, and critical consciousness. They scored lower than their peers in academic self-concept and sense of belonging.

Table 4

Differences in Success Outcome Scales by Sexual Orientation

Outcome Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Habits of mind	Heterosexual	2,787	49.18	9.82	1.47	.003**	.15
	Queer Spectrum	444	50.65	9.69			
Pluralistic Orientation	Heterosexual	2,816	50.24	9.37	1.30	.006**	.14
	Queer Spectrum	447	51.54	9.20			
Social Agency +	Heterosexual	2,774	53.44	9.65	3.54	.000***	.40
	Queer Spectrum	440	56.99	8.53			
Civic Engagement +	Heterosexual	2,807	51.86	9.65	4.31	.000***	.43
	Queer Spectrum	447	56.17	10.33			
Critical Consciousness and Action +	Heterosexual	2,797	52.03	9.20	3.86	.000***	.44
	Queer Spectrum	450	55.89	8.36			
Academic Self-Concept	Heterosexual	2,811	49.50	9.79	-2.41	.000**	.24
	Queer Spectrum	449	47.09	10.28			
Sense of Belonging	Heterosexual	2,787	51.13	9.30	-1.13	.018*	.12
	Queer Spectrum	447	50.00	9.69			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 5 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were statistically significant differences between the mean scores of cisgender students and trans spectrum students in social agency, civic engagement, critical consciousness and action, and academic self-concept. There were no significant differences in habits of mind, pluralistic orientation, or sense of belonging. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988). Trans spectrum students scored higher than their peers in social agency, civic engagement, and critical consciousness. They scored lower than their peers in academic self-concept.

Table 5

Differences in Success Outcome Scales by Gender Identity

Outcome Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Habits of mind	Cisgender	3,332	49.30	9.82	-.22	.878	
	Trans Spectrum	50	49.08	11.73			
Pluralistic Orientation	Cisgender	3,682	50.40	9.44	-2.02	.122	
	Trans Spectrum	53	48.38	9.18			
Social Agency	Cisgender	3,442	53.89	9.63	3.47	.011*	.38
	Trans Spectrum	51	57.36	8.68			
Civic Engagement	Cisgender	3,259	52.33	9.86	4.59	.001***	.44
	Trans Spectrum	49	56.92	10.86			
Critical Consciousness and Action	Cisgender	3,442	52.52	9.18	3.08	.018*	.32
	Trans Spectrum	51	55.60	10.01			
Academic Self-Concept	Cisgender	3,670	49.08	9.85	-2.98	.027*	.30
	Trans Spectrum	54	46.09	10.84			
Sense of Belonging	Cisgender	3,670	50.87	9.39	-1.76	.170	
	Trans Spectrum	55	49.12	9.49			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$..

Research Question 3

In order to answer my third research question, case selection was used to restrict the sample to only those respondents who identified as part of the LGBTQA community and factor reliability analysis was conducted (Appendix B). Relevant demographic breakdowns within the LGBTQA community (*n*=461) are described in Table 6. A third column with the percentages of the general sample is included for comparison purposes. Notably, LGBTQA students were more likely to identify as a person of color (71.4%) than the larger sample (62.7%). In addition, LGBTQA students were more likely to report experiencing an emotional, cognitive, or learning disability (50.8%) than the larger sample (20.6%). For the independent t-tests, race was simplified to students of color and white students, Pell grant eligible and non-Pell grant eligible, and living with a disability and no reported disability.

Table 6

Frequencies and Percentages for Select Demographic Characteristics of Queer and Trans Spectrum Participants

Variable	*n*	*%*	*% of Total Sample*
Race/Ethnicity			
Black/African American	24	5.2	6.7
Latinx	40	8.7	7.5
East Asian	51	11.1	14
South Asian	25	5.4	12.9
Southeast Asian, Pacific Islander, Other Asian	22	4.8	3.7
Multiracial	121	26.2	17.1
White/European	172	37.3	35.7
Middle Eastern	5	1.1	2.3
Native American/Alaskan Native	1	.2	.1
Pell Grant Eligibility*			
Eligible	159	56.4	56.5
Not Eligible	123	43.6	43.5
Disability Status			
No Disability	206	44.7	75.3
Disability	255	55.3	24.6
Physical Disability	21	4.5	4
Emotional, Cognitive, Learning Disability	234	50.8	20.6

*Note** Missing responses were omitted from *n* and percentages.

Climate factors with layered marginalized identities. To test the hypothesis that the climate factor scores are equal *within* the LGBTQA student community based on race, Pell grant eligibility, and disability status, independent t-tests were performed. Prior to conducting the analysis, the assumption of normally distributed scores was examined and satisfied, as the skew < |2.0| and kurtosis < |9.0| for all factors (Posten, 1984). Table 7 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were significant differences between the mean scores of white LGBTQA students and LGBTQA students of color in bias and discrimination and harassment. There were no significant differences in the remaining climate factors. LGBTQA students of color scored higher in these factors than white LGBTQA students. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988).

Table 7

Differences in Climate Scales by Race within LGBTQA Identity

Climate Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Bias and Discrimination +	White	168	53.08	9.24	3.60	.000***	.33
	Person of Color	288	56.68	12.39			
Harassment +	White	166	51.00	8.40	2.65	.010**	.24
	Person of Color	284	53.64	13.41			
Conversations Across Difference +	White	170	55.54	6.14	-1.01	.131	N/A
	Person of Color	286	54.53	8.04			
Institutional Commitment to Diversity	White	168	48.07	7.89	-1.25	.112	N/A
	Person of Color	282	46.82	8.18			
Academic Validation	White	170	47.95	9.29	-.61	.516	N/A
	Person of Color	287	47.34	10.05			
Interpersonal Validation	White	167	48.63	9.57	-.66	.511	N/A
	Person of Color	280	47.98	10.56			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 8 shows the results of the latent variable factor analysis using independent sample t-tests for Pell grant eligibility. The results of the t-tests indicated that there were significant differences between the mean scores of LGBTQA students who qualified for a Pell grant and LGBTQA students who did not qualify for a Pell grant in bias and discrimination and harassment, with Pell grant eligible LGBTQA students scoring higher than non-Pell grant eligible students. There were no significant differences in the remaining climate factors. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988).

Table 8

Differences in Climate Scales by Pell Grant within LGBTQA Identity

Climate Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Bias and Discrimination +	No Pell Grant	122	53.63	10.18	3.45	.013*	.30
	Pell Grant	158	57.09	12.90			
Harassment +	No Pell Grant	119	51.63	12.24	3.50	.025*	.27
	Pell Grant	155	55.13	13.37			
Conversations Across Difference	No Pell Grant	122	54.04	8.28	1.30	.178	
	Pell Grant	157	55.34	7.71			
Institutional Commitment to Diversity	No Pell Grant	120	47.65	8.15	-.29	.768	
	Pell Grant	153	47.35	8.09			
Academic Validation	No Pell Grant	122	47.55	9.94	.06	.962	
	Pell Grant	159	47.60	9.42			
Interpersonal Validation	No Pell Grant	121	48.44	9.45	.47	.712	
	Pell Grant	153	48.91	11.24			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 9 shows the results of the latent variable factor analysis using independent sample t-tests for disability status. The results of the t-tests indicated that there were significant differences between the mean scores of LGBTQA students with a disability and LGBTQA students who did not have a disability in bias and discrimination and conversations across difference. LGBTQA students with a disability scored higher than LGBTQA students without a disability in these two factors. There were no significant differences in the remaining climate factors. The magnitude of the differences in the significantly different means was considered small based on Cohen's *d* (1988).

Table 9

Differences in Climate Scales by Disability Status within LGBTQA Identity

Climate Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Bias and Discrimination	No Disability	203	53.89	11.23	2.63	.015*	.23
	Disability	253	56.52	11.56			
Harassment	No Disability	198	51.83	12.06	1.50	.184	
	Disability	252	53.32	11.69			
Conversations Across Difference	No Disability	203	53.72	7.83	2.13	.002**	.30
	Disability	253	55.85	6.91			
Institutional Commitment to Diversity	No Disability	199	47.77	7.94	-.86	.260	
	Disability	251	46.90	8.21			
Academic Validation	No Disability	203	47.09	10.05	.85	.353	
	Disability	254	47.95	9.54			
Interpersonal Validation +	No Disability	198	49.00	9.31	-1.39	.145	
	Disability	249	47.61	10.82			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Success outcome factors with layered marginalized identities. Table 10 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were significant mean differences between white LGBTQA students and LGBTQA students of color in pluralistic orientation. LGBTQA students of color displayed stronger pluralistic orientation than white LGBTQA students. There were no significant differences in the remaining success outcomes. The magnitude of the difference was considered small based on Cohen's *d* (1988).

Table 10

Differences in Success Outcomes by Race within LGBTQA Identity

Outcome Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Habits of mind	White	169	50.64	9.14	-.24	.815	
	Person of Color	282	50.41	10.23			
Pluralistic Orientation	White	168	50.35	9.38	1.81	.044*	.20
	Person of Color	286	52.16	9.13			
Social Agency	White	170	56.82	8.12	.20	.812	
	Person of Color	277	57.02	8.86			
Civic Engagement	White	170	56.07	9.69	-.07	.943	
	Person of Color	284	56.00	10.77			
Critical Consciousness and Action +	White	170	55.74	7.71	.07	.928	
	Person of Color	287	55.82	9.04			
Academic Self-Concept	White	169	46.54	10.31	.80	.422	
	Person of Color	287	47.34	10.13			
Sense of Belonging	White	167	51.17	9.10	-1.66	.078	
	Person of Color	287	49.51	9.92			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 11 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were significant mean differences between LGBTQA who qualified for a Pell grant and LGBTQA students who did not qualify for a Pell grant in pluralistic orientation. LGBTQA students who qualified for a Pell grant were significantly stronger in their pluralistic orientation than their non-eligible LGBTQA peers. There were no significant differences in the remaining success outcomes. The magnitude of the difference was considered small based on Cohen's *d* (1988).

Table 11

Differences in Success Outcomes by Pell grant within LGBTQA Identity

Outcome Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Habits of mind +	No Pell Grant	120	50.96	9.07	-.71	.542	
	Pell Grant	157	50.26	10.13			
Pluralistic Orientation	No Pell Grant	121	50.41	9.81	2.34	.043*	.25
	Pell Grant	157	52.75	9.26			
Social Agency	No Pell Grant	117	56.89	8.09	1.67	.103	
	Pell Grant	155	58.56	8.47			
Civic Engagement	No Pell Grant	121	55.63	10.34	2.18	.076	
	Pell Grant	157	57.82	9.949			
Critical Consciousness and Action	No Pell Grant	123	55.48	9.313	1.14	.282	
	Pell Grant	157	56.63	8.393			
Academic Self-Concept	No Pell Grant	121	47.47	9.10	-1.60	.178	
	Pell Grant	157	45.87	10.27			
Sense of Belonging	No Pell Grant	120	51.33	9.32	-.93	.418	
	Pell Grant	158	50.40	9.57			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Table 12 shows the results of the latent variable factor analysis using independent sample t-tests. The results of the t-tests indicated that there were statistically significant mean differences between LGBTQA students with a disability and LGBTQA students who do not have a disability in civic engagement, critical consciousness and action, academic self-concept, and sense of belonging. LGBTQA students with a disability scored higher in civic engagement and critical consciousness, while scoring lower in academic self-concept and sense of belonging. There were no significant differences in habits of mind, pluralistic orientation, or social agency. The magnitude of the differences in the significantly different means ranged from small to medium based on Cohen's *d* (1988).

Table 12

Differences in Success Outcomes by Disability Status within LGBTQA Identity

Outcome Factor Scale	Group	*n*	*M*	*SD*	*MD*	*p*	*d*
Habits of mind	No Disability	202	49.94	9.75	1.00	.280	
	Disability	249	50.95	9.88			
Pluralistic Orientation	No Disability	201	51.34	9.20	.17	.756	
	Disability	253	51.61	9.31			
Social Agency	No Disability	198	56.28	8.37	1.19	.146	
	Disability	249	57.47	8.71			
Civic Engagement	No Disability	201	53.98	10.46	3.67	.000***	.36
	Disability	253	57.64	10.01			
Critical Consciousness and Action +	No Disability	204	54.88	8.89	1.65	.042*	.20
	Disability	253	56.53	8.23			
Academic Self-Concept	No Disability	202	49.06	9.65	-3.62	.000***	.36
	Disability	254	45.44	10.34			
Sense of Belonging	No Disability	203	51.47	9.16	-2.44	.007**	.26
	Disability	251	49.03	9.91			

*Note** Statistical significance $p < .05$, ** $p < .01$, *** $p < .001$.
Note+ Levene's test indicated that the assumption for equal variance was violated (F, $p < .05$). Therefore the readings of the output for the independent t-tests were based on the assumption of unequal variance.

Research Question 4

Chi-square tests of independence were performed to assess the relationship between sexual orientation, gender identity, and consideration of dropping out of college. Tables 13 and 14 indicate that both sexual orientation, χ^2 (1, N = 3288) = 66.61, p <.001, and gender identity, χ^2 (1, N = 3379) = 10.12, p <.001, had significant interactions with contemplation of dropping out of college. Queer spectrum students were significantly more likely to consider dropping out of college (42.3%) than heterosexual students (24.1%), and trans spectrum students were statistically significantly more likely to consider dropping out of college (46.9%) than cisgender students (26.6%) in the past year. Ordinal relationship strength testing showed moderately strong associations.

Table 13

Chi-square Test of Independence for Sexual Orientation and Consideration of Drop

Sexual Orientation		Not at all	Sometimes/Frequently	*p*	*Gamma*
Queer spectrum	Count	262	192	.000***	.40
	% Within Sexual Orientation	57.7	42.3		
Heterosexual	Count	2,152	682		
	% Within Sexual Orientation	75.9	24.1		
Total	Expected %	73.4	26.6		

Table 14

Chi-square Test of Independence for Gender Identity and Consideration of Drop

Gender Identity		Not at all	Sometimes/Frequently	*p*	*Gamma*
Trans spectrum	Count	26	23	.001***	.42
	% Within Gender Identity	53.1	46.9		
Cisgender	Count	2,443	887		
	% Within Gender Identity	73.4	26.6		
Total	Expected %	73.1	26.9		

CHAPTER V: DISCUSSION

This purpose of this study was to address four research questions:

Research Question 1: Are there statistically significant differences between LGBTQA students and their heterosexual and cisgender peers in regards to perceptions of campus climate when measured by their experiences of bias and discrimination, harassment, conversations across difference, satisfaction with the institutional commitment to diversity, academic validation, and interpersonal validation?

Research Question 2: Are there statistically significant differences between LGBTQA students and their heterosexual and cisgender peers in regards to student success outcomes as measured by their habits of mind, pluralistic orientation, social agency, civic engagement, critical consciousness, academic self-concept, and sense of belonging?

Research Question 3: Are there statistically significant differences *within* the LGBTQA community based on race, Pell Grant eligibility, and disability status for the first two research questions?

Research Question 4: Are there statistically significant differences in the frequency between LGBTQA students and their heterosexual and cisgender peers in regards to their consideration to drop out of college?

To answer these questions, secondary analysis of a pre-collected dataset from a widely used and well-established survey by the Higher Education Research Institute, The Diverse Learning Environments Survey, was conducted. The survey was administered in the spring of 2017 at Rutgers University – New Brunswick, a large, public, research university that is considered one of the top LGBTQA friendly institutions in the country. The analysis revealed several key findings that are detailed in the following section.

Key Findings

Research question 1. This study reveals that that even at an institution that has been identified as LGBTQA friendly (Windmeyer, 2017), more subtle forms of bias and discrimination remain pervasive in the campus experience. Queer and trans students are more likely to experience bias such as insensitive verbal and written comments, exclusion, and disparaging remarks from peers and faculty. Notably, however, more blatant forms of harassment such as physical violence or direct threats did not statistically differ between LGBTQA and cisgender and heterosexual students. This finding is in contrast with past research (Rankin, 2003; Rankin et al., 2010), and could perhaps indicate an improvement in the LGBTQA campus experience. Still, subtle exclusion from the campus environment influences the LGBTQA student experience, especially when they are engaging across lines of difference statistically more often than their peers. This finding indicates that peer-to-peer gender and sexuality policing persist even in more structurally inclusive environments and ones with less overt forms of harassment (Butler, 1990, Woodford et al., 2015).

In addition to higher rates of bias and discrimination, LGBTQA students reported significantly lower satisfactions with the institutional commitment to diversity than their cisgender and heterosexual peers. Overall, this finding indicates that LGBTQA students are less satisfied with the institution and its actions concerning the promotion of cultural understanding or valuing diversity. However, LGBTQA students did not statistically differ from their peers in regards to academic or interpersonal validation. These findings indicate that despite the opinion of institutional commitment, LGBTQA students are able to find sources of support, validation, and encouragement from some of the staff and faculty they interact with on a daily level equally to their peers. This finding is consistent with past research that indicates supportive staff and faculty are critical in mitigating the perceptions of the overall campus (Sanlo, 2000; Sanlo,

2004). Future research should explore how LGBTQA students identify and build connections to affirming faculty and staff in addition to how they differentiate between faculty, administration, and the institution.

Research question 2. Queer students differed statistically from their heterosexual peers in all student success outcomes, although trans students only differed in specific outcomes. Queer students, consistent with other campus climate research (Rankin, 2010), reported lower sense of belonging than their heterosexual peers. Trans students, however, did not report a lower sense of belonging than their cisgender peers. This finding was surprising, and should be explored deeper in future analysis. The trans community is significantly smaller than the cisgender LGBQA community, so perhaps this finding may have resulted from trans students more actively seeking out community on campus. In addition, queer spectrum students showed a stronger pluralistic orientation than their heterosexual peers while trans students did not differ statistically from their cisgender peers. This factor includes measuring the opinion of students on their own abilities to work within a diverse society including openness to the beliefs of others and having one's own views challenged. Given the results, future analysis could be conducted to assess whether or not a stronger pluralistic orientation actually negatively impacts a student's sense of belonging for historically underrepresented students. Considering that part of the foundation of campus climate studies is that peer-to-peer interaction across lines of difference is critical to sense of belonging, this finding indicates that there are also tangible benefits to peer-to-peer interaction within similar groups (Hurtado & Guillermo-Wann, 2013).

Queer and trans spectrum students did have some similar results. This study shows that LGBTQA students are consistently surpassing their peers in regards to civic engagement, critical consciousness, and social agency. These strengths suggest that LGBTQA students are more actively engaged in political processes, organizing, service to others, and are more open to

challenging biased beliefs and behaviors across lines of difference. LGBTQA students are advocates and activists at rates higher than their heterosexual and cisgender peers, which is consistent with past research (Abustan, 2017). Also in common between queer and trans students are their academic self-concept. Both groups scored lower than their heterosexual and cisgender peers, indicating LGBTQA students do not view their own academic abilities and potential at the same level of their peers. This finding was consistent with past research (Rankin, 2003; Rankin et al., 2010).

Research question 3. There are differences within the LGBTQA community when multiple identities are considered in data analysis. Race, Pell grant eligibility, and disability statuses were explored in this study. LGBTQA students of color displayed higher rates of harassment, bias, and discrimination than their white LGBTQA peers while also displaying a stronger pluralistic orientation. This finding is consistent with past research that indicates students with layered disenfranchised identities often experience heighted barriers and more hostile climates than their peers (Rankin, 2010). Pell grant eligible LGBTQA students resulted in similar differences. These findings indicate that while more explicit forms of harassment, such as violence or threats of violence, do not statistically differ between the whole of the LGBTQA community and their peers, harassment does statistically occur more often against LGBTQA students of color and those who receive Pell grants. LGBTQA students with disabilities experienced higher rates of bias and discrimination and more frequent conversations across difference than their LGBTQA peers without disabilities. They also reported stronger civic engagement and critical consciousness while having lower academic self-concept and sense of belonging. The majority of students who indicated a disability status within the LGBTQA community were those with depression, anxiety, and other areas of mental health. This proportion is consistent with past research (Rankin et al., 2017)

These findings indicate that intersectionality must be considered in future research analysis and instrument design, especially in quantitative research. While there are a plethora of qualitative research projects that explicitly explore the intersections of gender and sexuality with race, class, and/or disability status, there are far fewer in quantitative methodology (Aubustan, 2017; Renn, 2010). LGBTQA students are not a monolithic community in identity, experiences, perceptions of campus climate, and success outcomes. Considering that all three groups displayed heightened rates of bias and discrimination, future research must work to more accurately reflect the multiple identities of the communities it purports to capture.

Research question 4. The most significant finding in this study relates to the risk of student attrition. The frequency differences between queer (42.3%) and heterosexual (24.1%), and trans (46.9%) and cisgender (26.6%) students are considerably disproportionate. While not a true measure of dropout, actively considering dropping out of college on a regular basis is an important experience that must be considered by all members of an institution and future researchers. The actual proportions may be more or less stark for LGBTQA students who chose to leave the university, especially in their first year of college, but until queer and trans retention is viewed as a priority, deeper analysis will not be possible. More recent research affirms this finding (Rankin et al., 2017; Garvey et al. 2017; Tetreault et al., 2014). The findings in this study, along with past research projects, indicate that longitudinal LGBTQA college persistence may be an invisible problem not currently considered in most research or practice. Given the climate and outcome inequities reported in this study, Tinto's (1993) and Butler's (1990) environmental lenses become critical in understanding this finding.

Limitations

Even though this survey utilized census sampling, there was no way to ensure that gender and sexual orientation identities in the sample are representative of the institutional population.

This has the potential to skew the results of the survey due to over or under representation based on self-selection and representation bias. The lack of ability to assess the sample for representativeness of the larger institutional population was due to the fact that institutional data did not include gender identity and sexual orientation in student records at the time of the survey. Additionally for research question four, the contemplation of dropping out college was not a true measure of attrition. To truly measure attrition, again institutional student data records would need to include trans-inclusive gender options and sexual orientation as demographic categories. Also, because this study was localized to one institution, results are limited in their generalizability. And finally, because this survey was cross-sectional in design, it cannot forecast trends overtime.

Implications for Future Practice and Research

Queer spectrum students reported a lower sense of belonging than their heterosexual peers, and LGBTQA students reported consistently higher rates of bias and discrimination. These findings were even more pronounced for LGBTQA students with multiple marginalized identities. It is important for future practitioners to continue to focus on creating interventions meant to improve peer-to-peer interactions, in addition to shifting institutional practices. This can include efforts to educate students on marginalized experiences, encourage bystander intervention during acts of bias, and nurture the formation of specific student community spaces. At Rutgers University-New Brunswick, there is a considerable amount of training conducted by the Center for Social Justice Education and LGBT Communities, however the capacity of these offerings is limited. Peer-to-peer education may help to make education more widely available and relatable to students.

Considering that trans spectrum students, who are a significantly smaller and hence a potentially more tight-knit community on campus than the larger queer community, did not

report a lower sense of belonging than their cisgender peers, identity-based student spaces may help mitigate inequities in sense of belonging. These spaces have been nurtured and created in collaboration with students, faculty, and staff over the last five years at Rutgers University and have included a trans studies learning community, gender identity support group, and a trans led student organization. However, institutional policies also may have influenced this finding. Rutgers University has also implemented a series of trans-affirming practices over the past five years including an on-campus name change system, trans-inclusive healthcare coverage, all gender housing, an annual Trans Awareness and Empowerment programming series, and an LGBTQA student emergency support fund.

Faculty and staff play a considerable role in campus climate as well. While this study did not reveal inequities in academic and interpersonal validation, LGBTQA students were more likely than their peers to experience disparaging or insensitive remarks from faculty and staff than their peers within the discrimination and bias factor. These finding suggests that while LGBTQA students are ultimately able to find supportive faculty and staff, not all faculty and staff have provided affirming experiences. Practitioners should continue to create educational spaces for faculty and staff that increase the cultural competencies and skills of participants. In addition, practitioners should increase their efforts to identify staff and faculty that are openly supportive of the LGBTQA community, and work to connect them with the students as resources and mentors on campus. At Rutgers, an LGBTQA Liaison program that is coordinated by the Center for Social Justice Education and LGBT Communities has been in existence for the last twenty years. This program provided training and annual professional development for faculty and staff who chose to serve in the program in addition to creating a student-facing directory of Liaisons on campus.

These findings are important in regards to the theoretical framework of this study. Tinto (1993) posits that increased campus engagement will increase sense of belonging and decrease attrition, however Butler (1990) posits that the majority of environments are fraught with the interpersonal and structural policing of gender, sexuality, and identity. The quality and identity-based sensitivity experienced when engaging with the campus is critically important. It is not enough that LGBTQA students simply interact with their peers, faculty, and staff. Those interactions must be affirming and culturally competent, while also encouraging a membership identity to the institution as a whole. While LGBTQA students find smaller communities that are affirming, it is clear from this study that LGBTQA student satisfaction with the overall *institutional* commitment to diversity is an area of improvement.

While many of the campus climate studies report inequities in both biased experiences and success outcomes for LGBTQA students, especially in regards to mental health and academic confidence, fewer examine the strengths of LGBTQA student outcomes (Rankin et al., 2017). LGBTQA students are more likely than their peers to be civically engaged, disrupt instances of discrimination, reflect on their own biases, and provide support to others. These are positive behaviors that add value to an institution, and should be celebrated, recognized, and more deeply cultivated by practitioners. Future research should move beyond solely focusing on inequitable campus climate and negative outcomes, and begin to highlight the assets that LGBTQA students bring to a campus environment. Positive outcome factors are already present in national datasets, and should be more regularly added to the research agenda.

While the availability of large datasets from national research entities are important to develop, institutional specific data collection practices do not align with the unique realities of LGBTQA student identities. Although there are a handful of institutions that allow students to self-report their gender and sexual orientation with student and queer theory-informed options,

the vast majority of institutions do not (Rankin & Garvey, 2015; Renn, 2010). This study indicates that there may be a serious problem of retention and attrition for LGBTQA students, however, as noted in the limitations, campus climate studies by nature are only able to analyze students who have ultimately remained on campus at the time of the survey.

Without the ability to more accurately assess this problem utilizing student records, LGBTQA student retention will continue to remain invisible in national conversations. We cannot track queer and trans student attrition if they are not even counted. Individual institutions should begin to work with relevant units such as admissions, enrollment management, information technology, LGBTQA student support services, and of course students themselves, to update their data systems beyond the binary of male and female and to give students the option to indicate their sexual orientation. Ninety percent of trans spectrum students in this survey identified outside of the gender binary, and this must be reflected in research, practice, and assessment at all levels of the institution. During the completion of this study, the institution did expand gender options within the admissions process to include nonbinary genders. This data will be invaluable in future retention tracking.

Campus climate is incredibly multifaceted, however LGBTQA student experiences do not occur in a vacuum from their prior or external environments. The influence of familial rejection and experiences of homelessness or food insecurity are known to disproportionately occur in LGBTQA student communities (Goldrick-Rab, Richardson, & Hernandez, 2017; James et al., 2016). However, many campus climate instruments do not account for these critical experiences, which may or may not occur while on campus, including the Diverse Learning Environments survey. Informed by both practice and national studies, future campus climate studies should consider explicitly adding questions regarding family rejection, housing

insecurity, and food insecurity to their instruments especially if we are to more fully understand LGBTQA student retention.

Conclusion

While Rutgers University – New Brunswick is considered one of the most LGBTQA-friendly colleges in the country, this accolade had not been empirically explored with direct student feedback in over thirty years (Cavin, 1987; Windmeyer, 2017). With the ability to explore LGBTQA student experiences, retention, and success utilizing measures linked to the campus' recent participation in a national climate assessment, there was an opportunity to conduct meaningful empirical research. My hope is that this study has highlighted potential persistence inequities, provided valuable insight on the perception of campus climate for LGBTQA students, highlighted the resilience and success of LGBTQA students, and illuminated opportunities to improve the LGBTQA campus experience.

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Appendix A

2017 Diverse Learning Environments Core Survey Latent Variables: Climate & Outcomes

Factors: Climate

Discrimination and Bias measures the frequency of students' experiences with more subtle forms of discrimination.
Please indicate how often you have experienced the following forms of bias/harassment/discrimination while at this institution: (Scale: 5= Very often to 1= Never)

- Verbal comments (0.768)
- Witnessed discrimination (0.703)
- Written comments (e.g., emails, texts, writing on walls, etc.) (0.693)
- Heard insensitive or disparaging remarks from faculty (0.681)
- Heard insensitive or disparaging remarks from students (0.655)
- Exclusion (e.g., from gatherings, events, etc.) (0.689)
- Heard insensitive or disparaging remarks from staff (0.673)
- Offensive visual images or items (0.703)

Cronbach's α= 0.876

Harassment measures the frequency that students experience threats or harassment.
Please indicate how often you have experienced the following forms of bias/harassment/discrimination while at this institution: (Scale: 5= Very often to 1= Never)

- Physical assaults or injuries (0.859)
- Threats of physical violence (0.824)
- Anonymous phone calls (0.759)
- Damage to personal property (0.710)
- Reported an incident of sexual harassment to a campus authority (0.693)
- Reported an incident of discrimination to a campus authority (0.634)
- Experienced sexual harassment (0.596)

Cronbach's α= 0.879

Conversations Across Difference measures how often students have in-depth conversations with diverse peers.
How often in the past year did you interact with someone: (Scale: 3=Frequently to 1= Not at all)

- From a socioeconomic class different from your own (0.737)
- From a religion different from your own (0.712)
- Of a sexual orientation different from your own (0.663)
- From a country other than your own (0.588)
- With a disability (0.428)
- Discuss issues related to sexism, gender differences, or gender equity (0.426)

Cronbach's α= 0.752

Institutional Commitment to Diversity is a measure of a student's perception of the campus' commitment to diversity.
Please indicate the extent to which you agree or disagree with the following. This institution: (4-point agreement scale)

- Promotes the appreciation of cultural differences (0.829)
- Has a long standing commitment to diversity (0.783)
- Accurately reflects the diversity of the student body in publications (e.g., brochures, websites, etc.) (0.752)
- Has campus administrators who regularly speak about the value of diversity (0.644)

Cronbach's α= 0.857

Academic Validation in the Classroom measures the extent to which students' view of faculty actions in class reflect concern for academic success.
Please indicate how often you have experienced the following in class at this college: (Scale: 5= Very often to 1=Never)

- Felt that my contributions were valued in class (0.860)
- Felt that faculty provided me with feedback that helped me assess my progress in class (0.858)
- Felt that faculty encouraged me to ask questions and participate in discussions (0.796)
- Faculty were able to determine my level of understanding of course material (0.775)

Cronbach's α= 0.893

General Interpersonal Validation is a unified measure of students' view of faculty and staff's attention to their development.
Please indicate the extent to which you agree or disagree with the following statements: (4-point agreement scale)

- At least one faculty member has taken an interest in my development (0.838)
- Faculty believe in my potential to succeed academically (0.798)
- At least one staff member has taken an interest in my development (0.796)
- Staff recognize my achievements (0.743)
- Faculty empower me to learn here (0.633)
- Staff encourage me to get involved in campus activities (0.562)

Cronbach's α= 0.867

Factors: Outcomes

Habits of Mind is a measure of the behaviors and traits associated with academic success. These learning behaviors are seen as the foundation for lifelong learning.
How often in the past year did you: (Scale: 3= Frequently to 1=Not at All)

- Seek solutions to problems and explain them to others (0.706)
- Evaluate the quality or reliability of information you received (0.701)
- Support your opinions with a logical argument (0.660)
- Seek alternative solutions to a problem (0.659)
- Take a risk because you felt you had more to gain (0.582)
- Ask questions in class (0.545)
- Explore topics on your own, even though it was not required for class (0.591)

- Accept mistakes as part of the learning process (0.540)
- Look up scientific research articles and resources (0.509)

Cronbach's α= 0.864

Pluralistic Orientation measures skills and dispositions appropriate for living and working in a diverse society.
Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Scale: 5 point – Highest 10% to Lowest 10%)

- Tolerance of others with different beliefs (0.716)
- Openness to having my own views challenged (0.716)
- Ability to work cooperatively with diverse people (0.701)
- Ability to discuss and negotiate controversial issues (0.671)
- Ability to see the world from someone else's perspective (0.658)

Cronbach's α= 0.820

Social Agency measures the extent to which students value political and social involvement as a personal goal.
Please indicate the importance to you personally of each of the following: (Scale: 4= Essential to 1= Not important)

- Participating in a community action program (0.773)
- Helping others who are in difficulty (0.670)
- Becoming a community leader (0.649)
- Influencing social values (0.684)
- Helping to promote racial understanding (0.633)
- Keeping up to date with political affairs (0.558)

Cronbach's α= 0.821

Civic Engagement measures the extent to which students are involved in civic, electoral, and political activities.
Since entering this institution, how often have you: (Scale: 5= Very often to 1= Never)

- Demonstrated for a cause (e.g., boycott, rally, protest) (0.770)
- Publicly communicated your opinion about a cause (e.g., blog, email, petition) (0.732)
- Discussed politics (0.574)
- Performed community service (0.549)

Cronbach's α= 0.816

Critical Consciousness and Action is a unified measure of how often students critically examine and challenge their own and others' biases.
How often in the past year did you: (Scale: 3=Frequently to 1= Not at all)

- Make an effort to educate others about social issues (0.742)
- Critically evaluated your own position on an issue (0.724)
- Recognize the biases that affect your own thinking (0.693)
- Challenge others on issues of discrimination (0.644)

- Feel challenged to think more broadly about an issue (0.595)
- Make an effort to get to know people from diverse backgrounds (0.513)

Cronbach's α= 0.814

Sense of Belonging measures the extent to which students feel a sense of academic and social integration on campus.
Please indicate the extent to which you agree or disagree with the following statements: (4-point agreement scale)

- I feel a sense of belonging to this campus (0.911)
- I feel that I am a member of this college (0.846)
- I see myself as a part of the campus community (0.775)
- If asked, I would recommend this college to others (0.608)

Cronbach's α= 0.725

Academic Self-Concept is a unified measure of students' beliefs about their abilities and confidence in academic environments
Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Scale: 5 point – Highest 10% to Lowest 10%)

- Academic ability (0.808)
- Self-confidence (intellectual) (0.670)
- Drive to achieve (0.559)
- Mathematical ability (0.528)

Cronbach's α= 0.864

Appendix B

2017 Diverse Learning Environments Core Survey Latent Variables: Climate & Outcomes for Queer and Trans Spectrum Respondents

Factors: Climate

Discrimination and Bias measures the frequency of students' experiences with more subtle forms of discrimination.
Please indicate how often you have experienced the following forms of bias/harassment/discrimination while at this institution: (Scale: 5= Very often to 1= Never)

- Verbal comments
- Witnessed discrimination
- Written comments (e.g., emails, texts, writing on walls, etc.)
- Heard insensitive or disparaging remarks from faculty
- Heard insensitive or disparaging remarks from students
- Exclusion (e.g., from gatherings, events, etc.)
- Heard insensitive or disparaging remarks from staff
- Offensive visual images or items

Cronbach's α= 0.818

Harassment measures the frequency that students experience threats or harassment.
Please indicate how often you have experienced the following forms of bias/harassment/discrimination while at this institution: (Scale: 5= Very often to 1= Never)

- Physical assaults or injuries
- Threats of physical violence
- Anonymous phone calls
- Damage to personal property
- Reported an incident of sexual harassment to a campus authority
- Reported an incident of discrimination to a campus authority
- Experienced sexual harassment

Cronbach's α= 0.855

Conversations Across Difference measures how often students have in-depth conversations with diverse peers.
How often in the past year did you interact with someone: (Scale: 3=Frequently to 1= Not at all)

- From a socioeconomic class different from your own
- From a religion different from your own
- Of a sexual orientation different from your own
- From a country other than your own
- With a disability
- Discuss issues related to sexism, gender differences, or gender equity

Cronbach's α= 0.731

Institutional Commitment to Diversity is a measure of a student's perception of the campus' commitment to diversity.
Please indicate the extent to which you agree or disagree with the following. This institution: (4-point agreement scale)

- Promotes the appreciation of cultural differences
- Has a long standing commitment to diversity
- Accurately reflects the diversity of the student body in publications (e.g., brochures, websites, etc.)
- Has campus administrators who regularly speak about the value of diversity

Cronbach's α= 0.863

Academic Validation in the Classroom measures the extent to which students' view of faculty actions in class reflect concern for academic success.
Please indicate how often you have experienced the following in class at this college: (Scale: 5= Very often to 1=Never)

- Felt that my contributions were valued in class
- Felt that faculty provided me with feedback that helped me assess my progress in class
- Felt that faculty encouraged me to ask questions and participate in discussions
- Faculty were able to determine my level of understanding of course material

Cronbach's α= 0.905

General Interpersonal Validation is a unified measure of students' view of faculty and staff's attention to their development.
Please indicate the extent to which you agree or disagree with the following statements: (4-point agreement scale)

- At least one faculty member has taken an interest in my development
- Faculty believe in my potential to succeed academically
- At least one staff member has taken an interest in my development
- Staff recognize my achievements
- Faculty empower me to learn here
- Staff encourage me to get involved in campus activities

Cronbach's α= 0.850

Factors: Outcomes
Habits of Mind is a measure of the behaviors and traits associated with academic success. These learning behaviors are seen as the foundation for lifelong learning.
How often in the past year did you: (Scale: 3= Frequently to 1=Not at All)

- Seek solutions to problems and explain them to others
- Evaluate the quality or reliability of information you received
- Support your opinions with a logical argument
- Seek alternative solutions to a problem
- Take a risk because you felt you had more to gain
- Ask questions in class
- Explore topics on your own, even though it was not required for class

- Accept mistakes as part of the learning process
- Look up scientific research articles and resources

Cronbach's α= 0.861

Pluralistic Orientation measures skills and dispositions appropriate for living and working in a diverse society.
Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Scale: 5 point – Highest 10% to Lowest 10%)

- Tolerance of others with different beliefs
- Openness to having my own views challenged
- Ability to work cooperatively with diverse people
- Ability to discuss and negotiate controversial issues
- Ability to see the world from someone else's perspective

Cronbach's α= 0.789

Social Agency measures the extent to which students value political and social involvement as a personal goal.
Please indicate the importance to you personally of each of the following: (Scale: 4= Essential to 1= Not important)

- Participating in a community action program
- Helping others who are in difficulty
- Becoming a community leader
- Influencing social values
- Helping to promote racial understanding
- Keeping up to date with political affairs

Cronbach's α= 0.838

Civic Engagement measures the extent to which students are involved in civic, electoral, and political activities.
Since entering this institution, how often have you: (Scale: 5= Very often to 1= Never)

- Demonstrated for a cause (e.g., boycott, rally, protest)
- Publicly communicated your opinion about a cause (e.g., blog, email, petition)
- Discussed politics
- Performed community service

Cronbach's α= 0.854

Critical Consciousness and Action is a unified measure of how often students critically examine and challenge their own and others' biases.
How often in the past year did you: (Scale: 3=Frequently to 1= Not at all)

- Make an effort to educate others about social issues
- Critically evaluated your own position on an issue
- Recognize the biases that affect your own thinking
- Challenge others on issues of discrimination

- Feel challenged to think more broadly about an issue
- Make an effort to get to know people from diverse backgrounds

Cronbach's α= 0.833

Sense of Belonging measures the extent to which students feel a sense of academic and social integration on campus.
Please indicate the extent to which you agree or disagree with the following statements: (4-point agreement scale)

- I feel a sense of belonging to this campus
- I feel that I am a member of this college
- I see myself as a part of the campus community
- If asked, I would recommend this college to others

Cronbach's α= 0.854

Academic Self-Concept is a unified measure of students' beliefs about their abilities and confidence in academic environments
Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Scale: 5 point – Highest 10% to Lowest 10%)

- Academic ability
- Self-confidence (intellectual)
- Drive to achieve
- Mathematical ability

Cronbach's α= 0.682