

THE INFLUENCE OF MENTAL HEALTH AND CAMPUS CLIMATE ON THE
ACADEMIC ENGAGEMENT, ACADEMIC DISENGAGEMENT, AND
ACADEMIC SUCCESS OF QUEER-SPECTRUM COLLEGE STUDENTS

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A dissertation submitted to the

School of Graduate Studies

Rutgers, The State University of New Jersey

In partial fulfilment of the requirements

For the degree of Doctor of Philosophy

Graduate Program in Higher Education

Written under the direction of

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And approved by

New Brunswick, New Jersey

October, 2021

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ABSTRACT OF THE DISSERTATION
THE INFLUENCE OF MENTAL HEALTH AND CAMPUS CLIMATE ON THE
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The mental health of queer-spectrum college students, and the campus climate they traverse, exert significant influence on the academic engagement, disengagement, and success for this population. Two-thirds of queer-spectrum college students reported a mental health condition, and these students had a more unfavorable perception of the campus climate for diversity than their mentally healthy queer spectrum peers. Mental health—mediated through campus climate—had a negative relationship to collaborative learning, but students were no less academically involved in the classroom. Mental health—mediated through campus climate—also had a negative relationship to extracurricular engagement and grade point average, and a positive relationship with poor academic habits. This study includes directions for future research and recommendations for practice, including auditing institutions to assess equity in the living and learning environment, targeted queer-spectrum support services, risk reduction and psychoeducational programming, anti-bias/ally training, peer mentoring opportunities, access to—and quality of care—with physical and mental health service providers, off-campus support, and academic support.

Acknowledgements

I would like to thank my dissertation committee for the countless hours they spent reviewing and revising this dissertation, including my dissertation advisor, Catherine Lugg, and my committee members, Angela O'Donnell, Dayna Weintraub, and Genevieve Weber-Gilmore.

I would like to thank Sue Rankin and Dan Merson for their tireless support of my dissertation completion.

I'd like to thank the SERU-AAU Consortium at the University of Minnesota – Twin Cities and the University of California – Berkeley for their assistance assembling my dataset and fielding numerous questions—particularly Krista Soria.

I would like to thank my Ph.D. program cohort for all of their love and support during this journey, including Jay Stefanelli, Amy Miele, Ashley Forsythe, Stephanie Brescia, Dana Harris, Maggie Georges, Chengbo Yin, Mohini Mukherjee, and Shari Cunningham.

I would like to thank the faculty of the Ph.D. program for their penultimate support throughout my journey as a student. Without their incredible support and encouragement, I would not be writing this acknowledgement.

I would like to thank my family for all of their support. To my mother, you believed in me from the start and kept me going through this process. I will never be able to thank you for teaching me how to problem-solve and persevere. To Robyn, thank you for your tremendous patience throughout the dissertation project. Your love and support fostered my drive to see this through to completion. To my dear friend Andrew, thank you for holding me together through the process and the many challenges that life threw me during the duration of this study. Lastly, I would like to

thank my friends Danielle M. Shields and Suzanna Roettger, for reading and rereading my dissertation at all hours of the night to comb for edits.

Lastly, I would like to thank Meda Barker, my beloved wife, for so many reasons. Thank you for motivating me to apply for the Ph.D. in Higher Education Program, for doing countless loads of laundry and dishes while I studied, for having tremendous patience throughout that process, and for loving me and holding space for me as I embarked upon this journey. I miss you every day and wish so badly that you were here to see me finish.

Dedication

This dissertation is dedicated to Meda Barker, my beautiful wife. May you rest peacefully and powerfully.

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Chapter 1: Introduction

The mental health of college students is a concern among administrators in higher education. For example, in 2017, the Chronicle of Higher Education surveyed college/university presidents and chief student affairs officers on a range of topics that concerned the welfare of college students. When asked to identify the most pressing issues occurring outside of the classroom, the majority (66%) ranked mental health as the top concern (Rubley, 2017). When the American Council of Education submitted a similar survey to 268 college presidents in 2020 during the COVID-19 pandemic, slightly over two-thirds (68%) of the respondents ranked mental health as the most pressing concern on their minds during the COVID-19 pandemic (Turk, et al, 2020).

The concerns of ranking university officials largely resemble national data trends detailing the mental health of American college students. For example, the *2018 Healthy Minds* study found that nearly one in three college students screened positive for current mental health concerns (e.g., depression or anxiety) (Eisenberg & Lipson, 2019). Compounding the difficulties experienced by the average college student, some alarming trends have been detected among traditionally marginalized student populations. Namely, queer-spectrum¹ students' rates of psychological distress exceeds that of heterosexual peers, a reality that requires scholars to more deeply examine the impact of psychological distress on various aspects of the student experience (Greathouse et al., 2018).

¹ The language used by sexually minoritized communities is in a state of constant evolution (Jourian, 2015). Before exploring the experiences of queer-spectrum students, it is important to describe what students fall under the queer-spectrum umbrella. Given the fluid and evolving sexual identities of individuals, I use the term queer-spectrum to describe students whose sexuality departs from heterosexuality and heteronormative, fixed, socially constructed categories of sexuality. While many studies discussed in the following chapters use terms such as lesbian, gay, bisexual, etc., the term queer-spectrum spans the innumerable ways that individuals understand the complexities of their sexual identities, behaviors, and attractions. In this study, queer-spectrum students include students who respond to the sexual orientation demographic question with one of the four non-heterosexual response options: gay/lesbian, bisexual, queer, and/or questioning.

This dissertation examines the impact of psychological distress (e.g., depression, anxiety) and campus climate on the academic engagement (e.g., engagement in class), academic disengagement (e.g., skipping class), and academic success (e.g., grade point average) of queer-spectrum students. The first section of this chapter offers operational definitions of queer-spectrum, campus climate, academic engagement, academic disengagement, and academic success. The second section of this chapter offers information on the experiences of queer-spectrum students specifically focusing on mental health, campus climate, academic engagement, academic disengagement, and academic success. The final section states purpose of the study, research questions, and research assumptions.

Definitions

Before discussing the structure of this research study, it is important to operationalize definitions for the key factors studied. Thus, the following section provides some preliminary definitions of mental health, campus climate, academic engagement, academic disengagement, and academic success. The subsequent section describes the challenges facing queer-spectrum populations and the purpose of the study.

Mental Health. The psychological and emotional health of individuals is critical for academic engagement and success. For the purposes of this study, the term “psychological distress” describes a student who has experienced negative mental health outcomes via depression or anxiety that, in turn, have influenced how they “learn, interact with others, or access campus” (SERU Undergraduate Student Experience in the Research University Survey, 2018, p. 30).

Campus Climate. There are myriad models that operationalize campus climate for the purpose of academic research. Various climate studies emerged out of

institutional self-studies of homophobia, racism, and sexism in the 1980s and have evolved into a robust body of scholarship. The following review explores three models that emerged repeatedly in the literature and inform this study.

Peterson and Spencer (1990) define campus climate as a combination of objective measures (e.g., policies, practices, behaviors), perceptual measures of campus activities (e.g., institutional responsiveness to a bias incident, inclusiveness of a campus service), and motivational measures that capture psychological or “felt” climate of a student (e.g., morale and satisfaction, self-perceptions of quality of effort/involvement, sense of belonging) (p. 13).

In a more concrete model, Hurtado et al. (1998) identified four components that comprised the campus climate for racially/ethnically minoritized students, including,

[1] an institution's historical legacy of inclusion or exclusion of various racial/ethnic groups, [2] its structural diversity in terms of numerical representation of various racial/ethnic groups, [3] the psychological climate of perceptions and attitudes between and among groups, and [4] the behavioral climate dimension, characterized by intergroup relations on campus. (p. 282)

Finally, Rankin and Reason (2008) developed a model that includes six core areas that address campus climate for all students: access/retention, university policies/service, curriculum/pedagogy, research/scholarship, intergroup and intragroup relations, and external relations. They define campus climate as:

the current attitudes, behaviors, and standards/practices that concern the access for, inclusion of, and level of respect for individual and group needs, abilities, and potential. This includes the needs, abilities, and potential of all groups, not just those who have been traditionally excluded or underserved by our institutions. (Rankin & Reason, p. 264)

These definitions show the breadth of thematic areas measuring campus climate. While Peterson and Spencer (1990) regard campus climate as a visceral, individual experience, both Hurtado et al. (1998) and Rankin and Reason (2008) take

a more ecological approach to examining not just the experiences and perceptions of queer-spectrum students, but also the ecological environment they navigate. While there are many other definitions of campus climate to draw from, these three theoretical frameworks represent the three dominant approaches in the area of campus climate research. In the next section, I review the way scholars operationalize academic engagement and success.

Academic Engagement. Academic engagement is a multidimensional concept that first emerged from Astin’s Theory of Involvement (1984) and Tinto’s Theory of Departure (1993). Astin’s Theory of Involvement (1984) is defined as the “amount of physical and psychological energy that the student devotes to the academic experience,” which posited “student learning and personal development is directly proportional to the quality and quantity of involvement” they have in academics (p. 297-298). Similarly, Tinto’s Theory of Departure (1993) asserts that “the more students learn, the more likely they are to persist” because they are engaging in the process of academic integration into the institution through their involvement (p. 131).

In addition to the work of Astin and Tinto (1984 and 1993; respectively), the Center for Postsecondary Research at Indiana University Bloomington identified five dimensions central to successful academic engagement, including: (1) active/collaborative learning, (2) student-faculty contact, (3) level of academic challenge, (4) enriching educational experiences, and (5) supportive campus environments (Wolf-Wendel et al., 2009). While these theories span the overlapping concepts of engagement, involvement, and integration, this form of engagement is unique from involvement and integration due to its focus on the exchange between the student and their institution.

Further, research has suggested that academic engagement can be sorted into one of three categories: behavioral, cognitive, and emotional/affective (Bae & Han, 2019). Behavioral engagement describes the adherence to classroom norms (e.g., preparation for class, time used in class, etc.). Cognitive engagement describes the “student’s investment in learning and willingness to expend their efforts toward task mastery, challenge preferences, and self-regulation” (Bae & Han, 2019, p. 50). Finally, emotional engagement involves “reactions to teachers, classmates, academics, and school” (Bae & Han, 2019, p. 50). As such, the current study examined items that coincide with either behavioral, cognitive, or emotional aspects of academic engagement in a college environment.

Academic Disengagement. Academic disengagement describes the behaviors that interrupt or depart from academic engagement, such as skipping class, not completing homework assignments, or arriving for class unprepared. Chipchase et al. (2017) conducted a study of 32 papers on academic disengagement and found that scholars conceptualize disengagement as:

a multi-faceted, complex yet fluid state that has a combination of behavioral, emotional, and cognitive domains influenced by intrinsic (psychological factors, low motivation, inadequate preparation for higher education, and unmet or unrealistic expectations) or extrinsic (competing demands, institutional structure and processes, teaching quality, and online teaching and learning) (p. 31).

Thus, academic disengagement can be understood as not merely the absence of engagement behaviors, but as an entirely separate concept that consists of varying degrees and locations of disengagement (Chipchase et al., 2017). Disengagement can be located in one aspect of the students experience in class (e.g., task, assignment, module) or in multiple places in the single site of a course (Chipcase, et al., 2017). Further, it can be ongoing or intermittent, and inevitably result in student attrition and loss of income for the university.

Brint and Cantwell (2014) proposed five dimensions of disengagement, including values disengagement, motivational disengagement, study behavior disengagement, interactional disengagement, and competing involvement disengagement. Values disengagement entails a disinterest in learning and an overemphasis on the completion of a degree or credential; instead, these students give priority to nonacademic aspects of the college experience and do not appear to value the educational process. Motivational disengagement—distinct from values disengagement— simply speaks to students who may hold educational values but may not express the appropriate motivation to pursue them. Behavior disengagement provides concrete examples of students’ lack of commitment to academic work (e.g., low levels of attendance in class, little preparation for class, etc.), and it is the most important dimension of academic disengagement. The fourth dimension, interactional disengagement, reflects the lack of engagement with other students and professors about course materials or activities. Lastly, competing involvements entails the various activities and time investments that “draw a students’ energies and attention away from study,” such as watching television, spending time with friends, or surfing the internet (Brint & Cantwell, 2014, p. 810). For the purpose of this study, I examined the behavioral disengagement, interactional disengagement, and competing involvement.

Academic Success. In addition to the study of academic engagement and academic disengagement, this study also looked at the impact of psychological distress on academic success. York et al. (2015) conceptualized academic success as comprised of six domains: academic achievement, satisfaction, acquisition of skills and competencies, persistence, attainment of learning outcomes, and career success. Academic achievement (often used interchangeably with academic success) is the

direct result of attaining learning outcomes and acquiring desired skills and competency. Their study found that academic achievement has been operationalized and measured by scholars largely through the examination of grade point average (GPA) (York et al., 2015). Grade point average represents the “average value of the accumulated final grades earned in courses over time” (Edglossary.org, 2013, para 1). Thus, this study uses GPA as the primary measurement of academic success.

Since definitions of campus climate, academic engagement, academic disengagement, and academic success have been established, the remaining text of this introduction explores these concepts as they relate to the experiences of queer-spectrum students. Thus, the following section includes a review of mental health research among queer-spectrum students, their experiences with campus climate, and their academic engagement, disengagement, and success.

The Mental Health of Queer-Spectrum College Students

The mental health of queer-spectrum individuals has been forged through myriad challenges, both historically and contextually. Historically speaking, a movement towards positive mental health outcomes has been overshadowed by the legacy of psychiatric medicine. Until the mid-1970s, homosexuality was classified as a sexual paraphilia in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (Meyer, 2003). The advocacy of gay and lesbian activists during the 1960s to 1970s led to the removal of homosexuality from the DSM-II in 1973, and ego-dystonic homosexuality from the DSM-III in 1987 (Drescher, 2015). Although homosexuality is no longer regarded as a form of mental illness by medical science, heterosexist stigma surrounding queer-spectrum identity continues to negatively influence queer-spectrum mental health outcomes (e.g., depression, anxiety, post-traumatic stress disorder, suicidal ideation/attempt) universally. Heterosexism can be

defined as “an ideological system that denies, denigrates, and stigmatizes any queer-spectrum form of behavior, identity, relationship, or community” that presents a pervasive threat to the well-being of queer-spectrum students (Herek, 1992, p. 89). Heterosexist stigma leaves queer-spectrum youth to grapple with self-acceptance and positive identity development, navigate compromised social support networks, and endure significantly higher rates of psychological distress and non-suicidal self-injury than their heterosexual peers. Thus, while homosexuality is no longer regarded as a form of psychopathology within the mainstream psychiatric/psychological communities, the phenomenon of heterosexism continues to stigmatize queer-spectrum identities, exacerbate psychological distress associated with exclusion and mistreatment, and erode positive coping mechanisms among queer-spectrum students—starting before students enter higher education.

Queer-spectrum students, like many other marginalized populations, experience mental health concerns long before they step onto college campuses. Examining the behavioral health trends amongst high-school students can be illustrative in anticipating their needs ahead of their arrival in a higher education setting; by tracking these trends, administrators can make sure that their staffing levels and services are in line with the mental health needs of incoming students. One such example would be the Youth Risk Behavior Surveillance Survey (YRBSS), which is routinely used by etiologists and epidemiologists to track patterns among high-school students related to risky behaviors, including measures related to mental health. In 2019, the YRBSS was conducted with 78 schools in 44 states, 28 local school districts, three territories, and two tribal governments ($n = 13,872$). The authors concluded that the majority (66.3%) of high school students who identified as gay, lesbian, or bisexual (GLB) felt sad or hopeless almost every day for at least two

weeks in the past year, compared to one-third (32.2%) of heterosexual students (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2019).

Over three times as many GLB students reported seriously considering suicide (46.8%) than their heterosexual peers (14.5%). Additionally, GLB students were also four times more likely to make a suicide attempt than their heterosexual counterparts (40.2% vs. 12.1%, respectively). Studies such as the YRBSS can provide higher education leaders with the data to predict clinical and psychopharmacological treatment needs and the additional volume that an incoming class presents.

While mental health outcomes among high school students tend to be more negative than those among college students, the numbers remain alarming. In a secondary analysis of data from the 2016 Cooperative Institutional Research Program's Freshmen Survey, Greathouse et al. (2018) examined the responses of queer-spectrum students ($n = 12,872$). Thirty-three percent of gay/lesbian/bisexual/queer/other students reported that they experienced depression frequently, and 36.8% entered college already diagnosed with a psychological disorder, compared to 10.1% and 8.8% of heterosexual peers, respectively. When asked to rate their emotional health compared to their peers, 57.4% of queer-identified students, 44.0% of bisexual students, 39.9% of lesbians, and 28.1% of gay students rated their emotional health as below average or in the lowest 10%, two to three times that of heterosexual peers (13.4%). Greathouse et al. (2018) also conducted a secondary analysis focusing on queer-spectrum students ($n = 9,331$) from the 2016 American College Health-National College Health Assessment. In this analysis, Greathouse and colleagues found that 59.3% of queer-spectrum students reported feeling so depressed it was difficult to function in the past twelve months, compared to 33.7% of heterosexual peers. More alarming was that 18.3% of queer-spectrum

students reported engaging in self-injury in the previous year, and an even larger proportion had seriously contemplated suicide (28.4%) relative to their heterosexual peers (8.2% and 5.4%, respectively).

These trends suggest that in addition to the traditional challenges that arise during their time as a college student, queer-spectrum students have simultaneously endured a severe public health crisis that necessitates greater attention by university administrators, faculty, and staff. In the following section, I explored the environment that students traverse as a college student through a discussion on campus climate.

The Campus Climate for Queer-Spectrum College Students

Similar to students enrolled in secondary schools, multiple studies indicate that the climate for queer-spectrum college students to be chilly, at best. For instance, Rankin et al. (2010) released a national study examining the experiences of lesbian, gay, bisexual, queer, and transgender people in higher education that found queer-spectrum students endure various forms of harassment and discrimination. This national study found lesbian, gay, bisexual, and queer (LGBQ) participants were less likely to feel a high degree of comfort with the overall campus climate, with bisexual and queer students feeling the lowest feelings of comfort relative to gay and lesbian students. These trends are also unsurprising, as this work found LGBQ students were twice as likely to report experiences with harassment (e.g., derogatory remarks, stared at, deliberately ignored/excluded) relative to their heterosexual peers.

Like the results by Rankin et al. (2010), Greathouse et al. (2018) found in their secondary analysis of the 2016 Undergraduate Student Experience at the Research Institutions, that queer-spectrum students were less likely than their heterosexual peers to find the university a “safe and secure campus” or a “welcoming campus.” Lesbian, gay, bisexual, queer, and questioning students had more negative perceptions

regarding the level of support for their sexual orientation on campus, how valued they felt by their institution, and sense-of-belonging on campus (Greathouse et al., 2018, p.14). In tandem with the other work that has been conducted, it appears that the climate is unwelcoming for queer-spectrum students in higher education and represents a need for a more detailed, nuanced understanding of these issues.

Importantly, the aforementioned manifestations of heterosexism and victimization (i.e., forms of trauma) disrupt essential coping skills and resilience that facilitate positive mental health among queer-spectrum youth. This includes self-acceptance, self-esteem, and sexual identity pride, although there are other factors that influence identity beyond this (e.g., family, communities of origin, etc.) (Wright & Wegener, 2012; Woodford et al., 2014). Further, heterosexist stigma has been found to frequently disrupt the development and maintenance of a strong social support network for these youth, which may consist of family (D'amico & Julien, 2012; D'amico et al., 2015; Ryan, 2014), peer groups/friends (Woodford et al., 2014), their communities of origin (e.g., racial/ethnic communities) (Ramirez & Galupo, 2019; Strayhorn et al., 2010), and religious networks (Higa et al., 2014; Rockenbach & Crandall, 2016). Thus, a campus climate that affirms queer-spectrum students is critical to queer-spectrum student adjustment and social and academic integration in higher education.

In summary, these studies suggest that the climate that queer-spectrum students navigate is both chilly and rife with potential risk factors that impact psychological well-being. The primary question answered by this study was how these factors influence a student's academic life. In the subsequent section, I examine the academic engagement, academic disengagement, and academic success of queer-spectrum students.

The Academic Engagement, Disengagement, and Success of Queer-Spectrum Students

Prior work has indicated disparate academic engagement outcomes for queer-spectrum students enrolled in post-secondary work. For instance, using data from the 2016 Undergraduate Student Experience at the Research University Study, Greathouse et al. (2018) found that queer-spectrum students were more likely to contribute to a class discussion, bring up ideas or concepts from other courses during class, and participate in specific high impact learning experiences (e.g., academic experiences with a diversity focus, writing-intensive/enriched courses, a research project/paper that is part of coursework, first-year seminars, and research methods courses) relative to their heterosexual peers. However, of concern, queer-spectrum students also engaged in academic disengagement at higher rates than their heterosexual peers, including a lack of preparation for their courses or skipping class. Based on students' responses, it appears that while queer-spectrum students do engage academically in some respects, they also disengage at higher rates than their heterosexual peers, posing a unique conundrum for these students. Exploring the impact of mental health and factors reflective of campus climate may illuminate additional influences concerning the academic engagement and disengagement of queer-spectrum students, in particular, students enduring psychological distress.

Only one national study has looked at academic success of queer-spectrum students through the lens of grade point average (GPA). Greathouse et al. (2018) found that queer-spectrum students attending institutions of higher education had a comparable GPA (3.41) to their heterosexual peers (3.43) despite the additional stressors facing this same study population on measures of mental health and

academic disengagement. This is the only study to compare the GPA of queer-spectrum to heterosexual students at the time of this writing.

Statement of the Problem

To better understand the relationship of psychological distress to academic engagement, academic disengagement, and academic success, and to examine the mediating influence of campus climate, I used data from the 2018 Student Experience in the Research University survey. Given that differences arose between queer-spectrum and heterosexual experiences with psychological distress, I examined how mental health and campus climate influenced queer-spectrum students' academic engagement, academic disengagement, and academic success. The current study aimed to address three research questions:

1. Is there a difference in the mental health of queer-spectrum students versus heterosexual students?
2. Is there a difference in the perception of campus climate among queer-spectrum students who indicate having a mental health issue versus those who do not?
3. Assuming there are differences regarding mental health and perceptions of campus climate, how do these differences influence academic engagement, academic disengagement, and academic success for queer-spectrum students?

Statement of Purpose

To date, only a small body of literature has explored academic engagement and academic disengagement among queer-spectrum students through the lens of campus climate and/or mental health. While these studies have made a valuable contribution to the literature, none have explored the differences among queer-spectrum students who do or do not report a mental health issue. To address this gap

in the literature, I examined the influence of mental health on academic engagement, academic disengagement, academic success, and the mediating influence of campus climate among queer-spectrum students.

Chapter 2: Review of the Literature

To be “ready to learn,” students must be “in a state of physical, psychological, emotional, intellectual, social, and spiritual well-being” (American Council on Education, 2014, p. 1). This requires institutions of higher education to attend to the physical and emotional needs of students, and in doing so, also create an environment that reinforces well-being across multiple domains, including mental health outcomes.

Psychological problems encountered by students can have a deleterious impact upon their basic functioning. For instance, depression may cause drops in a student’s energy, focus, concentration, pleasure in day-to-day activities, or desire to continue living (e.g., suicidal ideation). Further, anxiety—which causes excessive worry and a lack of control over these worries—has direct physical symptoms that disturb a student’s engagement in the academic environment (e.g., panic attacks, nausea, sleep disturbance, etc.) (Sadock & Sadock, 2000). The symptoms of anxiety can also contribute to academic avoidance behaviors, such as skipping class or avoiding study activities (Eisenberg et al., 2009).

Problematically, students with psychological distress experience increased risks for engaging in maladaptive strategies to reduce stress and anxiety, including alcohol and drug use, non-suicidal self-injury, eating disorders, high-risk sexual behavior, and other forms of self-harm. These forms of coping exacerbate psychological distress and further disrupt academic engagement (American Council on Education, 2014; Byrd & McKinney, 2010; Ryan et al., 2009). While the following review does not detail these behaviors, it is important to note their possible influence upon psychological distress, academic engagement, and success.

As an initial step in examining the influence of mental health and campus climate on academic engagement, academic disengagement, and academic success,

the following literature review highlights the current state of research in these areas and gaps in the literature that require further attention. The first section examines the literature on the prevalence and nature of mental health challenges within the general student population, the relationship between mental health of college students and campus climate, the relationship between mental health of college students and their academic engagement, academic disengagement, and academic success, and lastly, the compounding influence of mental health and campus climate on these factors. The second section of this literature review discusses research on mental health inequities of queer-spectrum population specifically.

Mental Health Challenges for College Students

Psychological health issues (e.g., depression, anxiety, etc.) are increasingly prevalent among U.S. college students. Among college age students, the National Alliance for Mental Illness (NAMI) (2012) found that 73% of students with a behavioral health issue may experience a mental health crisis during their postsecondary tenure (i.e., while attending college). This should be of great concern to colleges and universities, both ethically and financially.

Eisenberg and Lipson conducted the 2018-2019 Healthy Minds Survey ($n = 62,171$) with 79 colleges/universities, randomly sampling up to 4,000 students at each institution (or their full population, whichever is less). They found that roughly 1 in 3 college students screened positive for current mental health concerns (e.g., depression or anxiety) (Eisenberg & Lipson, 2019, p. 5). In this study, 18% of students screened for major depression, 36% for depression overall (including moderate and major), and 31% of students positively screened for either an anxiety disorder or an elevated level of generalized anxiety. More disturbingly, 24% reported non-suicidal self-injury in the past year and 14% reported suicidal ideation in the past year (Eisenberg & Lipson,

2019). It is worth noting that the sample had a diverse array of identities. Eighteen percent of respondents to the survey identified as queer-spectrum or other, 30% were students of color, 30% were over age 22, 23% were the first in their family to attend college, and 54% were female (Eisenberg & Lipson, 2019).

Moreover, the Spring 2019 American College Health Association National College Health Assessment further reinforced these findings by sampling college students from 98 American institutions ($n = 67,972$). Among undergraduates, 16.7% reported they were “so depressed it was difficult to function,” 31.8% “felt very sad,” and 29.6% “felt overwhelming anxiety” at some point within the previous two weeks (American College Health Association, 2019, p. 13-14). These figures highlight the commonality of psychological distress in students’ immediate environments.

Due to the concentration of mental health problems observed amongst college students, it is unsurprising that college counseling centers are struggling to keep up with demand (Center for Collegiate Mental Health, 2019; Thielking, 2017). Lipson et al. (2019) conducted a review of Healthy Minds studies from 2007-2017, including 155,026 students from sampled from 196 U.S. campuses. They found that clinical treatment rose from 19% in 2007 to 34% in 2017, accounting for roughly 10% of the overall student population (Lipson et al., 2019).

These large-scale national studies suggest that mental health issues are present at an alarming rate on college campuses. Further, they reveal an issue that requires deeper examination of personal and environmental stressors. The next section of this literature review details research that concurrently examines environmental factors (e.g., campus climate) and their relationship to student mental health.

Mental Health and Campus Climate

The mental health of all students is directly influenced by the environment within which they learn and live. Indeed, Garvey et al. (2018) note that “students with thriving campus climate experiences are most able to engage with their curricular activities, which increases the likelihood of developing intellectually and feeling valued in the classroom” (p. 99). Thus, without a thriving campus climate, students have a more difficult time engaging in and succeeding in their academic endeavors.

Numerous studies have shown that negative perceptions and or experience of campus climate contribute to psychological distress among students. Moreover, studies have used a remarkably wide variety of measures to assess campus climate for different sub-populations (Arbona & Jimenez, 2014; Bryd & McKinney, 2010; Clark & Mitchell, 2018; Fink, 2014; Lipson et al., 2015). The following review examines studies that illustrate the impact of campus climate on the mental health of non-queer-spectrum students. A further review of the literature regarding queer-spectrum students and mental health is presented in a subsequent section of this review.

The first study that examined the influence of campus climate on the mental health of students was conducted by Byrd and McKinney (2010). The authors analyzed individual, interpersonal and institutional level factors to examine their impact on mental health among 2,203 college students at two institutions. They found that perceptions of a negative/tense campus climate influenced mental health outcomes, including feelings of being singled out because of one’s race/ethnicity, gender or sexual orientation or perceptions of a racially tense campus climate—particularly among queer-spectrum and racially minoritized students (Byrd & McKinney, 2010).

Following this study, Fink (2014) surveyed 2,620 students across seven

institutions in 2008 and 2009 to ascertain what aspects of the college environment correlate with mental health outcomes. Holding constant all individual characteristics and institutional environmental predictors, Fink found that the following have a statistically significant relationship to mental health scores of participants: ease of social transition to college, socially supportive residence hall climate, professional confidence, sense of belonging, and sense of civic engagement.

Arbona and Jimenez (2014) also conducted a survey study with 309 Latino/a undergraduate students enrolled at a major public research university in the southwestern United States to determine the impact of minority stressors (e.g., stress due to membership in a marginalized/stigmatized group) on their mental health (44% of the sample screened positive for a mental health condition). Controlling for general stressors associated with college, minority stressors such as negative perceptions of the campus as welcoming, representation within the student body, curricular inclusiveness, and academic stress (e.g., preparing for and taking exams, fulfilling course requirements) were each positively correlated with depression for Latino/a students.

Lipson et al. (2015) examined mental health and institutional profile among undergraduates ($n = 42,210$) at 72 campuses across the United States. Using data from the 2007-2013 Health Minds survey, this research found that 18.2% of sampled students screened positive for depression, 10.1% for anxiety, 7.8% suicidal ideation, and 16.5% non-suicidal self-injury. Among these students, mental health outcomes were more negative among students attending colleges that are public versus private, nonresidential, more academically competitive, and/or had lower graduation rates than peers.

Clark and Mitchell (2018) conducted a phenomenological study with 10 African American students at a Midwestern, primarily white institution (PWI). Students in this study reported psychological stress due to the campus racial climate, including being a minority in size/representation on campus, how the students felt they were perceived and/or treated by others (e.g., being seen as “well spoken”), and how assumptions of and cultural norms around race on campus can affect attitudes of white peers, faculty, and staff inside and out of the classroom.

This section demonstrated the inequitable environments for many populations within higher education. Perceptions of campus climate, interactions with peers/faculty/staff, institutional profile, and myriad other dimensions contribute to poor mental health outcomes. In the next section, I reviewed the literature that examines the relationship between mental health, academic engagement, academic disengagement, and academic success for the general student population. A review of queer-spectrum academic engagement, disengagement, and success are also discussed later in this review.

Mental Health and Academic Engagement and Success

While ample attention has been paid to other retention predictors (e.g., financial stress, social connectedness, sense of belonging, academic preparedness), institutional leaders have paid far less attention to the role of mental health on college students’ persistence and completion (American Council on Education, 2019). Psychological distress among college students predicts academic adjustment difficulties, including intellectual flexibility, effective group work, creativity and intellectual risk-taking, and the fundamental interest in acquiring new knowledge (American Council on Education, 2014). Nearly 20% of students who participated in the 2018-2019 Health Minds survey reported that emotional or mental difficulties

disrupted their academic performance for six or more days (Eisenberg & Lipson, 2019). Similarly, Gruttadaro and Crudo's (2012) study with the National Alliance on Mental Illness indicated that mental health was the primary reason that 64% of students in their study dropped out ($n = 765$) due to behavioral health concerns (e.g., mental health conditions, substance use). The American Council on Education has advocated for interventions with students struggling with mental health issues, as they are at significantly higher risk for a lower grade point average, discontinuous enrollment (i.e., stop out), and dropout regardless of their academic record and other student characteristics (American Council on Education, 2019).

The following section details the critical studies that demonstrate a relationship between psychological health issues (e.g., depression and anxiety), lower grade point average, academic engagement (e.g., academic productivity/performance), and attrition (De Luca et al., 2016; Eisenberg et al., 2009; Gruttadaro & Crudo, 2012; Keyes et al., 2012; Oswald & Wyatt, 2011; Switcher et al., 2018).

Eisenberg, Goldberg, and Hunt (2009) conducted the first known study exploring how mental health predicts grade point average (GPA) and drop out, surveying 2,800 undergraduate and graduate students in 2005, and then again in 2007, at a large, academically competitive public institution (p.1-2). They found that depression among college students was a significant predictor of GPA and the probability of dropping out, even after controlling for other symptoms (e.g., anxiety, eating disorders and prior academic performance).

Building on this work, Keyes et al. (2012) conducted a survey study examining the impact of mental health disorders on the suicidal behavior and academic impairment of U.S. college students ($n = 5,689$). While only 12.7% of study participants screened positive for a current mental disorder (e.g., major depression,

generalized anxiety disorder, panic disorder), the research team noted that psychological distress occurred on a spectrum of severity. Only 3.8% of students met criteria for “languishing” mental health, 44.6% for “moderate” mental health, and 51.8% for “flourishing” mental health (e.g., “free of mental disorder”) (p. 128). Among the study participants, 10.8% of participants reported academic impairment (e.g., six or more days in the past four weeks), regardless of a clinical diagnosis or not. However, students with a mental health diagnosis reported academic impairment at higher rates than those who did not (52.0% versus 17.0% among those languishing, 34.6% versus 5.6% among those with moderate scores, and 20.4% versus 2.4% among flourishing students). These numbers suggest that even students with milder mental health symptoms experience significant rates of academic impairment.

De Luca et al. (2016) conducted a secondary analysis of the Research Consortium Study from the University of Texas at Austin—including 10 U.S. schools and 26,451 participants—to examine the impact of suicidal ideation on academic success (e.g., grade point average). They found that freshmen and sophomores who did not experience suicidal ideation were less likely to have severe psychological distress or a substance abuse issue, but still reported a lower cumulative GPA than juniors or seniors (3.24 versus 3.27). It was found that upperclassmen and underclassmen alike had lower grade point averages as the severity of their mental health issues increased. These findings suggest that psychological distress did predict students’ cumulative grade point average.

Schwitzer et al. (2018) conducted a retrospective archival study of student data which indicated they had used counseling services on campus to determine if mental health treatment impacted academic outcomes (e.g., grade point average, time-to-degree). They found that pre-treatment GPA and the number of counseling sessions

attended by students positively predicted cumulative GPA following treatment completion. They also found that for every 1-unit increase in the number of counseling sessions, the greater the odds were of students completing a degree within six years. Lastly, in contrast to students who did not complete treatment (i.e., stopped treatment, were referred off campus), treatment completion was associated with higher post-counseling GPAs.

While there is not a significant body of literature on the subject, the studies detailed above illustrate the role of psychological distress in academic engagement in the classroom, the consequences this has for learning, performance, and continued enrollment. In part two of this literature review, I examine the research exploring the experiences of queer-spectrum students' mental health, perceptions/experiences of campus climate, and academic engagement, disengagement, and/or success.

Influence of Mental Health of Queer-Spectrum College Students

Queer-spectrum students navigate a variety of risk factors that have an adverse effect on positive social and academic integration into the university environment. These factors include those at the individual/personal level and those at the group/ecological level. The following section details individual studies and systematic reviews of the literature on queer-spectrum college student mental health. In this review, I used the language used by study authors to describe study participants, departing from the queer-spectrum language that I use for this project described and defined in chapter one.

As mentioned previously, queer-spectrum students experience psychological distress long before enrolling in institutions of higher education. Despite an increase in positive attitudes about gay/lesbian/bisexual (GLB) individuals since the 1970s, queer-spectrum youth are still coming of age during a developmental period that is

marked by social stratification and policing surrounding their gender and sexuality (e.g., absence of institutional protections, biased-based bullying, family rejection) (Russell & Fish, 2016). As shared in the introduction, the 2019 Youth Risk Behavior Surveillance Survey was conducted with 78 schools in 44 states, 28 local school districts, three territories, and two tribal governments ($n = 13,872$). They found that 66.3% of high school students who identified as GLB felt sad or hopeless almost every day for at least 2 weeks in the past year, compared to 32.2% of heterosexual students (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2019). Over three times as many GLB students reported seriously considering suicide (46.8%) than their heterosexual peers (14.5%) and they were four times as likely to make a suicide attempt (40.2% vs. 12.1%, respectively) (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2019). These numbers suggest that queer-spectrum youth in the K-12 settings are experiencing psychological distress long before arriving at the academy.

Queer-spectrum students bring these previous experiences of stigma and harassment with them when they embark on their postsecondary education. Greathouse et al. (2018) conducted a secondary analysis of the 2016 Cooperative Institutional Research Program's Freshmen Survey (queer-spectrum $n = 12,872$). Among queer-spectrum students, 32.5% of gay/lesbian/bisexual/queer/other students reported that they experienced depression frequently, compared to 10.1% of heterosexual students. Further, 36.8% of surveyed queer-spectrum students entered college already diagnosed with a psychological disorder compared to 8.8% of their heterosexual peers. When asked to rate their emotional health relative to their peers, 57.4% of queer-identified students, 44.0% of bisexual students, 39.9% of lesbians, and 28.1% of gay students rated their emotional health as below average or in the

lowest 10%, two to three times that of heterosexual peers (13.4%) (Greathouse et al., 2018).

When examining the experiences of college students as a whole through the secondary analysis of the 2016 American College Health-National College Health Assessment (queer-spectrum $n = 9,331$), Greathouse et al. (2018) found that 59.3% of queer-spectrum students reported feeling so depressed that it was difficult to function in the past twelve months; in contrast, only 33.7% of their heterosexual peers reported these feelings (Greathouse et al., 2018). Alarming, nearly one-fifth (18.3%) of queer-spectrum students reported engaging in self-injury in the previous year, while an even larger proportion had seriously contemplated suicide (28.4%) when compared to their heterosexual peers (5.4% and 8.2%, respectively) (Greathouse et al., 2018). Compared to the results of the CIRP Freshman Survey, these results suggest that psychological distress increases within the queer-spectrum and heterosexual populations as they pursue their degree.

Puckett et al. (2017) conducted a study with 61 lesbian, gay, and bisexual (LGB) youth aged 14-23 using convenience and snowball sampling to examine predictors of queer-spectrum youth suicide attempt and mental health. They found that feelings of guilt or shame, internalized heterosexism (e.g., feelings of discomfort with same sex attraction, self-criticism related to sexual minority status), and psychological maltreatment by caregivers (e.g., insulted, ridiculed or humiliated, criticized, embarrassed by caregiver) predicted depression, accounting for 37.4% of variance on mental health scores. Over a third of study participants (37.7%) reported attempting suicide at one point in the past. Statistically significant predictors of suicide attempts included experiences with psychological maltreatment and loss of friends during the coming out process.

Hall (2018) conducted a systematic review of 35 studies examining the psychosocial risk factors for depression among LGB youth. Following a person-in-environment and ecological systems framework, Hall found that individual level risk factors included internalized LGB-related oppression, identity management stress (e.g., to conceal identity or disclose), perceived burdensomeness, a thwarted sense of belonging (e.g., social isolation/unmet need of belonging), and a use of maladaptive coping strategies (e.g., avoidance, suppression, distraction) (2018). At the group level, risk factors included family or parental rejection, negative social interactions (e.g., being treated poorly or ignored), childhood experiences with abuse/neglect/trauma, negative individual and communal religious experiences, and victimization (e.g., harassment, discrimination, violence) (Hall, 2018). Hall (2018) further posited that concealment of one's sexual identity, whether motivated by guilt/shame or a real threat (e.g., being attacked, fired from a job), "depletes cognitive resources, inhibits expression, and interferes with close interpersonal relationships" (p. 297). This comprehensive look at risk factors illuminates the experiences that underscore psychological distress and the real-world impact this has on the student experience for queer-spectrum students.

The preceding section examined literature that explores the risk factors influencing mental health of queer-spectrum students. These studies illustrate that queer-spectrum students experience distress around identity development and integration, identity management (i.e., disclosure), coping mechanisms, compromised social support networks (e.g., friends, family), and experiences with harassment or discrimination. The next section of this literature review examines the relationship between campus climate and the mental health of queer-spectrum students.

Influence of Campus Climate on the Mental Health of Queer-Spectrum

Students

The psychological health issues (e.g., depression, anxiety) that queer-spectrum students experience is influenced by several factors. Cultural, political, institutional, and interpersonal practices that privilege heterosexuality and deeply entrenched binary gender norms create a heterosexist environment that inherently devalues and denigrates queer-spectrum identities. Queer-spectrum students frequently endure a campus climate that is steeped in what is referred to as heterosexism, or “an ideological system that denies, denigrates, and stigmatizes any queer-spectrum form of behavior, identity, relationship, or community” (Herek, 1992, p. 89). Oswalt and Wyatt (2011) note that stigma stems not from the virtue of having a non-heterosexual sexual orientation, but from the way that others respond to that identity (p. 1257). Thus, the environment that queer-spectrum students traverse has a significant influence on their mental health.

Rankin et al. conducted a national survey study in 2010 ($n = 5,149$) and examined the climate for lesbian, gay, bisexual, and transgender students, faculty, and staff at institutions across the United States (all 50 states and Carnegie classifications were represented in the sample). The results indicated that 30% of respondents experienced a “difficult or hostile” campus climate, with 21% having direct experience with harassment due to their sexual or gender identity. Thirteen percent of queer-spectrum students feared for their safety, 43% concealed their identities to avoid victimization, and 30% considered leaving their institution.

When reviewing qualitative data that emerged from the Rankin (2010) study, Blumenfeld et al. (2016) found that students considered leaving their institution for numerous reasons unrelated to their sexual and/or gender identity. However, those

who did indicate that they seriously considered leaving their institution due to their gender and/or sexual identity felt their campus produced a climate of fear (e.g., experiences with or observations of harassment), chilly climates in the classroom (e.g., conservative professors), negative comments/assessments from peers and faculty, inequity in university benefits, religious influence on campus, hostile climates in the larger community around campus, experiences dealing with the intersection of homophobic oppression with other forms of oppression (e.g., xenophobia, ableism, sexism, etc.), and institutional inaction to various components of a hostile campus climate.

Woodford et al. (2012) conducted a study examining the experience of hearing “that’s so gay” and its relationship to social acceptance (e.g., “In general, I feel like I fit in with other students here”), self-esteem, anxiety, physical well-being, and “outness.” The study was a secondary analysis of data of queer-spectrum students ($n = 114$) from an anonymous climate survey at a Midwestern public research university. The results indicated that 90% of respondents reported hearing “that’s so gay” at some point in the previous twelve months on campus, though less than 20% had uttered the phrase themselves. Hearing the phrase had a statistically significant relationship to feeling “left out on campus”, however it was not found to have a relationship with anxiety.

Johnson et al. (2013) built upon these findings and illustrated relationships between anti-Lesbian/Gay/Bisexual/Queer (LGBQ) stigma and disparate rates of depression, non-suicidal self-injury, and suicidal ideation among queer-spectrum college students exist. The authors posited the resultant stigma facing queer-spectrum students leaves them vulnerable to negative mental health outcomes when experiencing anti-LGBQ harassment or discrimination. Furthermore, these students

may also internalize these negative attitudes about their sexual identity, increasing the potential for negative mental health outcomes.

Woodford et al. (2014) examined queer-spectrum students ($n = 2,428$) and explored the impact of personal/observed (e.g., ambient) incivility (e.g., ambiguously-motivated intent to harm such as dirty looks or being given the silent treatment), heterosexist harassment (e.g., verbal and non-assaultive behavior like being called homophobic names, being pressured to conceal identity), and hostility (e.g., threatening phone calls/emails/online messages, vandalization of property, physical assault or threat of assault) on the mental health of queer-spectrum students. The results indicated personal experiences with incivility and heterosexist harassment were positively correlated with depression and anxiety, and that ambient (or observed) hostility and heterosexist harassment were positively correlated with anxiety.

Building on this work, Woodford et al. (2014a) conducted another study of 299 queer-spectrum identified students to examine the relationship between anti-LGBQ interpersonal/environmental microaggressions campus (e.g., statements such as, “In my school/workplace, it was okay to make jokes about LGBQ people,” $p = .522$), anti-LGBQ victimization on campus (e.g., assault and harassment), psychological distress, and the role of self-acceptance as a mediating factor. Greater experiences with heterosexist experiences (e.g., interpersonal/environmental microaggressions) were found to be positively correlated with greater psychological distress, while victimization showed no relationship. Self-acceptance was found in lower levels among students who had experienced LGBQ microaggressions; importantly, lower self-acceptance was found to exacerbate psychological distress.

Similar in scope, Kulick et al. (2017) conducted a study ($n = 460$) to determine the mediating impact of campus involvement on microaggressions and victimization

among queer-spectrum and trans-spectrum ($n = 11$) students, comparing racial groups. The results suggest that environmental microaggressions (e.g., hearing “that’s so gay” or “no homo,” seeing negative social media messages, receiving only heterosexual sexual health information, seeing religiously based anti-LGBQ messaging), interpersonal LGBQ microaggressions (e.g., being told it is “just a phase,” hearing someone’s belief that homosexuality was a sin, being assumed to be hypersexual), and sexual orientation victimization (e.g., verbal abuse, physical assault) share a positive correlation with depression. Of note, sexual orientation victimization had the strongest relationship to depression for students of color. Moreover, though no racial differences were found, students who engaged in activism around their sexual orientation had heightened rates of depression. This finding suggests that empowerment and agency may have little impact as a coping mechanism or protective factor against mental distress for some students, particularly for Asian American queer-spectrum students.

Woodford et al. (2018) examined the relationship between depression, LGBQ environmental microaggressions (e.g., “I received information about sexual health that was limited to heterosexual sex”), interpersonal microaggressions (e.g., “being told that being LGBQ is ‘just a phase’”) and victimization (e.g., verbal and physical threats and assaults), and the protective/buffering factors of personal resilience, LGBQ pride, and LGBQ “outness” (Woodford et al., 2018). Their sample included 776 students total from 37 states, with 562 cisgender and 214 trans-spectrum respondents (Woodford et al., 2018). The results indicated LGBQ environmental microaggressions were most commonly reported, followed by interpersonal microaggressions and LGBQ victimization; of particular concern, each factor had a positive and statistically significant relationship with increased reports of depressive

symptoms or attempted suicide. While LGBTQ pride and outness had a negative relationship with increased depressive symptoms, the study's findings were not statistically significant in relationship to depression or attempted suicide. Personal resilience was found to be a statistically significant buffer against both depression and attempted suicide.

This review explored various aspects of campus climate that impact the mental health of queer-spectrum students, including experiences with microaggressions, harassment, social stigma, and harassment/discrimination. Namely, experiences with victimization are often how a campus climate is measured as affirming/hostile. In the next section, highlighted literature explores the impact of mental health on academic engagement for queer-spectrum students.

The Influence of Mental Health on Academic Engagement and Disengagement of Queer Spectrum Students

Despite the number of institutions that now recognize queer-spectrum populations on their campuses, few have established mechanisms to track the academic retention of these students (Legg et al., 2020), let alone their academic engagement. Various barriers exist to collecting data, such as omission of sexual and gender identity questions on university admissions and enrollment forms, the constantly evolving language and terminology pertaining to sexual and gender identity, and delays on the parts of organizations such as the Common Application (Legg et al., 2020). While the literature in this area is scant, the following studies illustrate the disparities that exist regarding the academic impairment of LGBTQ students.

Examining the responses of 34,208 students at 57 two-year and four-year institutions, Oswalt and Wyatt (2011) investigated the impact of physical and

psychological stressors on the academic performance of queer-spectrum college students in comparison to their heterosexual peers. Relative to their heterosexual counterparts, queer-spectrum and trans-spectrum college students reported higher rates of stress with regard to academics alongside other stressors, including career related issues, family problems, intimate relationships, finances, personal appearance, and sleep difficulties. When compared to heterosexual peers, sexual minority college students also experienced significantly higher rates of hopelessness, exhaustion, loneliness, sadness, depression, anxiety, and anger than heterosexual peers—and reported significantly higher rates of self-injury, suicidal ideation, and suicide attempt(s). In examining how these stressors impacted academic disruption, queer-spectrum students more frequently experienced academic disruption (e.g., lower grade, incomplete/dropout, disruption of thesis/dissertation/ research/practicum) due to anxiety, depression, discrimination, relationship difficulties, roommate difficulties, and stress (Oswalt & Wyatt, 2011).

Dunbar et al. (2016) surveyed 33,220 California college students to compare the mental health and mental health service utilization of lesbian/gay/bisexual/queer/questioning (LGBTQQ) students and their heterosexual peers. Twenty six percent of LGBTQQ students reported current psychological distress (e.g., hopelessness, worthlessness) compared to 18% of their heterosexual peers. Further, 17% of LGBTQQ students reported that their distress caused academic impairment versus 11% of their heterosexual peers.

As was discussed in the introduction, queer-spectrum students appear to engage in academic disengagement at higher rates than their heterosexual peers, including “going to class unprepared” or “skipp[ing] class” (Greathouse et al., 2018,

p. 31). Students' responses suggest that while queer-spectrum students do engage academically, they also disengage at higher rates than their heterosexual peers.

This section explored the small body of literature highlighting the academic challenges faced by queer-spectrum students in the context of academic engagement and success. Queer-spectrum students experience higher rates of stress and disengagement in the classroom, yet they continue to have grade point averages that are relatively comparable to that of their heterosexual peers (Greathouse et al., 2018).

Examining the academic engagement and disengagement of queer-spectrum students may illuminate the influence of barriers that exacerbate stressors uniquely facing this population. The last section of this literature review examines the compounding influence of mental health and campus climate on academic engagement.

The Relationship Between Campus Climate and Academic Engagement, Disengagement, and Success for Queer-Spectrum Students

Pascarella and Terenzini's (2005) study emphasized the importance of campus climate in the overall development and learning of students. While many studies have explored the impact of heterosexism on queer-spectrum student experiences with campus climate, few have examined the impact of campus climate on their academic engagement and/or success (Garvey et al., 2018). The review below highlights seminal research and emerging lines of inquiry on queer-spectrum academic engagement, campus climate, and mental health. While this field of literature is not necessarily robust, it illuminates many correlating factors that may influence academic engagement, disengagement, and success.

In one study that examined the impact of heterosexist harassment in academia, Silverschanz et al. (2008) found that LGB individuals ($n = 3,347$) who encountered

either ambient/observed heterosexist harassment or personal heterosexual harassment (e.g., university faculty, staff, administrator or student telling offensive jokes about LGB people, making crude or offensive remarks about LGB people, or calling someone by a homophobic slur) were more likely to report worse psychological and academic well-being. Fifty-seven percent of queer-spectrum students had some experience with heterosexist harassment (ambient/personal) compared to just 39% of heterosexual students. Both queer-spectrum women and queer-spectrum men reported higher rates of anxiety and depression as well as lower scores on feeling academic respect (e.g., “When I try to speak up in class, I am sometimes interrupted or ignored”), positive instructor relations (e.g., “I feel comfortable approaching my instructors for advice and assistance”), and social acceptance (e.g., fitting in, feeling like a part of the campus community) when compared to their heterosexual peers. Additionally, queer-spectrum participants held higher scores for school avoidance behaviors than their heterosexual counterparts (e.g., arriving to class tardy, making excuses to get out of class, thinking about quitting school all-together).

More recent research supports the seminal work of Silverschanz et. al. (2008). Tetreault et al. (2013) conducted a study of 75 LGBTQ-identified students at a large, land-grant university in the Midwest. The results suggested that students who felt the need to conceal their sexual identity from an instructor and/or felt they had been treated unfairly by a faculty member had a significant negative correlation with campus climate, both of which were found to be important factors in the intent to drop out of the institution.

Woodford and Kulick (2015) investigated the association between perceptions of and experiences with campus climate on academic disengagement, grade point average, institutional satisfaction, and acceptance on campus. They also examined the

role of protective factors such as friendships with other queer-spectrum students, and positive relationships with instructors. The results indicated that personal heterosexist harassment and witnessed heterosexual harassment were negatively correlated with academic engagement. In addition, negative psychological experiences of campus climate, such as unfavorable perceptions of safety and attitudes towards sexual minorities, were positively correlated with academic disengagement, and negatively correlated with institutional satisfaction and social acceptance. Favorable relationships with instructors were positively correlated with academic engagement, higher grade point average, greater institutional satisfaction, and greater social acceptance. Further, having queer-spectrum friends was positively correlated to grade point average and institutional satisfaction.

In a meta-analysis of the literature concerning climate for queer-spectrum students, Linley and Nguyen (2015) identified multiple institutional and unit-level domains that influenced academic engagement for queer-spectrum students. The mission of an institution may show negative regard for queer-spectrum identities, non-discrimination and anti-harassment policies may omit sexual identity from inclusion as an enumerated category, campus resources (e.g., safe zone programs, queer-spectrum student support services) may not be present, faculty may disregard the voices of queer-spectrum students in the curriculum and/or create a classroom environment and have faculty-student interactions that range from non-affirming to overtly hostile. Lastly, heterosexual students may also engage in microaggressions and heterosexist and genderist remarks (e.g., “that’s so gay”). Unfortunately, each of these factors compromise the learning environment for queer-spectrum students.

Garvey et al. (2018) conducted a study using data from 13-member campuses of a university system and explored the impact of campus climate on academic

success for 3,710 queer-spectrum students. They found that heterosexist climates negatively impacted students' experiences with "classroom spaces, interactions with faculty, and student/academic services" (Garvey et al., 2018, p.89). The authors found that campus climate was significantly correlated to academic success (e.g., self-perceptions of—and satisfaction with—academic performance, intellectual stimulation in coursework, satisfaction with the academic experience and with intellectual development, and intellectual development). The results indicated three aspects of campus climate to be strong predictors of self-reported academic success. Overall comfort with the institutional climate, climate in the academic college, and climate in the classroom were responsible for 38% of variance in self-reported academic success. Perceptions of the climate for race, sex, sexual orientation, gender identity, age, class, position (e.g., student/faculty/staff), and disability were responsible for 11% of the variance in academic success. Lastly, perceptions of institutional responsiveness to diversity/inclusion (e.g., compositional diversity, mentoring, reporting options for instances of inequity) accounted for 8% of variance in academic success.

In a secondary analysis of data collected in the National Study of LGBTQ Student Success Survey, Matheis et al. (2019) examined responses of 573 queer-spectrum participants. The study considered the impact of heterosexist harassment (e.g., non-physical, verbal harassment) on academic outcomes for queer-spectrum students, including hearing phrases such as "that's so gay" and "no homo." These outcomes included self-appraisal of academic and intellectual development (overall satisfaction with the academic experience including academic performance, interest in course content, and intellectual growth), perceived developmental challenges/academic stress (e.g., difficulty meeting academic standards, finding

courses too demanding, dissatisfaction with performance), and GPA. The study controlled for demographic characteristics, resilience, college perceived attitudes towards minoritized sexual identities, campus climate, instructor relations, and perceived social support from friends. The results indicated that hearing “that’s so gay” or “no homo” had no significant relationship with academic and intellectual development. However, relations with faculty, resilience, and college perceived attitudes were positively and statistically significantly associated with academic development. When examining developmental challenges, hearing “that’s so gay” or “no homo” were significantly associated with higher scores on developmental challenges; notably, this was especially impactful for queer-spectrum students of color. Protective factors against academic stress included resilience and instructor relations. While hearing “that’s so gay” failed to have an impact on GPA, hearing “no homo” was significantly associated with a lower GPA—particularly among queer-spectrum students of color.

In another study using the data from the National Study of LGBTQ Student Success, Kilgo et al. (2019) examined 747 queer-spectrum LGB+ student and trans-spectrum responses. The study examined a number of high-impact practices and how they influenced the academic development of queer-spectrum students, as many of these were founded using datasets that did not account for these populations. Coined by George Kuh on behalf of the Association of American Colleges and Universities, these practices include first year seminars, collaborative learning opportunities, academic learning communities, service learning, internships, undergraduate research, common intellectual experiences, writing-intensive courses, diversity/global learning, and capstone experiences (Kuh, 2008). Controlling for individual characteristics such as academic class (e.g., class standing), parental level of education (e.g., first

generation status), and Pell eligibility—and college-level covariates including institutional control (e.g., public or private), instructor relations (e.g., feeling comfortable going to faculty members for advice assistance), social acceptance by peers (e.g., general feelings of “fitting in” with other students), and overall student support—the team looked at the influence of internships, undergraduate research, learning community, senior experience, and study abroad. The results suggested that no practices, aside from undergraduate research, significantly predicted queer-spectrum students’ academic development. However, instructor relations, overall student support, and social acceptance all significantly and positively predicted academic development. Instructor relations in undergraduate research accounted for 30% of total variance in academic development as a mediating factor. These findings suggest that the social environment (e.g., instructor relationships, relationships with peers, and overall social integration) have a significant impact on the academic development of queer-spectrum students. The following section offers a summary of the literature review, as well as a review of what gaps the research seeks to fill.

Holding Multiple Marginalized Racial Identities

Multiple studies have examined the impact of holding multiple marginalized identities on psychological distress among queer-spectrum students. This research suggests that stress multiplies based on the number of marginalized identities one holds, causing these students to experience increased psychological distress (e.g., depression, anxiety, general stress) due to experiences with multiple forms of oppression (e.g., racism, sexism) (Hayes, Chun-Kennedy, Edens, & Locke, 2011; Ramirez & Galupo, 2019; Vaccaro & Mena, 2011). Using an intersectional approach is essential for understanding the interrelationships between various forms of identity-based trauma (Kulick, Wernick, Woodford, & Renn, 2017).

Hayes, Chun-Kennedy, Edens, and Locke (2011) used a dataset similar to authors McLeavey, Castonguay, and Locke (2011). In their analysis, they examined the psychological distress of students, comparing white and racially minoritized students, on various psychological systems. They found that students of color had higher mean scores for depression, hostility, family distress, and academic distress than their queer-spectrum white peers. When compared to heterosexual peers of color, they scored higher on depression, eating concerns, substance use, generalized anxiety, hostility, social anxiety, family distress, and academic distress.

Ramirez and Galupo (2019) surveyed 88 cisgender queer-people of color to examine predictors of depression and anxiety among students holding a queer-spectrum and racially minoritized identity. They found that racial and sexual microaggressions, LGBT-originated racism, heterosexism within communities of color, personal experiences with harassment/discrimination, and internalized sexual stigma had a positive relationship with rates of depression and anxiety (Ramirez & Galupo, 2019).

Kulick et al. (2017), discussed earlier in this literature review, found that students who reported higher rates of blatant heterosexist victimization and subsequent depression were most prevalent among African American/Black and Chicana(o)/Latina(o)/Hispanic students (Kulick, et al., 2017, p. 1132). Among white students, interpersonal microaggressions were positively correlated with depression (Kulick, et al., 2017, p. 1132). When looking at the mediating role of LGBTQ activism and campus leadership, depression had a positive correlation to depression for students of color—challenging the literature that advocates for student involvement in LGBTQ-related organizations to ameliorate the effects of

psychological distress among queer-spectrum students (Pitcher, Camacho, Renn, & Woodford, 2016).

Vaccaro and Mena (2011) conducted a phenomenological study with six queer-spectrum and trans-spectrum student activists at a predominately white, midsized university. They found the energy expelled by queer-spectrum students holding and making meaning of multiple marginalized identities, along with a desire to help other queer students of color find a sense of support, led to overwhelming stress on the academics of some student activists (Vaccaro & Mena, 2011). Furthermore, these stressors—in addition to lack of perceived social support—led two study participants to attempt suicide and one student to disenroll during the data collection phase of the study (p. 351). While this study does not include trans-spectrum students, gender may have a contributing effect to that of campus climate and mental health for lesbian, gay, bisexual, queer, and questioning students. In the following section, I examine the gender differences among queer-spectrum students.

Reason and Rankin (2006) conducted a study on perceptions of and experiences with harassment on campus, looking specifically at differences related to gender with 7,347 students. While both men and women experience harassment, women experience it at statistically significantly higher rates than men (75% compared to 25%, respectively). Further, women were most often to suggest that their experiences with harassment have to do with gender (69%) or race (25%). Threats of physical violence were more likely to be experienced by men (13%), but actual physical assault was more likely to happen to women (7%). When looking at observations of harassment, women were slightly more likely than men to witness harassment based on gender (53%), race (53%), and sexual orientation (51%), while

males observed harassment based on sexual orientation (57%), race (53%), and gender (40%).

Klein and Dudley (2014) conducted a study of the academic success of bisexual college students, comparing responses of queer-spectrum and heterosexual students from the American College Health Association-National College Health Assessment (N=27,774). Bisexual women experienced greater stress to their academic performance than bisexual men, lesbians, and heterosexual women due to anxiety, depression, or stress (Klein & Dudley, 2014). Bisexual men reported greater impediments to academic success than heterosexual men due to anxiety, depression, discrimination, stress, among others (Klein & Dudley, 2014).

Summary

The review of the extant literature examines the relationship between mental health, campus climate, academic engagement, academic disengagement, and academic success, specifically among queer-spectrum students. Throughout the review, significant evidence was provided to illustrate the increased propensity for psychological distress among queer-spectrum students. Research examining the influence of campus climate on mental health has centered on the impact of interpersonal and environmental microaggressions, victimization (e.g., physical and verbal assault), and protective factors (e.g., pride, outness, self-esteem). Research examining the academic engagement of queer-spectrum students has also focused significantly on the role of campus climate (e.g., institutional level and interpersonal level) in impacting academic engagement (e.g., relationships with faculty) and academic success (e.g., GPA). Only one study found in the literature examined academic engagement without looking through the lens of campus climate (Oswalt &

Wyatt, 2011). To date, only a handful of the studies cited above looked at academic disengagement (Greathouse et al., 2018; Silverschanz et al., 2008).

While numerous studies examined the influence of a heterosexist campus climate on academic outcomes and/or mental health outcomes, few have positioned mental health/psychological distress as a dependent variable when examining academic engagement, disengagement, or success outcomes, or perceptions of campus climate as independent or mediating variables, respectively. These studies suggest that campus climate is the lynchpin to addressing psychological distress and its antecedents academically. However, the descriptive research has consistently offered that students are entering higher education with a mental health diagnosis, existing psychological distress, and experience working with mental health clinicians prior to enrollment. Thus, using mental health as a dependent variable allowed for examination of its relationship with academic engagement, academic disengagement, and academic success separate from a student's perceptions of the campus climate, as well as the interplay between campus climate and academic outcomes.

Chapter Three: Methodology

This section details the methodology used to guide this study's examination of mental health's influence on academic engagement, academic disengagement, and academic success—with the mediating variable of campus climate and covariate analysis of race/ethnicity and gender. It includes a discussion of the conceptual framework, the research questions that guided the data analysis, and chosen procedures, including the study's rationale and a description of the instrument under study, selected sampling method, and chosen data analysis procedure. This study sought to answer the following research questions:

1. Is there a difference in the reported mental health of queer-spectrum students versus heterosexual students?
2. Is there a difference in the perception of campus climate among queer-spectrum students who indicate having a mental health issue versus those who do not?
3. Assuming there are differences regarding mental health and perceptions of campus climate, how do these differences influence academic engagement, academic disengagement, and academic success for queer-spectrum students?

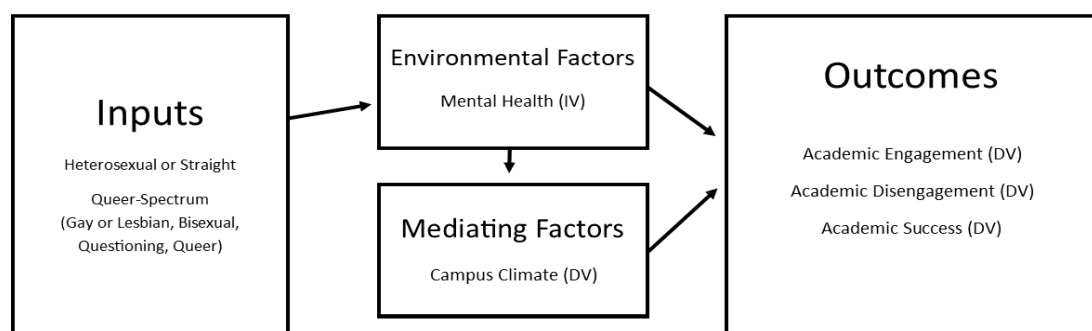
Conceptual Framework

Research on campus climate is informed by Astin's (1970) I-E-O model of college impact, which is composed of student inputs, the college environment, and student outputs. Student inputs may include the "talents, skills, aspirations, and other potentials for growth and learning that a new student brings with him to college," encompassing both static (e.g., demographics) and developmental (e.g., personal

values) dimensions that scholars may use to as a baseline to measure outcomes following a student's interaction with the college environment (Astin, 1970, p. 225). The college environment may include “administrative policies and practices, curriculum, physical plant and facilities, teaching practices, peer associations, and other characteristics of the college environment” that influence desired or undesired outputs (Astin, 1970, p. 225). Student output measures include the “achievements, knowledge, skills, values, attitudes, aspirations, interests, and daily activities” of students that are potentially influenced by the college environment and are used to examine differential impact across various populations of students (Astin, 1970, p. 225). Using Astin's I-E-O framework, I created a concept map that details the variables and the direction of the study. As depicted in Figure 1, the inputs for the study include the demographic question measuring sexual orientation, the environment (including mental health), while mediating variables include campus climate. The outcomes include academic engagement, academic disengagement, and academic success. Each of these variables are detailed below.

Figure 1.

Concept Map



Methods

To better understand the influence of mental health on academic engagement

and examine the mediating impact of campus climate, this study examined the relationships between mental health, perceptions of campus climate, academic engagement/disengagement (e.g., engagement in the classroom), and academic success (i.e., grade point average) for queer-spectrum students as depicted in Figure 1.

Procedure. Through this study, I sought to answer the following research questions:

1. Is there a difference in the reported mental health of queer-spectrum students versus heterosexual students?
2. Is there a difference in the perception of campus climate between queer-spectrum students who indicate having a mental health issue versus those who do not?
3. Assuming there are differences regarding mental health and perceptions of campus climate, how do these differences influence academic engagement, academic disengagement, and academic success for queer-spectrum students?

Undergraduate Student Experience in the Research University Survey.

Secondary analysis “provide[s] a window...[that] can help identify trends and inequities which further inquiry, often using in-depth research methods, can explore” (Smith, 2008, p. 331). The use of secondary data ensures that the privacy, confidentiality, and time of queer-spectrum and trans-spectrum students are respected and that their contributions are further utilized by higher education scholars. The use of secondary data analysis methodology in this study afforded me the opportunity to examine the experiences of queer-spectrum students on a national level, while simultaneously avoiding additional data collection and unnecessary invasion of queer-spectrum student privacy.

SERU Sampling Procedures. Historically, quantitative studies of queer-spectrum students have utilized non-probability sampling (e.g., convenience, purposive) to collect data, often relying on advertisements through lesbian, gay, bisexual, transgender, and queer (LGBTQ) college mailing lists and LGBTQ resource providers on sampled campuses (Rankin 2003; 2005; Rankin et al., 2010). While non-probability sampling methods procure data to answer critical research questions, it is frequently critiqued for yielding a biased sample of students who are out/visible members of queer-spectrum and/or trans-spectrum communities; problematically, these respondents may be uniquely invested in LGBTQ-focused research and/or might be intimately connected to collection sites that provide relevant resources to these populations (e.g., LGBT campus resource providers) (Brown & Gortmaker, 2009; Meyer & Wilson, 2009). The examination of data collected through the use of a probability sampling method (e.g., random, stratified, systematic, cluster random, or multi-stage) mitigates biased sampling by reaching queer-spectrum and trans-spectrum students who may be closeted, unconnected to LGBTQ resource providers on their campus, and/or may be hesitant to participate in an explicitly LGBTQ-oriented study due to multiple reasons (e.g., fear of compromised confidentiality through contact with LGBTQ resource providers on campus, desire to hold sexual and gender identities private, personal discomfort or social stigma associated with research explicitly targeting queer-spectrum and/or trans-spectrum students). These challenges suggest that the sampling method chosen for the SERU survey, a census model, could yield a more representative sample of queer-spectrum college students, capturing a more accurate picture of the experiences of a largely invisible and, thus, challenging population to survey.

Instrument. The instrument used for this study was the Undergraduate Student

Experience in the Research University (SERU) survey, developed by institutional research professionals at the University of California-Berkeley and University of Minnesota-Twin Cities. These institutions constitute the leadership of the SERU-AAU Consortium—an academic and policy research collaboration (“SERU”, n.d., para 1), assisting research intensive universities better understand various aspects of campus life for students attending their institutions. The SERU Undergraduate Survey includes sections on campus climate, learning and development, financial wellness, time usage, academic engagement, evaluation of major, educational experiences, and overall satisfaction (“FAQ”, n.d.). The goal of the SERU Consortium is to “promote and enhance evidence based-management and provide a path for institutional self-improvement” (“SERU Mission”, n.d., para 2).

The choice to use this instrument was informed primarily by the content of the survey. The survey includes a substantial number of questions measuring dimensions of campus climate (e.g., perceptions of respect on campus based on individual identities such as sexual orientation) along with measures of academic engagement (e.g., engagement in learning), academic disengagement (e.g., skipping class, not preparing for class, turning in a paper late), and academic success (e.g., grade point average). Thus, the breadth of the instrument allows for a robust analysis to assess the relationship between mental health, campus climate, and academic engagement, disengagement, and success. A concept map of the SERU Survey is offered in Figure 2 (Student Experience at the Research University, 2018, p. 49).

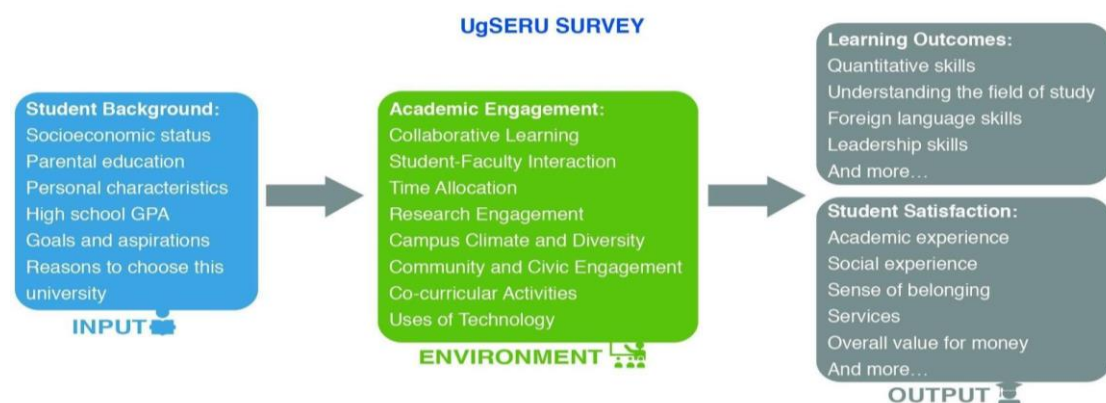
Participants. This study examined the responses of queer-spectrum students to the 2018 collection cycle for the SERU survey. A demographic question measuring sexual orientation has been included in the survey since its inception in 2007, providing six response options: heterosexual or straight (one response option), gay or

lesbian (one response option), bisexual, queer, questioning, and not listed above (write-in). Individuals who select “heterosexual or straight,” “gay or lesbian,” “bisexual,” “queer”, or “questioning” were included in this study’s total sample (Student Experience in the Research University, 2018, p. 30). Write-in answers were not included due to the complexity with which students may understand and label these identities (Jourian, 2015).

Variables. As illustrated earlier, this study included three research questions. These questions included one independent variable, mental health, and the dependent variables of academic engagement, academic disengagement, and academic success. It also included a potential mediating variable of campus climate and a covariate analysis of race/ethnicity and gender. These variables are operationalized in the following paragraphs.

Figure 2

Undergraduate Student Experience in the Research University Survey Concept Map



Note. Reprinted from “SERU Survey Concept Map”, In *Center for Studies of Higher Education*, n.d., Retrieved on March 22, 2021 from <https://cshe.berkeley.edu/seru/about-seru/ugseru-survey-design>. Reprinted with permission.

Sexual Orientation. To compare heterosexual to queer-spectrum students, I used the survey question, “What is your sexual orientation?” (Student Experience at the Research University, 2018, p. 30). Based on the item’s response options, “heterosexual or straight” students were considered one comparison group, while “gay/lesbian,” “bisexual,” “questioning,” and “queer” students were aggregated into a single group: queer-spectrum students.

Mental Health. To ascertain whether or not a student has an emotional/mental health concern, I drew responses from the question, “Do you have any conditions or disabilities that significantly affect your experiences as a student at [University Name], including how you learn or perform academically, interact with others, or access care?” From this, I extrapolated data from the dichotomous response item “emotional or mental health concern or condition (e.g., depression, anxiety, post-traumatic stress disorder)” (Student Experience at the Research University, 2018, p.29-30). Again, this variable served as the independent variable.

Campus Climate. In 2015, Soria conducted a confirmatory factor analysis to examine the validity of the SERU scale, *climate for diversity* (p. 6). Soria found that eight items comprised the *climate for diversity* scale with high internal consistency ($\alpha = .876$), then identified two subfactors: *campus climate for religious and political views* and *campus climate for diversity*—both of which had “high reliability ($\alpha > .700$)” (2015, p. 6). To answer my second research question, the second subfactor, *campus climate for diversity*, was used to assess campus climate as a mediating variable. For this study, campus climate was measured by an item with the following language, “Please indicate how strongly you agree or disagree with the following statements in terms of yourself,” with response options “strongly disagree/disagree/somewhat disagree/somewhat agree/agree/strongly agree.” The

factor was comprised of the following six items listed below in Table 1. These items suggest that the way that climate is measured is based on perceptions of respect across the many identities a student may hold.

Table 1

Campus Climate Factor Response Items

<i>Subfactor</i>	<i>Response Item</i>
Campus Climate for Diversity	Students of my religious beliefs are respected on this campus
	Students of my political beliefs are respected on this campus
	Students of my socio-economic status are respected on this campus
	Students of my race/ethnicity are respected on this campus
	Students of my gender are respected on this campus
	Students of my sexual orientation are respected on this campus

Academic Engagement. Soria (2015) conducted a confirmatory factor analysis on the “Engagement with Studies” factor of the Student Experience in the Research University survey, extracting three subfactors including *academic involvement*, *collaborative work*, and *academic initiative*. Soria found that fifteen items comprised this scale with high overall reliability ($\alpha = .885$) and that the three subfactors yielded “good internal consistency ($\alpha > .700$)” (p. 5). To answer the third research question, two of the three subfactors were used to assess academic engagement as a dependent variable. The items corresponding with the third subfactor did not load onto the subfactor, and it was subsequently removed from further analysis. Further details are given in chapter 4. See Table 2 for more information (p. 52).

Academic Disengagement. Soria (2015) examined the *Academic Disengagement* factor of the Student Experience in the Research University survey by conducting a confirmatory factor analysis and reducing the items to one factor which had a good internal consistency of items ($\alpha = .730$). Soria then identified three subfactors (all of which were reported to have poor to good reliability, ($\alpha > .670$)).

Table 2*Academic Engagement Factor Response Items*

<i>Subfactor</i>	<i>Response Item</i>
Academic Involvement	Contributed to a class discussion
	Had a class in which the professor knew or learned your name
	Asked an insightful question in class
	Brought up ideas or concept from different courses during class discussions
	Made a class presentation
	Communicated with the instructor outside of class about issues and concepts derived from a course
Collaborative Work	Studied with a group of classmates outside of class ²
	Worked on class projects with classmates outside of class ³
	Helped a classmate better understand the course material when studying
	Sought academic help from instructor or tutor when needed
	Substantially revised a paper before submitting it to be graded
	Increased your academic effort due to the high standards of the faculty member
Academic Initiative	Chosen Challenging Courses
	Found a course so interesting that you did more work than was expected
	Taken a small research-oriented seminar with faculty

Note. Questions have been slightly reworded since the 2015 factor analysis (marked with a footnote below). Since 2015, one item has been removed (“communicated with a faculty member by email or in-person”) since this scale was developed. Thus, the remaining items are listed above. These questions begin with “During the academic year, how often have you done each of the following,” with response options that span “never/rarely/occasionally/somewhat often/often/very often” (p. 1-2).

² “Talked with instructor outside of class about issues and concepts derived from a course” was changed to “[c]ommunicated with instructor outside of class about issues and concepts derived from a course.”

³ “Worked on class projects or studied as a group with classmates outside of class” was split into two questions on the 2018 SERU survey, including “studied with a group of classmates outside of class” and “worked on class projects with classmates outside of class.”

These included *extracurricular engagement*, *poor academic habits*, and *non-academic use of time*. In this study's confirmatory factor analysis, detailed in chapter 4, *non-academic use of time* did not yield good reliability ($\alpha = .553$), so it was dropped from analysis. To answer the third research question, each subfactor detailed in Table 3 was used to assess academic disengagement as a dependent variable. These items correspond to a question asking, "During this academic year, how often have you done each of the following?", with response measures "never/rarely/occasionally/somewhat often/often/very often" (p. 1-2).

Table 3

Academic Disengagement Factor Response Items

<i>Subfactor</i>	<i>Response Item</i>
Extracurricular Engagement	Performing community service or volunteer activities
	Attending cultural events, movies, concerts, sports or other entertainment with others
	Participating in student clubs or organizations
	Partying
	Participating in physical exercise, recreational sports, or physically active hobbies
Poor Academic Habits	Gone to class unprepared
	Skipped class
	Turned in a course assignment late
Non-Academic Use of Time	Spending time on entertainment from television, internet, or other media
	Socializing with friends

Academic Success. To assess academic success, I used the variable "grade point average" (GPA) that was reported for each student who participated in the SERU survey. Grade point average is the most commonly used measure in studies examining academic success as a construct, and thus, GPA was used for these purposes in this study (York, Gibson, & Rankin, 2015).

Control Variables

This study included two control variables, race/ethnicity and gender. A control variable accounts for the potential influence that variable could have on the analysis of a dependent and independent variable. Controlling for these extraneous or confounding variables helps the researcher avoid skewing the results of the study and can assist researchers in accurately testing the value of an independent variable (Allen, 2017). The following sections will describe how these two control variables were operationalized for the purposes of this study.

Gender. To create the gender variable, all respondents who indicated a trans-spectrum identity (e.g. genderqueer, transman, transwoman, another identity) were removed from the sample. Following this, any respondents who indicated a “sex assigned at birth” as “male” concurrently with a “gender identity” as “female”—as well as respondents who indicated a “female” sex-assigned-at-birth concurrently with a “male” gender identity—were removed from the sample as well. This left cisgender male and cisgender female response options for the question measuring gender.

Race/Ethnicity. The SERU-consortium uses race and ethnicity data that are reported by students via the Integrated Postsecondary Education Data System (IPEDS) at their home institution (K. Soria, personal communication, May 28, 2021). Race and ethnicity are measured using two questions on the IPEDS (National Center for Educational Statistics, n.d.). First, the IPEDS asks a question regarding ethnicity, with respondents indicating if they identify as Hispanic or Latino (National Center for Educational Statistics, n.d.). Following this, a second question asks individuals to indicate one or more races that apply to them, including American Indian or Alaska, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and/or White. Any student who does not indicate a race or ethnicity coded as “race/ethnicity

unknown”. A single race variable was created using the National Center for Educational Statistics guidelines for reporting race. Table 4 indicates how race/ethnicity was coded for this study (p. 55).

Table 4

Reporting Race and Ethnicity Data to IPEDS Using the New Categories

If the individuals self identifies as.....	Report to IPEDS as....
Hispanic only, or Hispanic and any race category	Hispanic
Not Hispanic; American Indian or Alaska Native only	American Indian or Alaska Native
Not Hispanic; Asian only	Asian
Not Hispanic; Black or African American only	Black or African American
Not Hispanic; Native Hawaiian or Other Pacific Islander only	Native Hawaiian or Other Pacific Islander
Not Hispanic; White only	White
Not Hispanic; more than one race category	Two or more races

Note. Taken from <https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-collecting-data-for-reporting-purposes>

Data Analysis

The data analysis for this study included confirmatory factor analyses, descriptive statistics, a chi-square test, a t-test, and mediation analyses. These various tests confirmed the factors utilized in the analysis, the demographics of study participants, the differences in mental health for queer-spectrum and heterosexual students, and the relationship of these factors to academic engagement, disengagement, and success.

Confirmatory Factor Analysis. This study began with a series of confirmatory factor analyses to determine if the 2018 SERU items adequately measured the concepts of academic engagement, academic disengagement, and campus climate.

Factor analysis “is used to uncover the latent structure (dimensions) of a set of variables. It reduces attribute space from a larger number of variables to a smaller number of dimensions and as such is a ‘non-dependent’ procedure (that is, it does not assume a dependent variable is specified)” (Garson, 2013, p. 8). Two goals (among several others) are “to validate a scale or index by demonstrating that its constituent items load on the same dimension, and to drop proposed scale items which cross-load on more than one dimension” and to “select a subset of variables from a larger set, based on which original variables have the highest correlations with the principal component dimensions” (Garson, 2013, p. 8-9). A confirmatory factor analysis provides evidence that the items in a scale represent the intended latent theoretical construct underlying the factor (Bryant & Yarnold, 2000). While confirmatory factor analyses were conducted by Soria in 2015 on the constructs of academic engagement, academic disengagement, and campus climate, some of the questions have changed slightly. As a result of these question modifications, a second series of CFAs were conducted to determine if the items in the 2018 survey adequately measured the constructs. Soria (2015) used a varimax (orthogonal) rotation to determine the principal components (main factors) and a promax (oblique) rotation to identify subfactors. In this study, principal axis factoring and a promax rotation was used to confirm all subfactors for academic engagement and academic disengagement. Only one campus climate subfactor was analyzed, so no rotation was applied. Factor scale scores were calculated using Thurstone’s regression method and standardized to a mean of zero and standard deviation of one to aid in interpretability of results. These scale scores were then used in the data analyses described in the subsequent sections.

Descriptive Statistics. Following confirmatory factor analyses, a tabulation of descriptive statistics was conducted to better understand the sample’s central

tendencies and dispersion (frequencies and percentages for categorical and ordinal variables, and mean, median, mode, standard deviation, and range for continuous variables) using SPSS 26. These results included statistics for sexual orientation, gender, race, academic engagement items, academic disengagement items, and academic success (e.g., grade point average).

Research Question Analysis. To answer the three research questions aforementioned, four different statistical procedures were used.

Research Question #1. The first research question asks, “[I]s there a difference in the reported mental health of queer-spectrum students versus heterosexual students?” I used a chi-square test of independence to determine if there was a statistically significant difference in the proportions of queer-spectrum students and heterosexual students who indicated they had a psychological/emotional health condition. Chi-square tests of independence are used to “analyze group differences when a dependent variable is measured at a nominal level” (McHugh, 2013, p. 143).

Research Question #2. The second research question asks, “[I]s there a difference in the perceptions of campus climate among queer-spectrum students who indicate having a mental health issue versus those who don’t?” I used a t-test to assess whether the mean campus climate factor score of queer-spectrum students who report a psychological/emotional health condition was statistically different from those who do not report a psychological health condition.

Research Question #3. The third research question asks, “How does the mental health of queer-spectrum students influence their academic engagement, disengagement, and success, and how are these relationships mediated by their perception of the campus climate?” The Hayes PROCESS Macro (Hayes, 2013) was used to test each path in the mediation models consisting of mental health as an

independent variable; academic engagement, academic disengagement, and academic success factors as dependent variables; campus climate as a mediating factor; and gender and race/ethnicity as covariates. For these analyses, only queer-spectrum students were included. This process produced evidence of:

- a. Direct effects of mental health on academic engagement, academic disengagement, and academic success, respectively.
- b. Indirect effects of mental health on academic engagement, academic disengagement, and academic success as mediated by campus climate.
- c. The total effects of mental health on academic engagement, disengagement, and success of queer-spectrum students.

The Hayes (2009) PROCESS macro is a regression-based observed variable mediation and moderation analysis tool that can be run in SPSS. It was chosen over other statistical methods that measure indirect effects for a few key reasons. While the most commonly used technique for testing for the effects of intervening variables is Baron and Kenny's (1986) causal steps approach (Preacher & Hayes, 2004), it has been criticized because it infers the existence of an indirect effect but does not directly test for it. To address this issue, the Sobel test (1982, 1986) was created as a complementary statistical procedure that could test for the indirect effect in a Baron and Kenny analysis. While this approach is effective in examining the influence of an intervening variable, it assumes that the distribution of the indirect effect is normal, which is not often the case (Hayes, 2009). Unlike Sobel (1982, 1986), the Hayes PROCESS macro—which also statistically tests for indirect effects—does not assume a normal distribution, accounting for this by using a bootstrapping method (i.e., repeatedly resampling the sample during analysis to eliminate the need for a normal distribution). Therefore, the Hayes method addresses the limitations of these statistical

procedures to most accurately analyze the potential mediation of mental health on academic engagement, academic disengagement, and academic success by campus climate—along with examining the influence of gender and race/ethnicity. The results of the Hayes PROCESS macro are given in terms of regression coefficients (Betas) and resulting direct, indirect, and total effects.

Summary

This section detailed the methods that were used for this study. It included a discussion of the conceptual framework, the research questions guiding the data analysis, and study procedures—including study rationale, description of the survey instrument, sampling method, and proposed data analysis procedures.

CHAPTER 4: FINDINGS

For this study, I began with confirmatory factor analyses of the academic engagement, academic disengagement, and campus climate factors. Following, I examined descriptive statistics that detailed characteristics of the sample and conducted the statistical tests to answer each research question: (1) [i]s there a difference in the mental health of queer-spectrum students versus heterosexual students?; (2) [i]s there a difference in the perception of campus climate among queer-spectrum students who indicate having a mental health issue versus those who do not?; and (3) [a]ssuming there are differences regarding mental health and perceptions of campus climate, how do these differences influence academic engagement, academic disengagement, and academic success for queer-spectrum students? This chapter details the findings for each procedure.

Preparing the Data

Several measures were taken to ensure the data were properly prepared and cleaned prior to conducting any analyses. First, demographic variables that were stored as string variables were converted to numeric variables and transformed into categorical variables (e.g., sex-assigned-at-birth, gender identity, race, sexual orientation). Note that all campus climate, academic engagement, and academic disengagement variables were treated like continuous variables. Grade point average (measure of academic success) was also continuous.

The next data preparation step was addressing missing values, a common occurrence where information is missing for some variables and for some cases (Allison, 2001). Missing values can establish substantial bias in the data, and if they are not randomly distributed, they may compromise the sample size (if data are missing on independent variables and reduction causes sample to be too small), or

may compromise generalizability of the study (if data is missing on the dependent variable) (Allison, 2001). Two strategies were considered to address missing data, listwise deletion and Maximum Likelihood (ML) imputation. A common strategy employed to address missing data, listwise deletion, was determined to be less optimal than ML imputation for several reasons. Listwise deletion may result in the removal of a large portion of the sample—leading to a significant loss of statistical power (Allison, 2001). In addition, other forms of imputation, such as mean substitution, are considered to be inferior to modern imputation techniques like ML imputation (Musil, et al., 2002).

Maximum Likelihood imputation (the EM procedure in SPSS) was run on campus climate and the academic outcomes to preserve the size and characteristics of the sample that would have been lost during listwise deletion. EM measures the means, variances, and covariances of missing data and imputes predicted values (Allison, 2001). Maximum Likelihood imputation produces estimates with the desired properties normally associated with maximum likelihood: consistency (i.e., estimates are approximately unbiased in large samples), asymptotic efficiency (i.e. estimates have minimal standard errors), and asymptotic normality (i.e. normal approximation allows for the calculation of confidence intervals of standard errors that account for missing data) (Allison, 2001). ML imputation produces an imputed dataset which closely approximate the characteristics of the original dataset. Further, Maximum Likelihood imputation is an effective technique for data that are missing at random (MAR) or not missing at random (NMAR) among large data sets, which is often the case (Allison, 2001).

Critically, imputation was intended to provide complete data for the analysis variables: the continuous variables used for the factors and the mental health variable.

It was not employed with the demographic variables of sexual identity, gender, or race/ethnicity to not imply that those identities were assigned by the imputation procedure. Thus, the descriptives reported later in this chapter are true to the original sample.

Factor Analysis

This study employed a series of confirmatory factor analyses to test the previously determined SERU factors for campus climate, academic engagement, and academic disengagement. I therefore had specific expectations related to (1) the number of factors; (2) which variables reflect given factors; and (3) whether or not the factors are correlated (Thompson, 2004), given a previous confirmatory factor analysis conducted by the SERU-Consortium (Soria, 2015). The following sections detail the procedure and findings for each of these analyses.

Campus Climate. In the 2015 factor analysis, the SERU-Consortium attempted to confirm an overall campus climate factor that had previously emerged through their exploratory factor analysis. They initially set the program to examine one factor. Per their factor analysis, the overall reliability of this factor was strong ($\alpha = 0.875$). Using a promax (oblique) rotation, they set the number of subfactors to two and yielded two subfactors with high consistency ($\alpha > .700$).

For the purposes of my study, only one subfactor was used for analysis, as the other factor (“Religious and Political Beliefs”) asks irrelevant questions to this analysis. The remaining subfactor, *campus climate for diversity*, included six items that measured perceptions of respect on campus on the basis of religion, politics, socio-economic status, gender, race, and sexual orientation (as detailed in a previous section).

To analyze this factor and confirm its reliability, I ran a principle axis factor

analysis with one factor (no rotation) for the *campus climate for diversity* factor. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.854, which measures how suited the data are to factor analysis (adequate values range from 0.8 to 1.0). The Bartlett's chi-square test was also statistically significant, indicating that the correlation matrix used for the factor analysis contains data which correlate with each other and may therefore be a good candidate for factor analysis. The *campus climate for diversity* factor explained 57.0% of variance in the items. The overall reliability of the factor was high, at $\alpha = 0.845$ and final factor loadings are reported in Table 5. All of the items load onto the campus climate factor, as was evidenced by the factor loadings exceeding the commonly used cut-off of 0.4 (Glaser, 1975).

Table 5

Factor Loadings for Campus Climate Factor Response Items

<i>Response Item</i>	<i>Factor Loadings</i>
Students of my religious beliefs are respected on this campus	0.706
Students of my political beliefs are respected on this campus	0.565
Students of my socio-economic status are respected on this campus	0.775
Students of my race/ethnicity are respected on this campus	0.778
Students of my gender are respected on this campus	0.699
Students of my sexual orientation are respected on this campus	0.643

The factor score was calculated using Thurstone's "regression" method to produce a score that's more accurate than a simple or weighted average (Grice, 2001). The resulting score was standardized to a mean of zero and standard deviation of one to aid in interpretability of subsequent mediation analysis results. Standardized factor scale score statistics for all factors can be found in Appendix A.

Academic Engagement. In the 2015 factor analysis, the SERU-Consortium attempted to confirm an overall academic engagement factor that had previously emerged through their exploratory factor analysis. Thus, they initially set the program to examine one factor. The overall reliability of this factor was strong ($\alpha = 0.885$).

Using a promax rotation, they fixed the number of subfactors extracted to three (to be congruent with previous analysis). This yielded three subfactors with good internal consistency ($\alpha > .700$): *academic involvement*, *collaborative learning*, and *academic initiative*.

In the current factor analysis, I used a promax (oblique) rotation and confirmed three subfactors which did not match the expected structure. KMO was 0.875, Bartlett's chi-square was significant, and the factors explained 60.4% of variance. "Academic involvement" had strong reliability ($\alpha = 0.860$) and all items loaded onto the factor. Two of the three items in the *academic initiative* scale did not load onto any factor and the intended scale's reliability was unacceptable at 0.380 (not over 0.4). Thus, I dropped this scale and its three items ("found a course so interested that you worked harder," "taken a research seminar," and "taken a challenging course"). The factor analysis indicated that the *collaborative learning* scale could split into two factors, but implementing an oblique rotation found all of the items to co-load onto a single factor representing the scale and Cronbach's alpha for that scale was moderate at $\alpha = 0.794$, so I deemed it appropriate to use those items to represent collaborative learning. I standardized *academic involvement* and *collaborative learning* using the same method I used for *campus climate for diversity*. The final factor loadings for each item are reported in Table 6 (p. 66), and final scale score statistics are presented in Appendix A.

Academic Disengagement. In the 2015 factor analysis, the SERU-Consortium attempted to confirm an overall academic disengagement factor that had previously emerged through their exploratory factor analysis. Thus, they initially set the program to examine one factor. The overall reliability of this factor was moderate ($\alpha = .730$), and using a promax (oblique) rotation, three subfactors emerged which had

poor-to-good reliability ($\alpha > .670$): *extracurricular engagement, poor academic habits, and non-academic use of time.*

Table 6

Factor Loadings for Academic Engagement Factor Response Items

<i>Subfactor</i>	<i>Response Item</i>	<i>Factor Loadings</i>
Academic Involvement	Contributed to a class discussion	0.808
	Had a class in which the professor knew or learned your name	0.657
	Asked an insightful question in class	0.835
	Brought up ideas or concept from different courses during class discussions	0.819
	Made a class presentation	0.536
	Communicated with the instructor outside of class about issues and concepts derived from a course	0.648
	Studied with a group of classmates outside of class ⁴	0.813
Collaborative Work	Worked on class projects with classmates outside of class ⁵	0.701
	Helped a classmate better understand the course material when studying	0.821
	Sought academic help from instructor or tutor when needed	0.548
	Substantially revised a paper before submitting it to be graded”	0.427
	Increased your academic effort due to the high standards of the faculty member	0.419

In the current factor analysis, KMO was 0.804 and the chi-square was statistically significant. In this analysis, three subfactors also emerged which explained 64.0% of the variance: *extracurricular engagement, poor academic habits, and non-academic use of time.* The five-item scale for *extracurricular engagement*

⁴ “Talked with instructor outside of class about issues and concepts derived from a course” was changed to “[c]ommunicated with instructor outside of class about issues and concepts derived from a course.”

⁵ “Worked on class projects or studied as a group with classmates outside of class” was split into two questions on the 2018 SERU survey, including “studied with a group of classmates outside of class” and “worked on class projects with classmates outside of class.”

had moderate reliability ($\alpha = 0.785$) and all items loaded onto the factor.

The three-item scale for *poor academic habits* had moderate reliability ($\alpha = 0.715$) and all items loaded onto the factor as well. The two-item *non-academic use of time* subfactor had a poor reliability score ($\alpha = 0.553$) and “How many hours-entertainment from television, internet, etc.” loaded weakly at 0.441, thus the scale was omitted from further analysis and only two subfactors remained (Table 7). The factor analysis resulted in the omission of the third subfactor from both academic engagement and academic disengagement. Thus, this study includes one campus climate factor (*campus climate for diversity*), two academic engagement subfactors (*academic involvement* and *collaborative learning*), and two academic disengagement subfactors (*extracurricular engagement* and *poor academic habits*).

Table 7

Factor Loadings for Academic Disengagement Factor Response Items

<i>Subfactor</i>	<i>Response Item</i>	<i>Factor Loading</i>
Extracurricular Engagement	Performing community service or volunteer activities	0.863
	Attending cultural events, movies, concerts, sports or other entertainment with others	0.626
	Participating in student clubs or organizations	0.667
	Partying	0.413
	Participating in physical exercise, recreational sports, or physically active hobbies	0.496
Poor Academic Habits	Gone to class unprepared	0.791
	Skipped class	0.654
	Turned in a course assignment late	0.576

The factor analysis resulted in the omission of the third subfactor from both academic engagement and academic disengagement. Thus, this study includes one campus climate factor (*campus climate for diversity*), two academic engagement

subfactors (*academic involvement* and *collaborative learning*), and two academic disengagement subfactors (*extracurricular engagement* and *poor academic habits*).

Descriptive Data

This study is based on analysis of the 2018 Undergraduate Student Experience in the Research University survey, which operates as a census and online survey. This sample included 10 distinct institutions, including 98,616 respondents in total. Queer-spectrum students comprised 14.5% of the population, with heterosexual students accounting for the other 85.5%. As trans-spectrum students were removed from analysis, the remaining sample consisted of more cisgender female respondents (63.4%) than cisgender males (36.6%). White respondents comprised 41.1% of the sample, followed by 10.6% Asian, 28.1% Hispanic, 2.8% African American, 0.1% American Indian, 0.1% Pacific Islander, and 2.3% Multiracial respondents, while 14.9% of the sample reported their race/ethnicity was unknown. Among all respondents, 17.9% of students reported having a mental health condition that significantly affected their experience as a student. The mean grade point average among students was 3.395 on a 4.0 scale, with a standard deviation of 0.367. The campus climate factor had six individual items that described perceptions of respect on campus for individuals with the respondent's religious beliefs, political beliefs, socio-economic status, race/ethnicity, gender, and sexual orientation. Table 8 (p. 67) details the means and standard deviations for each of the questions.

The academic engagement factor had fifteen items and described aspects of academic engagement in the classroom. Items corresponded with one of two subfactors, *academic involvement* or *collaborative work*. Table 9 (p. 67) details the means and standard deviations for each of the response items. The academic

Table 8*Descriptives for Campus Climate Factor Items*

<i>Question</i>	<i>M</i>	<i>SD</i>
Students of my religious beliefs are respected on this campus	4.66	1.01
Students of my political beliefs are respected on this campus	4.56	1.22
Students of my socio-economic status are respected on this campus	4.64	1.10
Students of my race/ethnicity are respected on this campus	4.65	1.10
Students of my gender are respected on this campus	4.69	1.01
Students of my sexual orientation are respected on this campus	5.08	0.95

disengagement factor had ten items and described *poor academic habits* (e.g., gone to class unprepared, skipped class, turned in a course assignment late) and *extracurricular engagement* (e.g., partying, participating in student clubs, watching television, etc.). Table 10 (p. 68) details the means and standard deviations for each of the response items.

Research Question #1

The first research question asked, “is there a difference in the mental health of queer-spectrum students versus heterosexual students?” A Chi-Square Test of Independence indicated a statistically significant relationship between sexual orientation and mental health ($\chi^2_{(1, N = 98,616)} = 5607.145, p < 0.001$). Among heterosexual students, 26.1% reported having a mental health condition, while 57.4% of queer-spectrum students reported having a mental health condition—meaning over half of queer-spectrum students compared experienced these difficulties compared to only one-fourth of their heterosexual counterparts.

The survey question inquiring about mental health measures self-perception of

Table 9*Descriptive Statistics for Academic Engagement Factor Response Items*

<i>Subfactor</i>	<i>Response Items</i>	<i>M</i>	<i>SD</i>
Academic Involvement	Contributed to a class discussion	3.99	1.30
	Had a class in which the professor knew or learned your name	3.85	1.51
	Asked an insightful question in class	3.37	1.34
	Brought up ideas or concept from different courses during class discussions	3.51	1.34
	Made a class presentation	3.28	1.44
	Communicated with the instructor outside of class about issues and concepts derived from a course	3.23	1.40
		3.60	1.50
	Studied with a group of classmates outside of class		
	Worked on class projects with classmates outside of class	3.62	1.47
	Helped a classmate better understand the course material when studying	3.77	1.36
Collaborative Work	Sought academic help from instructor or tutor when needed	3.46	1.42
	Substantially revised a paper before submitting it to be graded"	3.87	1.41
	Increased your academic effort due to the high standards of the faculty member	3.73	1.38

Table 10*Descriptive Statistics for Academic Disengagement Factor Response Items*

<i>Subfactor</i>	<i>Response Item</i>	<i>M</i>	<i>SD</i>
Extracurricular Engagement	Performing community service or volunteer activities	1.85	1.16
	Participating in student clubs or organizations	2.21	1.34
	Participating in cultural events, movies, concerts, sports, etc.	2.34	1.14
	Partying	1.82	1.08
	Participating in physical exercise, recreational sports, or physically active hobbies	2.51	1.27
Poor Academic Habits	Gone to class unprepared	2.53	1.07
	Skipped class	2.55	1.12
	Turned in a course assignment late	1.86	1.00

mental health, not a mental health diagnosis by a professional clinician. Further, it is important to note that queer-spectrum students do not, by nature, have mental health conditions—these, instead, reflect the impact of living in a heterosexist world that marginalizes and erases one's queer-identity. Much of the activism by early advocates (Drescher, 2015) has been developed specifically to make this distinction, so it is offered here as an important reminder.

Research Question #2

For the remainder of this analysis, the sample was restricted to only queer-spectrum students. The second research question asked, “Is there a difference in the perception of campus climate among queer-spectrum students who indicate having a mental health issue versus those who do not?”

Queer-spectrum students who indicate a mental health concern scored significantly lower ($M = -0.33$) than queer-spectrum students who did not on the *campus climate for diversity* factor ($M = -0.01$, $t = -17.18$, $p < .001$). The mean difference between queer-spectrum students holding a mental health issue and those without is 0.313, nearly a third of a standard deviation. Cohen's d (0.287) suggests a small effect size in the mean difference (Sawilowsky, 2009). These findings suggest that queer-spectrum students with a mental health concern have slightly more negative perceptions of the campus climate than their queer-spectrum peers without a mental health concern.

Research Question #3

The third research question asked, “[a]ssuming there are differences regarding mental health and perceptions of campus climate, how do these differences influence academic engagement, academic disengagement, and academic success for queer-spectrum students?” To conduct this analysis, I used the PROCESS macro for SPSS

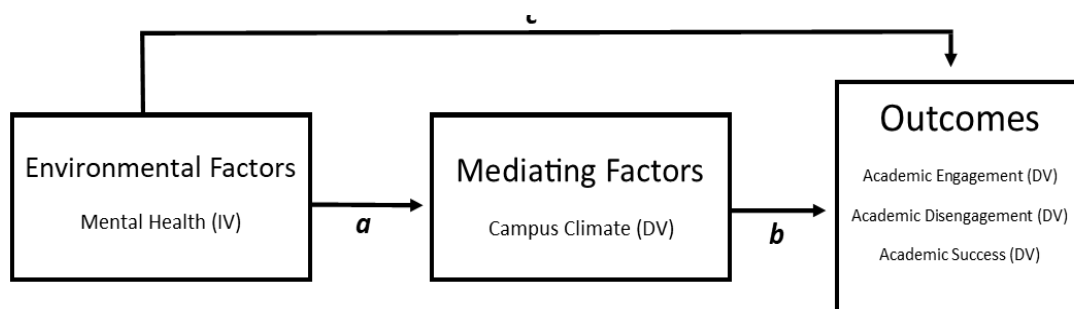
(Hayes, 2018), a bootstrapping regression tool that could test for the mediating effect of campus climate and the direct and indirect effect of having a mental health condition on each academic outcome, while controlling for the covariates of gender and race. All findings can be found in Table 13 (p. 117-118).

To conduct the analysis of the impact of mental health on academic engagement, along with the mediating effect of campus climate, I first ran a mediation analysis of the *academic involvement* subfactor. Subsequently, I ran an analysis of the *collaborative work* subfactor. Moving on to academic disengagement, I then ran the mediation analysis on *extracurricular engagement* and *poor academic habits*. I concluded this analysis by running a mediation analysis on grade point average to assess *academic success*. A path model is illustrated in Figure 3 (p. 71). Campus climate results are discussed first, as they remain constant through the analysis of each academic outcome. Appendix B includes a summary of significant results.

Campus Climate for Diversity. Mental health, race, and gender accounted for 12.4% of the variance in campus climate ($F_{(8, 7,345)} = 129.695, p < .001$). Holding race and gender constant, queer-spectrum students experiencing a mental health condition had a significantly less favorable perceptions of campus climate than their queer-spectrum counterparts ($\beta = -0.312$), a decrease of almost one-third of a standard deviation. While the covariates were included solely as control variables, queer-spectrum women had a less favorable view of campus climate ($\beta = -0.122$) compared to queer-spectrum men, as well as queer-spectrum People of Color (of all sexual orientations) compared with their White peers—including Asian students ($\beta = -0.486$), American Indian students ($\beta = -0.636$), Hispanic students ($\beta = -0.639$), African American/Black students ($\beta = -0.9996$), and students among whom race/ethnicity was

Figure 3

Path Model for Mediation Analysis



unknown ($\beta = -0.468$). This portion of the analysis established the link between mental health concerns and campus climate. The following analyses examine the mediation and total effect models to determine the effect of mental health concerns on the outcomes and how it's influenced by campus climate. Table 11 details all direct, indirect, and total effects.

Table 11

Direct, Indirect, and Total Effects of Mental Health Concern on Outcomes

	Direct	Indirect	Total
Academic Involvement	N/A	N/A	N/A
Collaborative Learning	-0.087	-0.016	-0.104
Extracurricular Engagement	-0.084	0.031	-0.053
Poor Academic Habits	0.308	0.030	0.339
Academic Success	-0.129	-0.014	-0.142

Academic Involvement. While the mediation model was significant ($F_{(9, 7,354)} = 19.641, p < .001$), it only explained 1.2% of the variance and *campus climate for diversity* and did not have a statistically significant impact on *academic involvement*, thus there was no indirect effect of mental health on *academic involvement*. Similarly, mental health was also not significant, indicating that there was no direct effect either. The total effect model for *academic involvement* was significant ($F_{(8, 7,345)} = 22.036, p$

< .001) but without mental health or campus climate, the only statistically significant findings involved gender and race/ethnicity. Queer-spectrum women students had slightly lower *academic involvement* scores ($\beta = -0.067$) than men. Queer-spectrum Hispanic ($\beta = -0.270$) and Asian ($\beta = -0.324$) students experienced statistically significant negative effects on their *academic involvement* compared to White peers, but this was not found among other student racial groups.

Collaborative work. The mediation model was significant ($F_{(9, 7,345)} = 7.849$, $p < .001$), and campus climate, mental health, race, and gender had a very small influence in the overall variance (1.0%) of *collaborative work*. For every standard deviation increase in *campus climate for diversity*, *collaborative work* increased by 0.052 standard deviations. The total effect model for *collaborative work* was significant ($F_{(8, 7,345)} = 6.382$, $p < .001$) and explained 8.3% of the total variance. The total effect of having a mental health condition on *collaborative work* was -0.104, the direct effect of mental health on *collaborative work* was -0.087, and the indirect effect of a mental health condition on *collaborative work*—mediated through *campus climate for diversity*—was -0.016. Most of the effect of having a mental health condition on collaborative work was direct, but there was still a small mediating effect through campus climate. Queer-spectrum women ($\beta = -0.071$) less frequently engaged in *collaborative work* than queer-spectrum men, and queer-spectrum Hispanic students ($\beta = 0.084$) experienced statistically significant positive effects on *collaborative work* compared to White peers—though this was not found among other student racial groups.

Extracurricular Engagement. The mediation model was significant ($F_{(9, 7,345)} = 24.359$, $p < .001$), and campus climate, mental health, race, and gender accounted for a 2.9% variance in *extracurricular engagement*. For every standard

deviation increase in *campus climate for diversity*, *extracurricular engagement* decreased by 0.1 standard deviations. The total effects model for *extracurricular engagement* was significant ($F_{(8, 7,345)} = 13.076, p < .001$) and accounted for 1.4% variance. The total effect of a mental health condition on *extracurricular engagement* was -0.053, and the direct effect of a mental health condition was -0.084. The indirect effect of a mental health condition – mediated through *campus climate for diversity*—was 0.031. Because *mental health* had a negative relationship to *campus climate for diversity*, and *mental health* mediated through *campus climate for diversity* had a positive relationship to *extracurricular engagement*, the total effect had a negative association with *extracurricular engagement*. Women were less likely than men to engage in *extracurricular engagement* ($\beta = -0.157$), but Hispanic students ($\beta = -0.0094$), Asian students ($\beta = 0.074$), and African American/Black students ($\beta = 0.109$) were more likely than White students to engaged in *extracurricular engagement*.

Poor Academic Habits. The mediation model was significant ($F_{(9, 7,345)} = 34.170, p < .001$), and race, gender, and mental health accounted for 4.0% of variance in the subfactor *poor academic habits*. For every standard deviation increase in *campus climate for diversity*, *poor academic habits* decreased by 0.098 standard deviations. The total effects model for *poor academic habits* was significant ($F_{(8, 7,345)} = 29.431, p < .001$) and accounted for 3.1% of the variance. The total effect of a mental health condition on *poor academic habits* was 0.339 and the direct effect of having a mental health condition was 0.308. The indirect effect of having a mental health condition- mediated through *campus climate for diversity*—was 0.030. While gender did not have a statistically significant relationship to *poor academic habits*, Hispanic ($\beta = 0.069$), Asian ($\beta = 0.226$) and African American/Black ($\beta = 0.321$) had

a positive and statistically significant relationship to *poor academic habits* when comparing them to white students.

Academic Success. The mediation model was significant ($F_{(9, 7,345)} = 61.543$, $p < .001$), and race, gender, and mental health explained 7% variance in grade point average (GPA). For every standard deviation increase in *campus climate for diversity*, *academic success* increased by 0.043 standard deviations. The total effects model for *academic success* was significant ($F_{(8, 7,345)} = 59.547$, $p < .001$) and accounted for 6.1% of variance. The total effect of a mental health condition GPA was -0.142 and the direct effect of having a mental health condition on GPA was -0.129. The indirect effect of having a mental health condition, mediated by the *campus climate for diversity* subfactor, was -0.014. Queer-spectrum women had greater *academic success* than queer-spectrum men ($\beta = .031$), while being Hispanic ($\beta = -0.170$) or African American/Black ($\beta = -0.271$) was significantly negatively correlated with *academic success*.

Limitations & Directions for Future Research

This current study is one of a handful of studies that look at the impact of mental health *or* campus climate in the context of queer-spectrum student learning outcomes, and is also one of just a few that looks at both. This research provides a foundation for deeper inquiry into the impact of these factors on academic outcomes and is a line of inquiry that is critical to the literature moving forward. While this study establishes a foundation for future research, limitations of this study are discussed below, followed by directions that future research should examine.

Limitations. While secondary data analysis provides an opportunity to utilize data beyond its primary use, using an existing instrument with pre-determined items was a limitation. Developing a new survey instrument would have presented the

opportunity to cultivate a collection of questions more closely aligned with my research questions. For example, the current survey instrument's questions on campus climate only deal with perceptions of respect based upon identity. An entirely new survey instrument would have provided an opportunity to ask questions about students' direct experiences with harassment and discrimination (e.g., campus climate), questions that capture the relationship between the variables in my study.

The factor analysis led to its own limitations. First, to address missing data, Maximum Likelihood (ML) imputation was employed. Upon analysis of the factor loadings for each factor, two subfactors were dropped, limiting the data analysis in those areas. The approach used for creating these subfactors and standardizing their scores also precluded the ability to examine individual survey items and the differences among queer-spectrum students.

Areas for Future Research. There is a dearth of literature exploring the academic experiences of queer-spectrum students in general. As stated above, just a handful of studies have looked at the impact of campus climate on academic engagement for these populations, and few have looked at mental health as a factor. Future inquiries should contribute to scholarship examining differences among queer-spectrum students with and without a mental health condition on individual items corresponding to academic engagement, disengagement, and/or success. Further, these studies should examine the impact of campus climate and its mediating role on academic outcomes—along with continued research on the direct impact of campus climate on academic outcomes.

Given the substantial findings from *academic disengagement*, future research—preferably qualitative in nature to tease out the nuances of student experiences—could also look at contributing factors to academic disengagement and

the ways in which mental health conditions and/or campus climate influence these behaviors. Similarly, an examination into the factors deterring queer-spectrum students from collaborative learning in the classroom would make a significant contribution to the literature and tools for practice in this area.

While this study further reinforces others that claim queer-spectrum students tend to have worse mental health outcomes than heterosexual students, a dearth of research exists on evidence-based prevention and intervention strategies. This research is critical for developing evidence-based interventions to address mental health inequities among queer-spectrum student populations. Future research should take this line of inquiry up if we are to examine not just the causes of disparity, but the mechanisms for their redress.

Lastly, given that women and queer-spectrum Students of Color experienced greater disparities in some areas of academic engagement/disengagement/success, future research should examine the intersectional impact of racism and holding multiple marginalized identities on academic outcomes. These studies could also examine between and within-group differences among racially minoritized groups, the unique elements of LGBTQ+ resources that improve academic outcomes, or the unique role of campus racism on the lives of Queer-spectrum Students of Color.

CHAPTER 5: DISCUSSION

This study was based on analysis of the 2018 Undergraduate Student Experience in the Research University survey, which operates as an online, census survey. This sample included 10 distinct institutions, including a total of 98,616 respondents. The primary purpose of the study was to examine the impact of psychological distress on academic engagement, disengagement, and success—as well as the mediating effect of campus climate—among queer-spectrum students. I begin with a discussion of the findings and their implications, followed by an outline of recommendations for colleges and universities to better prepare them to serve the needs of queer-spectrum students.

Preliminary analyses illustrated a statistically significant disparity in psychological distress among queer-spectrum students and their heterosexual counterparts, with queer-spectrum students reporting psychological distress at a rate (57.8%) over twice that of their counterparts (26.4%). This number far exceeded the results of the 2018 Health Minds Study—which, comparatively, found only one-third of students screened positive for a mental health issues (Eisenberg & Lipson, 2019). Combined with the findings on self-rated emotional health of incoming freshmen (Cooperative Institutional Research Program, 2016), these numbers should alarm and alert higher education leaders to consider the clinical and psychoeducational resources that are made available by their institutions to queer-spectrum populations, particularly incoming freshmen.

Results from the t-test suggest that queer-spectrum students who indicate having a mental health concern have more unfavorable perceptions of campus climate, in this case, perceptions of respect based on sex, sexual orientation, race, class, political beliefs, or religion. This comes as no surprise, as the literature suggests

that anti-queer harassment and discrimination are experienced by queer-spectrum students. These results are consistent with the literature, where varied studies reinforce the finding that college campuses are chilly for queer-spectrum students across multiple domains (e.g., classroom, peer interactions) (Blumenfeld, et al., 2016; Greathouse, et al., 2018; Rankin, et al., 2010). Further, multiple studies found that a negative campus climate exacerbates mental health issues (Johnson, et al., 2013; Kulick, et al., 2017; Woodford, et al., 2014; Woodford, et al., 2014a). This should alert mental health providers on campus, encouraging them to partner with campus administrators to reduce stigma/harassment/discrimination on campus.

Having a mental health condition had a statistically significant direct effect on *collaborative work*, *extracurricular engagement*, *poor academic habits*, and *academic success*, but not *academic involvement*. The coefficients illustrate that mental health is a contributing factor to queer-spectrum academic engagement, disengagement, and success. Queer-spectrum students with a mental health condition were less frequently engaged in collaborative learning experiences or engaged in extracurricular activities than their queer-spectrum counterparts. Notably, queer-spectrum students with a mental health issue were substantially more likely to report *poor academic habits*—amounting to almost one-third of a standard deviation. It follows, then, that queer-spectrum students reporting a mental health condition reflected an overall slightly lower grade point average than their queer-spectrum peers who did not report a mental health condition. These findings align with previous research studies that cite mental health as an academic stressor (Oswalt & Wyatt, 2011) inhibiting academic engagement (Silverchanz, et al., 2008) and promoting academic disengagement (Dunbar, et al., 2016). Campus leaders should take note of these relationships, and seek to identify ways to assist students experiencing mental health concerns—such as

the use of trauma-informed pedagogical practices that mitigate the manifestations of mental health issues in the classroom (Carello & Butler, 2014).

The results of the mediation analyses suggest that campus climate does have a positive effect on *collaborative work* and *academic success*, and a negative relationship to *extracurricular engagement* and *poor academic habits*. Conversely, it is just as important to note that *campus climate for diversity* did not have a statistically significant relationship to *academic involvement*. This suggests two possible interpretations. Students with positive perceptions of *campus climate* more frequently engage in *collaborative work* or have an increased GPA, or that students who frequently engage in *collaborative work* or have an increased GPA have more positive perceptions of *campus climate*. Findings also suggest that someone with a less favorable perception of *campus climate* would more frequently exhibit *poor academic habits*, or, conversely, that students exhibiting *poor academic habits* would have less favorable perceptions of *campus climate*. Because there is not a causal relationship tested in this analysis, correlations are all that can be surmised. These findings align with previous studies examining the relationship between campus climate and academic engagement, which have identified that queer-spectrum students are more likely to have academic disengagement problems if they have negative experiences with the campus climate (Garvey, et al., 2018; Mathies, et al, 2019; Oswalt & Wyatt, 2011; Silverschanz, et al., 2008). This should prompt faculty to better assess influences that affect participation in the classroom, poor academic performance, and greater extracurricular engagement, as there may be extenuating circumstances for a student's disengagement.

The results for *extracurricular engagement* are curious. Because *mental health* had a negative relationship to *campus climate for diversity* ($\beta = -0.084$), and *mental*

health mediated through *campus climate for diversity* had a positive relationship to *extracurricular engagement* ($\beta = 0.031$), the total effect of these two measures had a negative total effect on *extracurricular engagement* ($\beta = -0.053$). Given that students with mental health issues were less engaged in extracurricular activities, in contrast to the fact that extracurricular engagement has a positive relationship to academic engagement and success (Bergen-Cico & Viscomi, 2013), this is one potential explanation for increased academic disengagement. Without disaggregating the various items in the extracurricular engagement subfactor, it is impossible to ascertain what kinds of engagement these students are pursuing (e.g., partying vs performing community service). However, institutional administrators should acknowledge that mental health has a negative relationship to extracurricular engagement and must be actively mitigated through improved mental health service provisions (American Psychological Association, 2011), targeted mental health outreach (Schrier & Werden, 2000), an equitable campus environment (Greathouse & Kelly, 2011), queer-spectrum direct support services (Council for the Advancement of Standards in Higher Education, 2019), and queer-spectrum peer mentoring (Hoover, 2009), among others to improve overall academic engagement.

Gender was statistically significant for *collaborative work*, *extracurricular engagement*, and *academic success*. Race was significant for *academic involvement* (Hispanic and Asian students), *collaborative work* (Hispanic Students), *extracurricular involvement* (Hispanic students), *poor academic habits* (Asian and African American/Black students), and *academic success* (Hispanic and African American/Black students). When looking at effect sizes, the data suggest that some queer students of color experience a bigger impact to their academic success solely based on race, when compared with students who indicate they have a mental health

condition. These findings suggest that—along with mental health—greater attention should be paid to differences among queer-spectrum women and their male counterparts, and Students of Color and their White counterparts on the multiple measures of academic engagement. Further, interventions to address the impact of mental health and campus climate should be foregrounded with an analysis of needs based upon race.

Recommendations

The mental health of students, faculty, and staff continue to rank as the number one concern among college presidents—a trend that was further amplified by the COVID-19 pandemic (Turk, et al, 2020). In this study, queer-spectrum students with a mental health condition were less frequently engaged in *collaborative learning*, more often had *extracurricular engagements* and *poor academic habits*, and had lesser *academic success*. Having a mental health condition had the most significant negative direct effect on *poor academic habits* and *academic success*, suggesting that campus administrators should keep an eye on academic disengagement behaviors and overall performance in the classroom to ensure that queer-spectrum students are equitably engaged in the learning environment (e.g., turning in a paper late, skipping class). Given that having a mental health condition had a positive relationship to *extracurricular activities*, as well as *collaborative work*, institutions would be wise to look at cocurricular and in-classroom engagement and learning.

Campus climate for diversity had a statistically significant positive relationship to *collaborative work and academic success*, and a statistically significant negative relationship to *poor academic habits* and *extracurricular engagement*. It makes sense that a positive campus climate would encourage collaborative learning and greater academic success, while simultaneously having a negative impact on

academic disengagement subfactors. Institutions would do well to do encourage improvements and maintenance of a positive campus climate if they wish to improve academic outcomes for queer-spectrum students. The list below illustrates some steps that colleges and universities can take to better address the mental health needs of queer-spectrum students, and address aspects of the campus climate that exacerbate psychological distress, to improve upon existing academic outcomes.

Equitable College/University Settings. One way to address the mental health inequities facing queer-spectrum college students is to examine and address the heterosexist campus environment that may contribute to, or exacerbate, these outcomes. Equity-based analyses should be conducted on institutional policies and practices to ensure that queer-spectrum students enjoy equitable access to and benefit from educationally enriching experiences and support services designed to promote overall student success, including: admissions; enrollment management; bias response; anti-discrimination and anti-harassment policies; student support services; residential life/campus housing; health services and insurers; counseling services; academic support services; case management; sexual violence response; and athletics (Greathouse & Kelly, 2021). Understanding and tending to a positive campus climate is critical for addressing the impact of mental health inequities on academic engagement, disengagement, and success.

Equity-based analyses of campus policies and practices are designed to identify and reduce barriers for historically excluded groups in higher education. For queer-spectrum students, these analyses typically result in the reduction of barriers facing students and the establishment of queer-affirming policies and practices. In the next section, I'll explore the recommendation to create targeted, identity-based

support services—a key recommendation for institutions without queer-spectrum resource providers.

Targeted Queer-Spectrum Support Services. In this study, campus climate had a positive impact on academic engagement and success, along with a negative relationship to academic disengagement. Further, having a mental health condition had a statistically significant negative direct effect on *collaborative learning*, *extracurricular engagement*, and *academic success*, and a statistically significant positive relationship to *poor academic habits*. Queer-spectrum students need more than just access to an environment that does not actively discriminate against their needs and interests if we wish to improve mental health outcomes among this population. Students with a neutral campus climate may sometimes feel it is positive due to the lack of hostility they face daily (Evans & Broido, 2002; Tetreault, Fette, Meidlinger & Hope, 2013). Thus, specifically targeted queer-spectrum student support is an effective intervention for addressing both *mental health* and *campus climate for diversity*.

LGBTQ+ student development programs promote academic and personal growth of queer-spectrum students; build and maintain queer communities on campus; establish and maintain coalitions to create a more socially just institution; promote education/understanding/awareness that supports intersectional racial and economic justice policies and practices; and offer programs to educate the campus about sexual orientation and gender identity and expression (Council for the Advancement of Standards in Higher Education, 2019). Marine (2011) found that LGBTQ+ centers serve four main functions and serve seven major services and purposes: assessment/evaluation (e.g., campus climate), counseling and support (personal and professional advising, peer mentoring, faculty/staff mentoring),

education (LGBTQ+ awareness program, bias response programs), and advocacy (i.e., for change in policy and practice). Further, LGBTQ+ programs often serve as a first point-of-contact for queer-spectrum students, a trusted resource for LGBTQ information on campus, including: queer/trans-focused academic courses, trans/non-binary resources, gender neutral restroom maps, queer/trans-affirming on-campus housing options, sexual health information and testing, LGBTQ-affirming referrals for other campus resources, university policies and practices, mental health and wellness clinics, and so on (Georgia State University, 2021).

The first LGBTQ+ student development center was founded at the University of Michigan in 1971 (Marine, 2011), expanding to over 259 Centers and Offices at colleges and universities today (Consortium of Higher Education LGBT Resource Professionals, 2021). While these resource provisions have a tangible impact on the lives of queer-spectrum students, this means that less than 15% of American colleges or university have professional staff—whether full-time, part-time, or in terms of graduate student oversight—dedicated to providing queer-spectrum student support services (Greathouse et al., 2018). Colleges and universities should avail themselves to the work of Consortium of Higher Education LGBT Resources Professionals, the professional association of staff who serve the needs of queer-spectrum student populations, to better understand how they may reduce the impact of risk factors and reinforce protective factors for positive mental health outcomes (Consortium of Higher Education LGBT Professionals, n.d.).

Serving Students with Multiple Marginalized Identities. These centers are not without their tensions, particularly among trans-spectrum students and queer/trans-spectrum students of color, as LGBTQ+ programs are identity-based programs that do not always take a student's intersections of identity into account and provide adequate

service provisions across all constituent identities (Marine, 2011; Pitcher, et al., 2018). For instance, in one study, not only were Black-identified queer-spectrum students hesitant to go to the LGBTQ+ program due to the racism they experienced from White students, but they were also equally as hesitant to go to the Black Cultural Center for fear of homophobia/heterosexism they might experience (Vacarro & Mena, 2011). Given that race was significant for *academic involvement* (Hispanic and Asian students), *collaborative work* (Hispanic Students), *extracurricular involvement* (Hispanic students), *poor academic habits* (Asian and African American/Black students), and *academic success* (Hispanic and African American/Black students), it is recommended that providers have a strong understanding of intersectional support for queer-spectrum students who hold other marginalized identities (e.g., race, ability, class), as well as greater support for non-queer identities that traverse and utilize these spaces (Marine & Nicolazzo, 2014).

While no research has been conducted to study the impact of these resource providers on queer-spectrum students' mental health, the services highlighted above are known to improve a student's experience with campus climate and act as a buffer against heterosexism that may exacerbate psychological distress (Pitcher, et al., 2018; Woodford, et al., 2018). Given the unique experiences and challenges that face queer-spectrum students, a recommended way to begin addressing the mental health needs of these populations is to hire dedicated staff that are professionally trained and positioned to serve queer-spectrum college students' needs and interests. These professionals should be trained in the Council for the Advancement of Standards criteria, be familiarized with the guiding documents of the Consortium of Higher Education LGBT professionals, and be well-versed in strategies for supporting students with multiple marginalized identities.

In the next section, I discuss psychoeducational programming. This type of programming is sometimes led by identity-based offices and professional staff. However, given how few institutions have dedicated resources for queer-spectrum students, it is most likely that these programs are led by student affairs and behavioral health professionals, along with peer educators, that have responsibility for addressing the needs of a variety of students. Thus, the following recommendations may be applied to positions across student-facing programs.

Risk Reduction & Psychoeducational Programs. This study found that queer-spectrum students experience disproportionate psychological distress compared to their heterosexual peers. Further, results indicate that queer-spectrum students with a mental health condition have a more unfavorable perception of the campus climate. These results suggest that institutions should be deliberate to allocate corresponding time and resources to address mental health needs *where* they arise on campus.

One domain to dedicate additional resources towards is known as psychoeducational outreach, or an intervention designed to establish educational interventions that alter environmental conditions (Schrier & Werden, 2000). Psychoeducational “outreach” can be understood as “any purposeful intervention, conducted outside the office setting, that attempts to impart information to modify a specific psychological environment” (p. 360). The term “prevention” “refers to efforts to counteract risk factors proactively” (p. 360). And “programming” is understood as a “service delivery that provides cognitively oriented information and experiences that lead to improvement in an individual’s mental health or to the acquisition of psychological knowledge or skill” (p. 360-361). Among students who might be hesitant to engage in a therapeutic counseling relationship, psychoeducational programs may offer useful tools and skills that a student might not otherwise seek out.

Programming described as psychoeducational occurs in multiple spaces: student organizations, LGBTQ-focused educational programs, including informal and formal discussion and support groups, health promotion workshops, and in the classroom. It is sometimes led directly by counseling or health center staff but is often done by (and in partnership with) health promotions professionals and LGBTQ+-serving professionals. While no research exists on mental health interventions for queer-spectrum college students, based on what is currently known about university students' mental health needs among the general population, it seems fair to recommend that these programs be focused on unique queer-spectrum student needs and overall mental health specifically. Thus, psychoeducational programming should be designed to reduce risk and self-harming behaviors and reinforce strategies for positive identity development, personal resilience, healthy coping mechanisms, help-seeking behaviors, self-efficacy, and personal advocacy among many other topics that could reduce risk, eliminate barriers, and improve mental health outcomes for queer-spectrum students.

Student-Founded Organizations. Queer-spectrum students benefit from participation in identity-based student organizations for students holding minoritized sexualities and gender identities/expression (Pitcher et al., 2018) as well as mental health-focused student organizations like *Active Minds* (Sontag-Padilla et al., 2018). These organizations, as sites of intervention, promote positive identity development (Renn & Bilodeau, 2008) and social support networking (Pitcher et al., 2018), reduce risk factors associated with psychological distress (e.g., isolation, experiences with heterosexism) (Coley & Das, 2020), and promote protective factors like help-seeking skills and referrals to campus resources (Sontag-Padilla, et al., 2018). For example, in one study, familiarity with the organization *Active Minds*—a mental health focused

national student organization network—led to an increase in perceived knowledge on mental health, decreases in stigma around mental health, and increases in helping behaviors (e.g., providing emotional support, connecting others to service) (Sontag-Padilla, et al., 2018). It is important to note that while student organization involvement is a key intervention site, queer-spectrum students should not be expected to—or burdened with the responsibility to—design and implement mental health interventions for themselves and their peers. This is an all too common reality in American higher education—particularly among schools without dedicated LGBTQ+ resource professionals—and should be addressed by institutions at the outset.

Critical Partnerships. Research on psychoeducational health promotion strategies cites a lack of large-scale evidence-based and intervention-based programs designed to promote positive development and mental health outcomes for queer-spectrum students (Fish, 2020; Mustanski, 2015). Queer-spectrum service providers (whether they be in an identity-based center or have an entirely different role) should work closely with the college counseling center, and health promotion units within them (if applicable), to design and evaluate interventions that have a positive impact on mental health outcomes for queer-spectrum populations.

For example, queer-spectrum students are at a particularly vulnerable point in their academic career during the college transition. In one study comparing heterosexual and LGB students, findings suggested that LGB students experience greater psychological distresses, cognitive-affective vulnerabilities (e.g. negative thoughts, avoidant coping mechanisms), and less social well-being than their heterosexual counterparts during the first year (Kirsch et al., 2015). Thus, queer-spectrum service providers should partner with other providers on campus that

interact with students during their first year (e.g., orientation or campus housing) to ensure that these students are exposed to queer-affirming psychoeducation during the social and academic integration process. Building mental health psychoeducational programming into new student programming and residential life are strategic ways to ensure that queer-spectrum first-year students, as well as others, receive access to positive mental health strategies and are made aware of on-campus resources. Further, some schools have created targeted orientation programming for queer-spectrum students, including Rutgers University⁶ and the University of California-San Diego⁷.

As illustrated above, psychoeducational programming may take place in multiple settings and be focused on a wide variety of learning outcomes. This work is done across campus by both faculty and staff, in both informal and formal settings, to ameliorate the effects of psychological distress, introduce and foster positive strategies for mental wellness, and create a socially supportive environment for queer-spectrum student success. In the next section, I discuss the expansion of educational offerings to the larger heterosexual campus community that contribute to a reduction in heterosexism on campus and an increase in queer-affirming policies and practices.

Anti-Bias/Ally Training. Again, this study found that queer-spectrum students with a mental health condition have a more unfavorable perception of campus climate. Educational efforts should be undertaken to assist the heterosexual campus community in reducing and eliminating heterosexist policies and practices to reduce the burden placed upon queer-spectrum students to navigate chilly campus climates. Designed specifically for this purpose, Safe Zone/Safe Space trainings aim

⁶ <http://socialjustice.rutgers.edu/event-calendar/q-mmunity>

⁷ <https://lgbt.ucsd.edu/events/welcome.html>

to reduce anti-queer discrimination and behavior, increase queer-affirming policies and practices, and increase empathy for sexually minoritized populations among heterosexual students, faculty, and staff.

Woodford, Kolb, Durocher-Radeka, & Javier (2014) conducted a study of 20 “ally training programs”, finding that programs focused on 1-4 learning domains: understanding LGBT concepts and developing awareness around biases; understanding LGBT issues and recognizing discrimination and heterosexual privilege; becoming supportive persons to LGBT people; and becoming advocates to create LGBT-affirming campuses. By increasing awareness of anti-LGB bias, debunking negative stereotypes, and providing guidance on affirming and trauma-informed practices, institutions may influence how members of the campus community relate to and support queer-spectrum students on an individual, interpersonal, and structural level. The overarching goal of these trainings is to reduce heterosexism in the university environment and foster queer-affirming policy and practice among heterosexual members of the campus community.

Safe Zone/Space programs are a critical site for fostering allyship, obtaining skills to reduce heterosexism and support queer-spectrum college students more effectively, and building community with colleagues seeking to develop and maintain an affirming climate for queer-spectrum students (Poynter & Tubbs, 2007). Colleges and universities that do not currently have these programs in place are making a choice to allow a heterosexist campus climate to persist without interruption, and efforts to establish volunteer-led or staff/faculty-led programs should be a university priority. In the next section, I discuss mentoring support, another protective intervention that may support queer-spectrum academic success.

Peer Mentorship Opportunities. This study found that queer-spectrum

students have greater mental health inequities than heterosexual students. Improving mental health outcomes can have a significant effect on academic outcomes, as well as general perceptions of campus climate. Implementing peer mentoring programs, which mitigate risk factors and increase protective factors, may be a strong recommendation for addressing these findings.

Goodrich (2020) found that peer mentorship was beneficial for LGBTQIA+ music majors, improving resilience, countering heterosexist environments, mental health outcomes, improving social support network, building leadership skills, sense of belonging, and much more. Further, peer mentoring serves as a leadership opportunity for queer-spectrum mentors that “volunteer, mentor, or support marginalized community because they want to help or give back in ways they did not have access to” (Graham, 2019). Hoover (2009) found that queer-spectrum peer mentoring assisted students not only with identity development, but gave them the confidence to attend queer-focused events and build a social support network.

There is a robust body of literature that explores the benefits and impact of peer mentoring programs with specific populations or the general student body. Academic peer mentoring programs have been successful in increasing GPA and number of courses passed (Leidenfrost et al., 2014), so it would follow that this type of intervention may work for queer-spectrum college students. Taking perspectives and ideas from peer mentoring programs for Students of Color may also improve outcomes for queer-spectrum students as a whole, and in particular, queer-spectrum students of color. Racial affinity-focused peer mentoring has been found to increase social capital among students of color, resulting in greater ease of transition to college and increasing sense of belonging (Moschetti, et al., 2017), improving first year experience and degree of college involvement, (Flores & Estudillo, 2018), and

retention (Flores & Estudillo, 2018). These psychoeducational support networks provide a valuable resource for students who find themselves experiencing psychological distress, a hostile campus climate, academic challenges, relationship issues, and other challenges that face this population uniquely and in-line with the general student population. Peer mentors are typically upperclassman that have been trained on the unique issues impacting a population and strategies to best support their success. Peer mentors may serve as a listening ear, share valuable information on campus and community resources available on a particular issue a student is facing, and/or offer referrals to a trusted faculty/staff member to address any challenges beyond the mentor's capacity/training.

It has been demonstrated that peer mentoring has emerged as a critical strategy to improve retention of targeted student populations (Lane, 2018), assists with academic and social integration on campus (Collings, et al., 2014), and serves as a buffer against stressors (Collings, et al., 2014). This makes particular sense, given that Tinto's Theory of Involvement links persistence and success to involvement, connectedness, and integration (Lane, 2018). While retention is a relatively understudied topic in the field of queer-spectrum student support (Legg, et al., 2020) due to lack of reliable measures (e.g., admissions forms, enrollment management) to identify queer-spectrum students in the general student population (Windmeyer, et al., 2013), peer mentoring programs usually focus on health promotion topics and address barriers presented in the context of campus climate—such as the University of Southern California⁸, Johns Hopkins University⁹, and University of Houston¹⁰.

Queer-spectrum peer mentoring has been found to have an ameliorating effect

⁸ <https://lgbtrc.usc.edu/mentoring/>

⁹ <https://studentaffairs.jhu.edu/lgbtq/support/peer-mentoring-program/mentoring-application/>

¹⁰ <https://uh.edu/lgbtq/programs/involvement/peer-mentoring-program-mentor/>

on anxiety caused by negative family attitudes towards an individual's queer-identity and depression stemming from familial victimization (Parra, et al., 2017) as well as internalized attitudes towards sexual identity (Sheets & Mohr, 2009). Moreover, peer support has been found to increase sense of belonging (Hill, et al., 2017), retention (Lane, 2018), and improve GPA (Woodford & Kulick, 2014). These programs exist on many college campuses and seek to reduce social isolation, promote social support networking in an affirming and confidential environment, foster community building among queer-spectrum students, and impact developmental domains such as positive identity development. Queer-spectrum students would significantly benefit from participating in mentoring opportunities that assist them in identifying peers with a supportive orientation and connecting to previously vetted and curated queer-affirming campus resources and resource providers across campus.

While queer-focused programs and services are helpful to queer-spectrum students, the larger campus community should also be prepared to serve their unique needs. Queer-spectrum students navigate the same campus resources as other students, including important sites for mental health support. In the following section, I detail best practices for college counseling centers and/or health centers that offer behavioral health in-house.

Access to, and Quality of Care with, Physical/Mental Health Service

Providers. Queer-spectrum students experience psychological distress at much higher rates than their heterosexual peers, yet they are more likely than heterosexual students to utilize counseling services (Baams et al., 2018). These centers serve as a central resource for students when they are experiencing psychological distress, and thus, their resources and services should be fully prepared to serve the needs of queer-

spectrum students. In the following section, I detail best practices across multiple service domains that queer-spectrum students may utilize.

Websites. Before students initiate relationships with a campus resource like a college counselling center, they often review the offerings available on their website(s). Wright & McKinley (2011) conducted an analysis of college counselling websites to determine what resources were made available to queer-spectrum student constituencies and found that targeted LGBT communications “were the exception, rather than the norm” (p.145). Only 30% of counselling centers mentioned individual counselling for LGBTQ students on campus and only 11.3% mentioned group counselling. Further, only 10.3% spoke of their ability or willingness to change anti-LGBT attitudes in the campus community through educational outreach programs. In an across-time analysis that followed this initial study, McKinley, et al. (2014) found that these rates had not changed, and that religiously-affiliated institutions were least likely to offer LGBTQ-specific resources on their websites. College counselling websites are a key site for queer-spectrum students to seek out information about available support and these sites should be kept updated with comprehensive resources for queer-spectrum students.

Evaluating Resource Provisions. There are critical assessment questions that college and university counselling centers should answer about their support for queer-spectrum clientele. Adapted from McKee and Hayes (1994), Greathouse and Kelly (2021) recommended that the following questions be asked by mental health clinicians and clinical directors when preparing service provisions for queer-spectrum students:

- Are queer and questioning students and staff included on task forces and committees representing health issues?
- Do program advertisements include sexuality and relationship diversity and references?

- Do health fairs on campus include representation from queer and questioning student groups and community, state, and national agencies?
- Are considerations given to the safety of queer and questioning students on campus? Is the counseling center sensitive to social and legal issues involving sexual assault and abuse of these students? Is there awareness and cooperation with campus safety officers?
- Are threats to queer and questioning student health addressed regularly within the population? What programs address suicide, substance abuse, safer sex, and bias/hate-related violence specifically for queer and questioning students?
- Does substance abuse programming include references to queer and questioning students? Are queer and questioning support groups available on campus? If not, are appropriate referrals known and offered on a regular basis?
- Does written educational material include references to queer and questioning students? Do health [& counseling] center resource areas and campus libraries have information, books, and other materials specific to queer and questioning students?
- Are there regular campus-wide programs dealing with queer and questioning students and health issues?
- Is sexuality- and relationship-inclusive language used in all written and oral materials and presentations (e.g., using “partner” instead of boyfriend/girlfriend)?
- Do health services staff regularly attend in-service training dealing with queer and questioning health issues?
- Within appointments, do staff use inclusive language when taking health histories or discussing sexuality with students?
- Are programs offered in health education and counseling services in which the concerns of queer and questioning students are addressed?
- Are health services staff comfortable in addressing the concerns of queer and questioning students in appointments? Are inclusive and affirming services offered to all students and staff?
- Are staff aware of the legal issues in dealing with sexual assault/rape for queer and questioning students?
- Are heterosexist or monosexist remarks in staff meetings and in the health center challenged and discussed as promoting discrimination?
- Are health services staff brought up to date on the status of sexually transmitted diseases and AIDS/ HIV data and prevention strategies in the queer and questioning communities?
- Are physicians, gynecologists, and nurses sensitive to the health of queer and questioning people with uteruses? Are they available on a regular basis to consult with concerned students? If requested, are women and/or queer physicians and gynecologists available for student appointments?
- Are physicians, nurses, therapists, and others who write charts sensitive to maintaining the privacy of students’ sexual identity or sexual practices when noted in medical records?
- Are queer staff hired, supported, and encouraged to come out and be known to students and staff? (p. 63-65)

Clinical Training. While Safe Zone trainings may introduce clinicians to queer-affirming language and information, clinicians should also complete clinically-

focused training to best support the needs of queer-spectrum students. The American Psychological Association has 21 guidelines for working with lesbian, gay, and bisexual clients, and clinical training efforts should be pursued to meet each of the guidelines below (American Psychological Association, 2011).

- Guideline 1. Psychologists strive to understand the effects of stigma (i.e., prejudice, discrimination, and violence) and its various contextual manifestations in the lives of lesbian, gay, and bisexual people (“Attitudes Toward Homosexuality and Bisexuality,” para 1).
- Guideline 2. Psychologists understand that lesbian, gay, and bisexual orientations are not mental illnesses (“Attitudes Toward Homosexuality and Bisexuality,” para 8).
- Guideline 3. Psychologists understand that same-sex attractions, feelings, and behavior are normal variants of human sexuality and that efforts to change sexual orientation have not been shown to be effective or safe (“Attitudes Toward Homosexuality and Bisexuality,” para 15).
- Guideline 4. Psychologists are encouraged to recognize how their attitudes and knowledge about lesbian, gay, and bisexual issues may be relevant to assessment and treatment and seek consultation or make appropriate referrals when indicated (“Attitudes Toward Homosexuality and Bisexuality,” para 24).
- Guideline 5. Psychologists strive to recognize the unique experiences of bisexual individuals (“Attitudes Toward Homosexuality and Bisexuality,” para 31).
- Guideline 6. Psychologists strive to distinguish issues of sexual orientation from those of gender identity when working with lesbian, gay, and bisexual clients (“Attitudes Toward Homosexuality and Bisexuality,” para 37).
- Guideline 7. Psychologists strive to be knowledgeable about and respect the importance of lesbian, gay, and bisexual relationships (“Relationships and Family,” para 1).
- Guideline 8. Psychologists strive to understand the experiences and challenges faced by lesbian, gay, and bisexual parents (“Relationships and Family,” para 9).
- Guideline 9. Psychologists recognize that the families of lesbian, gay, and bisexual people may include people who are not legally or biologically related (“Relationships and Family,” para 13).
- Guideline 10. Psychologists strive to understand the ways in which a person's lesbian, gay, or bisexual orientation may have an impact on his or her family of origin and the relationship with that family of origin (“Relationships and Family,” para 16).
- Guideline 11. Psychologists strive to recognize the challenges related to multiple and often conflicting norms, values, and beliefs faced by lesbian, gay, and bisexual members of racial and ethnic minority groups (“Issues of Diversity,” para 2).
- Guideline 12. Psychologists are encouraged to consider the influences of religion and spirituality in the lives of lesbian, gay, and bisexual persons (“Issues of Diversity,” para 7).

- Guideline 13. Psychologists strive to recognize cohort and age differences among lesbian, gay, and bisexual individuals (“Issues of Diversity,” para 11).
- Guideline 14. Psychologists strive to understand the unique problems and risks that exist for lesbian, gay, and bisexual youth (“Issues of Diversity,” para 17).
- Guideline 15. Psychologists are encouraged to recognize the particular challenges that lesbian, gay, and bisexual individuals with physical, sensory, and cognitive-emotional disabilities experience (“Issues of Diversity,” para 25).
- Guideline 16. Psychologists strive to understand the impact of HIV/AIDS on the lives of lesbian, gay, and bisexual individuals and communities (“Issues of Diversity,” para 30).
- Guideline 17. Psychologists are encouraged to consider the impact of socioeconomic status on the psychological well-being of lesbian, gay, and bisexual clients (“Economic and Workplace Issues,” para 1).
- Guideline 18. Psychologists strive to understand the unique workplace issues that exist for lesbian, gay, and bisexual individuals (“Economic and Workplace Issues,” para 6).
- Guideline 19. Psychologists strive to include lesbian, gay, and bisexual issues in professional education and training (“Education and Training,” para 1).
- Guideline 20. Psychologists are encouraged to increase their knowledge and understanding of homosexuality and bisexuality through continuing education, training, supervision, and consultation (“Education and Training,” para 6).
- Guideline 21. In the use and dissemination of research on sexual orientation and related issues, psychologists strive to represent results fully and accurately and to be mindful of the potential misuse or misrepresentation of research findings (“Research,” para 1).

Off-Campus Support. Mental health outcomes for queer-spectrum students have only been exacerbated by the COVID-19 pandemic. One study found that 61% of queer-spectrum college students surveyed during the pandemic experienced frequent psychological distress, complicated by lack of family support or stressors related to disclosure of sexual identity to one’s family (Gonzales et al., 2020). The findings of this study recommend that colleges/universities offer telehealth options with flexible hours that are extended until the return of in-person classes and referral services to low or no-cost providers in the students place of residence. While these provisions were made in response to the pandemic, this could remain a resource for queer-spectrum distance learners and queer-spectrum students living off-campus, but in need of on-campus psychological support.

Satellite Support. Based upon the authors professional experience working with queer-spectrum students, satellite locations for mental health counseling may be a site for success. Due to mental health stigma, and related reluctance to visit a counseling center on campus, some LGBTQ+ centers have partnered with campus counseling centers to offer drop-in counseling services in the LGBTQ+ space¹¹. This strategy brings the mental health support to a site where queer-spectrum students congregate, introduces and offers opportunities for clinicians to build informal support relationships with students, and offers increased opportunities to engage students in formal individual counseling and support groups. Further, some campuses have developed virtual “drop-in” consultations for queer-spectrum and trans-spectrum students, such as the University of California-Berkeley¹².

Academic Support. Per the findings from this study, having a mental health condition had a statistically significant negative relationship to *collaborative learning* and *academic success*, and a statistically significant positive relationship to *poor academic habits*. Despite a complete dearth of literature on academic support strategies for queer-spectrum students, several academic strategies are illustrated here that have been successful or are recommended for use with the general student body.

Collaborative Learning. Collaborative learning is an umbrella term used to describe a variety of educational approaches involving joint intellectual effort by students or students/instructors together (Love et al., 1992). Collaborative learning involves two or more students that are mutually working towards understanding, solutions, meaning, or creation of a product and towards pre-determined learning outcomes of some kind (Love et al., 1992). A robust body of literature demonstrates

¹¹ <http://socialjustice.rutgers.edu/tuesday-talks/>

¹² <https://uhs.berkeley.edu/sites/default/files/caps-qtalk.pdf>

that collaborative leads to higher academic achievement, knowledge integration and retention (particularly in juxtaposition to traditional exams), greater mastery of learning outcomes, cognitive gains (e.g., high-order thinking), academic confidence, creative problem-solving, academic investment in subject matter, and retention, among others (Cross & Barkley, 2014).

In this study, queer-spectrum students who indicated having a mental health issue had a more negative relationship to collaborative learning than those who did not. Further, this was partially explained by the mediating influence of campus climate. One practitioner penned an article guiding the creation of LGBTQ learning communities and her personal account illuminating the barriers that queer-spectrum students might face in collaborative learning environments:

As a former Writing Program Administrator (WPA) for a large first-year writing program at Iowa State University and as a faculty member who has taught undergraduate writing and other courses, I have seen the effects of a “chilly campus climate” (Rankin, Blumenfeld, Weber, & Frazer, 2010) for lesbian, gay, bisexual, transgender, and queer (LGBTQ) students in my classrooms. Nearly every semester, a handful of the students who have come out to me indicate that they are struggling both academically and socially. I have seen many LGBTQ students simply stop attending classes and fail to turn in assignments, sharing with me that they felt uncomfortable in many of their classes because of classmates’ or even faculty’s intolerance around their gender identity and sexuality. I have attempted to help the best that I can: I have reached out to these students, connected them with student services offices, and talked with them at length about the various support systems available to them on and off campus. While this helped a few students, the majority of them continued to struggle. Of the students I met with who struggled or decided to stop attending their classes, most indicated that it was just too hard: they faced harassment, they did not feel like they had community, their families were not supportive of their identity, or they were simply struggling to figure out where they fit (Jaekel, 2015, p. 1).

What this personal account suggests is that queer-spectrum students are navigating unique issues that influence their participation in collaborative learning activities. Following the creation of an LGBTQ learning community (Jaekel, 2015), several positive student outcomes were identified that may illuminate some of the

collaborative learning issues facing queer-spectrum students. Students reported that they enjoyed having a space where they could speak about their sexual orientation and be open with classmates, noted that group work was more easily achieved due to the comfort level they felt talking about experiences with their peers in group work settings, and lastly, students felt that it was positive to connect with other students in an authentic way (Jaekel, 2015). This suggests queer-spectrum students in the classroom do not feel like they can speak freely from their lived experience, be “out” as queer-spectrum, feel comfortable talking to heterosexual peers, and/or engage authentically with heterosexual peers in collaborative learning settings.

Using a strategy like an LGBTQ learning community addresses some of the challenges raised above. It is important to note that this learning community focused on LGBTQ subject matter, which would lend itself to more open engagement. In turn, the content of this particular course lent itself to queer-spectrum collaborative learning. While learning communities are one strategy for collaborative learning, there are myriad strategies to improve collaborative learning, such as general classroom engagement. For example, when faculty explain a collaborative learning activity, it is recommended that they remind students of the “rules for group interaction” (Cross & Barkley, 2014, p. 91). This could present an opportunity to clarify expectations about creating a supportive learning environment and treatment of other students during the activity. Further, checking in with queer-spectrum students to assess their collaborative learning experience may present an opportunity to address issues of peer resistance and alienation, feeling silenced or erased, or other forms of mistreatment.

Academic Disengagement. As this study found, queer-spectrum students with a mental health condition were substantially more likely to engage in academic

disengagement behaviors than their queer-spectrum peers without—some of which was explained by campus climate. As stated in the introduction, depression may cause drops in a student's energy, focus, concentration, pleasure in day-to-day activities, or desire to continue living (e.g., suicidal ideation). Further, anxiety, which causes excessive worry and a lack of control over these worries, has direct physical symptoms that disturb a student's engagement in the academic environment (e.g., panic attacks, nausea, sleep disturbance) (Sadock & Sadock, 2000). The symptoms of anxiety contribute to avoidance behaviors, such as skipping class or avoiding study activities (Eisenberg et al., 2009). Given this research, it is unsurprising that there is a link between mental health and academic disengagement.

Campus climate also had an impact on academic disengagement in this study, which follows the logic of the previous section. If a student feels erased/marginalized, pressure to conceal identity and/or lived experiences, and/or a lack of interpersonal support from classmates, they may become less engaged in such classrooms.

With regard to *extracurricular engagement*, queer-spectrum students would be wise to prioritize their academics and balance those needs with cocurricular involvement, attendance at events, partying, spending time with friends, exercising, participating in student clubs, or volunteering—regardless of whether they experience a mental health condition. Given the campus climate that students endure, however, queer-spectrum students should be encouraged to engage in queer-focused cocurricular engagement such as LGBTQ+ student clubs, serving as an LGBTQ+ peer mentor or peer educator, or participating in an LGBTQ+ living-learning community, among others. It is important to note that this type of engagement may have a contributory effect on disengagement if time is spent student organizing is in excess

of a student's available time. Given the needs that are met by involvement (e.g., positive identity development, increased sense of belonging), advisors would be wise to work with students directly on their prioritization and time management skills to deter overinvolvement and the subsequent negative impact this has on academic engagement.

With regard to *poor academic habits*, faculty may wish to examine the classroom climate, interpersonal relationship between students and course staff (e.g., teaching assistants), and their pedagogical style. One strategy that may decrease poor academic habits is the employment of a trauma-informed teaching lens, which requires a stronger commitment to maintaining student well-being and accounts for the impact of mental health and campus climate conditions. The following section defines this framework, strategies for trauma-informed classroom management, and additional ways to use a trauma-informed approach to instruction.

Trauma-Informed Teaching. Sixty-six to eighty-five percent of youth report lifetime traumatic exposure and multiple traumatic exposures, which most commonly between the ages of 16 to 20 (Carello & Butler, 2014). Trauma describes “an experience in which a person's internal resources are not adequate to cope with external stressors,” including adverse childhood experiences, sexual assault, racism, poverty. (Hoch, et al., 2015). The COVID-19 pandemic has exacerbated existing trauma for many students, widening an existing body of students exhibiting signs of psychological distress (Salerno, et al., 2020).

Queer-spectrum students endure multiple forms of trauma, both before and after entering the college environment, including: familial, cultural, and religious rejection; bullying/harassment in K-12 settings; substance misuse; intimate partner and other forms of sexual violence; and/or internalized heterosexism. These all

contribute to queer-spectrum students' psychological distress (e.g., depression, anxiety, post-traumatic stress disorder, suicidal ideation/attempt). Signs of post-traumatic stress include difficulty focusing/attending/retaining/recalling, a tendency to miss a lot of class, challenges with emotional regulation, a fear of taking risks, anxiety about deadlines/exams/group work/public speaking, anger, helplessness, dissociation when stressed, withdrawal and isolation, and involvement in unhealthy relationships (Hoch et al., 2015).

I recommend that postsecondary faculty, all of whom are charged with creating a welcoming and affirming environment for queer-spectrum students, familiarize themselves with trauma-informed strategies for student success both inside and outside the classroom. To be trauma-informed in your work means to, understand how violence, victimization, and other traumatic experiences may have figured in the lives of the individuals involved and to apply that understanding to the provision of services and the design of systems so that they accommodate the needs and vulnerabilities of trauma survivors (Carello & Butler, 2014, p. 156).

Engaging in a trauma-informed framework may reduce retraumatization—referring to the triggering or reactivation of trauma-related symptoms originating in earlier traumatic life events—as well as secondary traumatization (also known as vicarious traumatization), whereby an individual experiences trauma-related symptomology simply through exposure to traumatic narratives shared by others (Carello & Butler, 2014).

Queer-spectrum students, and particularly queer-spectrum students of color, have experienced trauma in multiple sites, including: when enduring experiences with heterosexism (e.g., familial/cultural/religious rejection/exclusion/excommunication, harassment, discrimination); when experiencing racism from White queer-spectrum

students and/or homophobia from heterosexual Students of Color; when making decisions about disclosure of their sexual identity; when battling with and reconciling internalized homophobia/biphobia/panphobia; and when experiencing/witnessing/participating in systemic/cultural/interpersonal/internalized racism, sexism, ableism, or other systems of oppression. Moreover, the COVID-19 pandemic and related quarantine restrictions have taken our learning off campus, further isolating and traumatizing queer-spectrums student populations (Gonzales, et al., 2020).

It is not practical to respond to these concerns by refraining from teaching traumatic materials, as these are critical to learning about many subject domains. However, we can change *how* we teach about trauma in the classroom and how we treat trauma survivors (Carello & Butler, 2014). Using a trauma informed teaching lens may mitigate disengagement behaviors, though more intervention research is needed to empirically support this assertion. Working with students to ensure they make a proper time commitment to their studies and avoid overinvolvement, supporting their well-being in the classroom, and using a trauma-informed approach are just a few ways that faculty may deter poor academic habits.

Conclusion

This study found that mental health had a negative direct effect on *collaborative learning*, *extracurricular engagement*, and *academic success*, and a positive relationship to *poor academic habits*. *Campus climate for diversity* had a positive impact on *collaborative learning* and *academic success*, and a negative relationship to *extracurricular engagement* and *poor academic habit*. Gender was statistically significant for *collaborative work*, *extracurricular engagement*, and *academic success*. Race was significant for *academic involvement* (Hispanic and

Asian students), *collaborative work* (Hispanic Students), *extracurricular involvement* (Hispanic students), *poor academic habits* (Asian and African American/Black students), and *academic success* (Hispanic and African American/Black students).

While a dearth of research exists on academic outcomes and related interventions for queer-spectrum students, a sufficient body of research detailing academic strategies used with the general population was available to guide the development of the aforementioned recommendations.

Overall, institutions of higher education would do well to pay greater attention to and use more creative strategies to improve queer-spectrum students' mental health. Colleges and universities should undertake equity analyses to ensure their campus is an equitable learning environment for queer-spectrum students. Given that queer-spectrum students are largely an invisible population on college campuses due to many students' ability to "pass" as heterosexual, health promotion outreach should be intentional in convening with queer-spectrum students and tailoring interventions that address their unique needs. Both faculty and peer mentoring should be prioritized to address myriad outcomes as well as Safe Zone/Ally training programs. Most importantly, faculty should also examine their classroom climate, interpersonal dynamics between students and course staff, subject matter, and pedagogical approach to ensure the classroom environment is conducive to queer-spectrum academic success.

References

- Allen, M. (2017). *The sage encyclopedia of communication research methods* (Vols. 1-4). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781483381411
- Allison, P.D. (2001). *Missing Data*. Thousand Oaks, CA: Sage Publications.
- American College Health Association. (2016). American College Health Association-National College Health Assessment, Spring 2016. Unpublished raw data. Hanover, MD: American College Health Association.
- American College Health Association. (2019). American College Health Association-National College Health Assessment, Spring 2019 Reference Group Executive Summary. Retrieved from https://www.acha.org/documents/ncha/NCHA-II_SPRING_2019_US_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf
- American Council on Education. (2014). *A strategic primer on college student mental health*. Washington, D.C.: American Council on Education. Retrieved from <https://us.sagepub.com/en-us/nam/missing-data/book9419>
- American Council on Education. (2019). *Investing in student mental health: Opportunities & benefits for college leadership*. Washington, D.C.: American Council on Education.
- American Psychological Association. (2011). Practice Guidelines for LGB Clients. Retrieved from <https://www.apa.org/pi/lgbt/resources/guidelines>.
- Arbona, C. & Jimenez, C. (2014). Minority stress, ethnic identity, and depression among Latino/a college students. *Journal of Counseling Psychology*, 61(1), 162-168.
- Astin, A. W. (1970). The methodology of research on college impact. *Sociology of Education*, 43, 223-254.
- Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, p. 297-308.
- Baams, L., De Luca, S., Brownson, C. (2018). Use of mental health services among college students by sexual orientation. *LGBT Health* 5(7), 421-430. <https://doi.org/10.1089/lgbt.2017.0225>
- Bae, Y. & Han, S. (2018). Academic engagement and learning outcomes of the Student Experience in the Research University: Construct validation of instrument. *Educational Sciences: Theory and Practice*, 19(3), 49-64.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Blumenfeld, W. J., Weber, G. N., & Rankin, S. (2016). In our own voice: Campus climate as a mediating factor in the persistence of LGBT students, faculty, and staff in higher education. In P. Chamness Miller & E. Mikulec (Eds.), *Queering classrooms: Personal narratives and educational practices to support LGBTQ youth in schools*. Charlotte, NC: Information Age Publishing Inc.
- Brint, S. & Cantwell, A. (2014). Conceptualizing, measuring, and analyzing the characteristics of academically disengaged students: Results from UCUES 2010. *Journal of College Student Development*, 55(8), 808-823.
- Brown, R. & Gortmaker, V. (2009). Assessing campus climates for lesbian, gay, bisexual and transgender (lgbt) students: Methodological and political issues, *Journal of LGBT Youth*, 6(4), 416-435.

- Bryant, F. & Yarnold, P. (2000). Principal-components analysis and exploratory and confirmatory factor analysis. In Editor L.G. Grimm & P.R. Yarnold (Ed.). *Reading and Understanding Multivariate Statistics* (pp. 99-137). Washington, DC: American Psychological Association.
- Byrd, D. & McKinney, K. (2010). Individual, interpersonal, and institutional level factors associated with the mental health of college students. *Journal of American College Health*, 60(3), 185-193. doi: 10.1080/07448481.2011.584334
- Carello, J., & Butler, L. D. (2014). Potentially perilous pedagogies: Teaching trauma is not the same as trauma-informed teaching. *Journal of Trauma & Dissociation*, 15(2), 153-168.
- Carello, J., & Butler, L. D. (2015). Practicing what we teach: Trauma-informed educational practice. *Journal of Teaching in Social Work*, 35(3), 262-278.
- Center for Collegiate Mental Health. (2020, January). *2019 Annual Report*. University Park, PA: Center for Collegiate Mental Health.
- Center for Postsecondary Research. (2017). *National Survey of Student Engagement*. Bloomington, IN: Center for Postsecondary Research.
- Center for Studies in Higher Education (CSHE). (2016). Undergraduate Student Experience in the Research University Survey [Data file and code book].
- Center for Studies in Higher Education (CSHE). (2016). *SERU Mission*. Retrieved from <https://cshe.berkeley.edu/seru/about-seru/seru-mission>.
- Charing, S. (2012, March 16). Towson students object to 'white pride' group, *Washington Blade*. Retrieved from <https://www.washingtonblade.com/2012/03/16/towson-students-object-to-white-pride-group/>
- Chipchase, L., Davidson, M., Blackstock, F., Bye, R., Clothier, P., Klupp, N., Nickson, W., Turner, D., & Williams, M. (2017). Conceptualising and measuring student disengagement in higher education: A synthesis of the literature. *International Journal of Higher Education*, 6(2), 31-42.
- Clark, I. & Mitchell, D. (2018). Exploring the relationship between campus climate and minority stress in African American college students. *Journal Committed to Social Change on Race and Ethnicity*, 4(1), 67-95/
- Coley, J. & Das, D. (2020). Creating safe spaces: opportunities, resources, and LGBTQ student groups at U.S. colleges and universities. *Socius: Sociological Research for a Dynamic World*, January 2020.
- Collings, R., Swanson, V., & Watkins, R. (2014). The impact of peer mentoring on levels of student wellbeing, integration, and retention: a controlled comparative evaluation of residential students in UK higher education. *Higher Education*, 68(6), 927-942.
- Consortium of Higher Education LGBT Resource Professionals. (2021). Find An LGBTQ Campus Center. Retrieved from <https://www.lgbtcampus.org/find-an-lgbtqa-campus-center>.
- Consortium of Higher Education LGBT Resource Professionals (n.d.). (n.d.) About us. Retrieved from <https://www.lgbtcampus.org/about-us>.
- Cooperative Institutional Research Program. (2016). *CIRP Freshman Survey*. Los Angeles, CA: Higher Education Research Institute at the University of California, Los Angeles.
- Council for the Advancement of Standards in Higher Education. (2019). Lesbian, gay, bisexual, transgender, queer+ programs and services. In *CAS Professional*

- Standards for Higher Education (10th Edition)*. Fort Lauderdale, FL: Council for the Advancement of Standards in Higher Education.
- Cross, K. P., Barkley, E. F., & Cross, K. P. (2014). *Collaborative learning techniques: A handbook for college faculty*. ProQuest Ebook Central <https://ebookcentral-proquest-com.proxy.libraries.rutgers.edu>
- D'amico, E. & Julien, D. (2012). Disclosure of sexual orientation and gay, lesbian, and bisexual youths' adjustment: Associations with past and current parental acceptance and rejection. *Journal of GLBT Family Studies*, 8(3), 215-242.
- D'amico, E., Julien, D., Tremblay, N., & Chartrand, E. (2015). Gay, lesbian, and bisexual youths coming out to their parents: Parental reactions and youths' outcomes. *Journal of GLBT Family Studies*, 11(5), 411-437.
- De Luca, S., Franklin, C., Yueqi, Y., Johnson, S., & Brownson, C. (2016). The relationship between suicide ideation, behavioral health, and college academic performance. *Community Mental Health Journal*, 52(5), 534-540.
- Drescher, J. (2015). Out of DSM: Depathologizing homosexuality. *Behavioral Sciences*, 5, 565-575.
- Dunbar, M., Sontag-Padilla, L., Ramchand, R., Seelam, R. & Stein, B. (2016). Mental health service utilization among lesbian, gay, bisexual, and questioning or queer college students. *Journal of Adolescent Health*, 12, 294-301.
- Edglossary. (2013). Grade Point Average. Retrieved from <https://www.edglossary.org/grade-point-average/>.
- Eisenberg, D., Golberstein, E., & Hunt, J. (2009). Mental health and academic success in college. *The B.E. Journal of Economic Analysis & Policy*, 9(1), 1-37.
- Eisenberg, D. & Lipson, S. (2019). *The Healthy Minds Study: 2018-2019 report*. Ann Arbor, MI: Healthy Minds Network.
- Fink, J. (2014). Flourishing: Exploring predictors of mental health within the college environment. *Journal of American College Health*, 6, 380-388.
- Fish, J. (2020). Future directions in understanding and addressing mental health among LGBTQ youth. *Journal of Clinical Child & Adolescent Psychology*, 19(6), 943-956.
- Flores, G. & Estudillo, A. (2018). *Journal of Human Services Training, Research, and Practices*, 3(2), Article 3.
- Garson, G.D. (2013). *Factor Analysis*. Asheboro, NC: Statistical Publishing Associates.
- Garvey, J., Squire, D., Stachler, B., & Rankin, S. (2018). The impact of campus climate on queer-spectrum student academic success. *Journal of LGBT Youth*, 15(2), 89-105. doi:10.1080/19361653.2018.1429978
- Georgia State University. (2021, March 17). How campus LGBTQ+ centers create space for personal and academic growth [Blog Post]. Retrieved from <https://bewell.gsu.edu/campus-lgbtq-center/>
- Glaser, R. (1976). Exact critical values for Barlett's test for homogeneity of variances. *Journal of the American Statistical Society*, 71(354), 488-490.
- Goodrich, A. (2020). Counterpoint in the music classroom: Creating an environment of resilience with peer mentoring and LGBTQIA+ students. *International Journal of Music Education*, 38(4), 582-592.
- Gonzales, F., Loret de Mola, E., Gavulic, K., McKay, T., & Purcell, C. (2020). Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19 pandemic. *Journal of Adolescent Health*, 67(5), 645-648.
- Greathouse, M., BrckaLorenz, A., Hoban, M., Huesman, R., Rankin, S. &

- Stolzenberg, E. (2018). *Queer-spectrum and trans-spectrum student experiences in American higher education* [White paper].
<https://doi.org/doi:10.7282/t3-44fh-3b16>
- Greathouse, M. & Kelly, R. (2021). *Proud and Thriving*: [Literature Review]. Jed Foundation. Retrieved from <https://www.jedfoundation.org/wp-content/uploads/2021/06/JED-LGBQ-Queer-and-Question-Lit-Review-FINAL.pdf>.
- Grice, J. & (2001). Computing and evaluating factor scores. *Psychological Methods*, 6 (4), 430-450.
- Gruttadaro, D. & Crudo, D. (2012). *College students speak: A survey report on mental illness*. Arlington, VA: National Alliance on Mental Health.
- Hall, W. (2018). Psychosocial risk and protective factors for depression among lesbian, gay, bisexual, and queer youth: A systematic review. *Journal of Homosexuality*, 65(3), 263-316.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408-420.
- Hayes, A. F. (2013). PROCESS SPSS Macro [Computer software and manual.]
- Hayes, J. A., Chun- Kennedy, C., Edens, A., & Locke, B. D. (2011). Do double minority students face double jeopardy? Testing minority stress theory. *Journal of College Counseling*, 14(2), 117–126.
<https://doi.org/10.1002/j.2161-1882.2011.tb00267.x>
- Herek, G. M. (1992). *Hate crimes: Confronting violence against lesbians and gay men*. Newbury Park, CA: SAGE Publications.
- Higa, D., Hoppe, M., Lindhorst, T., Mincer, S., Beadnell, B., Morrison, D., Wells, E., Todd, A., & Mountz, S. (2014). Negative and positive factors associated with the well-being of lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youth, *Youth Sociology*, 46(5), 663-687.
- Hill, R., Nguyen, D., Kilgo, C., Lange, A., Shea, H., Renn, K. & Woodford, M. (2021). How LGBTQ+ students thrive in college. *Journal of Student Affairs Research and Practice*, 58(3), 267-281.
- Hill, R., Rooney, E., Mooney, M., & Kaplow, J. (2017). Links between social support, thwarted belongingness, and suicide ideation among lesbian, gay, and bisexual college students. *Journal of Family Strengths*, 17(2), Article 6.
- Hoch, A., Stewart, D., Webb, K., & Wyandt-Hiebert, M. A. (2015, May). Trauma-informed care on a college campus. Presentation at the annual meeting of the American College Health Association, Orlando, FL. Retrieved from <https://www.pacesconnection.com/g/san-diego-state-university-aces-connection/fileSendAction/fcType/5/fcOid/466307103251145815/fodoid/466307103251145814/Trauma%20Informed%20PP.pdf>.
- Hoover, G. (2009). LGBT leadership development: Uniting LGBT and leadership scholarship to determine best practices. *The Vermont Connection*, 30(4).
- Hurtado, S., Clayton-Pedersen, A., Allen, W., & Milem, J. (1998). Enhancing Campus Climates for Racial/Ethnic Diversity: Educational Policy and Practice. *The Review of Higher Education*, 21(3), 279–302.
doi:10.1353/rhe.1998.0003
- Institute for Digital Research and Education. (n.d.). A practical introduction to factor analysis. Retrieved from <https://stats.idre.ucla.edu/spss/seminars/introduction-to-factor-analysis/>.
- Institute of Medicine. (2011). *The Health of Lesbian, Gay, Bisexual, and Transgender*

- People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press.
- Jaekel, K. S. (2015). Recommendations from the field: Creating an LGBTQ learning community. *Learning Communities Research and Practice*, 3(2), Article 8.
- Johnson, B., Oxendine, S., Taub, D., Robertson, J. (2013). Suicide prevention for LGBT students. *New Directions for Student Services*, 141, 55-69.
- Jourian, T. (2015). Evolving nature of sexual orientation and gender identity. *New Directions for Student Services*, 2015(152), 11–23.
<https://doi.org/10.1002/ss.20142>
- Kerr, D., Santurri, L. & Peters, P. (2013). A comparison of lesbian, bisexual, and heterosexual college undergraduate women on selected mental health issues. *Journal of American College Health*, 61(4), 185-194.
- Keyes, C., Eisenberg, D., Geraldine, P., Dube, S., Kroenke, K., & Satvinders, D. (2012). The relationship of level of positive mental health with current mental disorders in predicting suicidal behavior and academic impairment in college students. *Journal of American College Health*, 60(2), 126-133.
- Klein, N. & Dudley, M. (2014). Impediments to academic performance of bisexual college students. *Journal of American College Health*, 62(6), 399-406.
- Kilgo, C., Linley, J., Renn, K. & Woodford, M. (2019). High impact for whom? The influence of environment and identity on lesbian, gay, bisexual, and queer college students' participation in high impact practices. *Journal of College Student Development*, 60(4), 421-436.
- Kirsch, A., Conley, C., & Riley, T. (2015). Comparing psychosocial adjustment across the college transition in a matched heterosexual and lesbian, gay, and bisexual sample. *Journal of College Student Development*, 56(2), 155-169.
- Kuh, G. D. (2008). High-impact educational practices: What they are, who has access to them, and why they matter. Washington, DC: Association of American Colleges and Universities.
- Kulick, A., Wernick, L., Woodford, M., Renn, K. (2017). Heterosexism, depression, and campus engagement among LGBTQ college students: Intersectional differences and opportunities for healing. *Journal of Homosexuality*, 64(8), 1125-1141.
- Lane, S. (2018). Addressing the stressful first year in college: Could peer mentoring be a critical strategy? *Journal of College Student Retention: Research, Theory, & Practice*, 22(3), 481-496.
- Legg, K., Cofino, A., & Sanlo, R. (2020). Lesbian, gay, bisexual, and transgender college students: Revisiting retention. *Journal of College Student Retention: Research, Theory, and Practice*, 21(4), 417-430.
- Leidenfrost, B., Strassnig, B., Schutz, M., Claus-Christin, C., & Schabmann, A. (2014). The impact of peer mentoring on mentee academic performance: Is any mentoring style better than no mentoring at all? *International Journal of Teaching and Learning in Higher Education*, 26(1), 102-111.
- Linley, J. & Nguyen, D. (2015). LGBTQ experiences in curricular contexts. *New Directions For Student Services*, 125, 41-53.
- Linley, J., Nguyen, D., Brazelton, B., Becker, B., Renn, K. & Woodford, M. (2016). Faculty as sources of support for LGBTQ college students. *College Teaching*, 64(2), 55-63.
- Lipson, S., Gaddis, S., Heinze, J., Beck, K., & Eisenberg, D. (2015). Variations in student mental health and treatment utilization across US colleges and universities. *Journal of American College Health*, 63(6), 388-396.

- Lipson, S., Lattie, E., & Eisenberg D. (2019). Increased rates of mental health service utilization by U.S. college students: 10-year population level trends (2007-2017). *Psychiatric Services*, 70(1), 60-63.
- Love, A.G., Maher, M., Tinto, V., Smith, B., & MacGregor, J. (1992). *Collaborative Learning: A sourcebook for higher education*. University Park, PA: National Center on Postsecondary Teaching.
- Marine, S. B. (2011). *Stonewall's legacy: Bisexual, gay, lesbian, and transgender students in higher education*. Hoboken, N.J.: Wiley Periodicals, Inc.
- Marine, S. & Nicolazzo, Z. (2014). Names that matter: Exploring the tensions of campus LGBTQ centers and trans* inclusion. *Journal of Diversity in Higher Education*, 7(4), 265-281.
- Matheis, N., Coleman, T., Mckie, R., Woodford, M., Courtice, E., Travers, R., & Renn, K. (2019). Hearing “that’s so gay” and “no homo” on academic outcomes for LGBTQ+ college students. *Journal of LGBT Youth*, 16(3), 255-277.
- McAleavey, A., Castonguay, L., & Locke, B. (2011). Sexual orientation minorities in college counseling: Prevalence, distress, and symptom profiles. *Journal of College Counseling*, 14, 137-142.
- McHugh, M. (2013). The chi-square test of independence. *Biochemia Medica*, 23(2), 143-149.
- McKee, M. & Hayes, S. (1994). Challenging heterosexism in college health service delivery. *Journal of American College Health*, 42(5), 211-217.
- Meyer, I. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674-697. doi: 10.1037/0033-2909.129.5.674
- Meyer, I. & Wilson, P. (2009). Sampling Lesbian, Gay, and Bisexual populations. *Journal of Counseling Psychology*, 56(1), 23-31.
- Musil, C. M., Warner, C. B., Yobas, P. K., & Jones, S. L. (2002). A comparison of imputation techniques for handling missing data. *Western Journal of Nursing Research*, 24(7), 815–829. <https://doi.org/10.1177/019394502762477004>
- Mustanski, B. (2015). Future directions in research on sexual minority adolescent mental, behavioral, and sexual health. *Journal of Clinical Child and Adolescent Psychology*, 44(1), 204-219.
- National Alliance on Mental Health. (2012). College students speak: A survey report on mental health. Retrieved from https://www.nami.org/getattachment/About-NAMI/Publications-Reports/Survey-Reports/College-Students-Speak_A-Survey-Report-on-Mental-Health-NAMI-2012.pdf
- National Center for Educational Statistics. (n.d.). Definitions for new race and ethnicity categories. Retrieved from <https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-definitions>.
- National Center for Educational Statistics. (n.d.). Reporting race and ethnicity data to IPEDS using the new categories. Retrieved from <https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-collecting-data-for-reporting-purposes>
- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. (2018). Youth risk behavior survey - data summary & trends report: 2007-2017. Retrieved from <https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trendsreport.pdf>.
- Oswalt, S. & Wyatt, T. (2011). Sexual orientation and differences in mental health, stress, and academic performance in a national sample of U.S. college students. *Journal of Homosexuality*, 58(9), 1255-1280.

- Parra, L., Bell, T., Benibgui, M., Helm, J., & Hastings, P. (2017). The buffering effect of peer support on the links between family rejection and psychosocial adjustment in LGB emerging adults. *Journal of Social and Personal Relationships*, 35(6), 854-871.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research (Vol. 2)*. San Francisco: Jossey-Bass.
- Peterson, M., & Spencer, M. (1990). Understanding academic culture and climate. *New Directions for Institutional Research*, 17, 3-18.
- Pitcher, E., Camacho, T., Renn, K., Woodford, M. (2018). Affirming policies, programs, and supportive services: Using an organizational perspective to understand LGBTQ+ college student success. *Journal of Diversity in Higher Education*, 11(2), 117-132.
- Poynter, K. & Tubbs, N. (2007). Safe zones: Creating LGBT safe space ally programs. *Journal of LGBT Youth*, 5(1), 121-132.
- Preacher, K. & Hayes, A. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731.
- Puckett, J., Horne, S., Surace, F., Carter, A., Noffsinger-Frazier, N., Shulman, J., Detrie, P., Ervin, A., Mosher, C. (2017). Predictors of sexual minority youth's reported suicide attempts and mental health. *Journal of Homosexuality*, 64(6), 697-715.
- Rankin, S. (2003). *Campus climate for lesbian, gay, bisexual, and transgender people: A national perspective*. New York: New York: NGLTF Policy Institute.
- Rankin, S. R. (2005). Campus climates for sexual minorities. *New Directions for Student Services*, 2005(111), 17.
- Rankin, S., & Reason, R. (2008). Transformational tapestry model: A comprehensive approach to transforming campus climate. *Journal of Diversity in Higher Education*, 1(4), 262-274.
- Rankin, S., Weber, G., Blumenfeld, W., & Frazer, S. (2010). *2010 state of higher education for lesbian, gay, bisexual, and transgender people*. Charlotte, NC: Campus Pride.
- Ramirez, J. & Galupo, M.P. (2019). Multiple minority stress: the role of proximal and distal stress on mental health outcomes among lesbian, gay, and bisexual people of color. *Journal of Gay & Lesbian Mental Health*, 23(2), 145-167.
- Reason, R. & Rankin, S. (2006). College students' experiences and perceptions of harassment on campus: An exploration of gender differences. *College Student Affairs Journal*, 26(1), 7-29.
- Renn, K. & Bilodeau, B. (2008). Queer student leaders: An exploratory case study of identity development and LGBT student involvement at a midwestern research university. *Journal of Gay and Lesbian Issues in Education*, 2(4), 49-71.
- Rockenbach, A. & Crandall, R. (2016). Faith and LGBTQ inclusion: Navigating the complexities of the campus spiritual climate in Christian higher education. *Christian Higher Education*, 15(1-2), 62-71.
<http://dx.doi.org/10.1080/15363759.2015.1106355>
- Ruble, J. (2017). *The student-centered university: Pressures and challenges faced by college presidents and student affairs leaders*. Washington, DC: The Chronicle of Higher Education. Retrieved from <http://results.chronicle.com/SCU-2017-O>.

- Russell, S. & Fish, J. (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*, 12, 465-487.
- Ryan, C. (2014). Generating a revolution in prevention, wellness, & care for LGBT children & youth. *Temple Political & Civil Rights Law Review*, 23(2), 331-344.
- Ryan, C., Huebner, D., Diaz, R. & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics*, 123(1), 346-352.
- Sadock, B. J., & Sadock, V. A. (2000). In Sadock B. J., Sadock V. A. (Eds.), *Kaplan and Sadock's Comprehensive Textbook of Psychiatry (Seventh ed.)*. Philadelphia, PA: Lippincott, Williams & Wilkins.
- Salerno, J., Williams, N. & Gattamortam K. (2020). LGBTQ populations: Psychologically vulnerable communities in the COVID-19 pandemic. *American Psychological Association*, 12 (S1), 239-242.
- Schreier, B. A., & Werden, D. L. (2000). Psychoeducational programming: Creating a context of mental health for people who are lesbian, gay, or bisexual. In R. M. Perez, K. A. DeBord, & K. J. Bieschke (Eds.), *Handbook of counseling and psychotherapy with lesbian, gay, and bisexual clients* (pp. 359-382). American Psychological Association. <https://doi.org/10.1037/10339-015>
- Schwitzer, A., Moss, C., Pribesh, S., St. John, D., Burnett, D., Thompson, L. & Foss, J. (2018). Students with mental health needs: College counseling experiences and academic success. *Journal of College Student Development*, 59(1), 3-20.
- Sheets, R. L., Jr., & Mohr, J. J. (2009). Perceived social support from friends and family and psychosocial functioning in bisexual young adult college students. *Journal of Counseling Psychology*, 56(1), 152-163. <https://doi.org/10.1037/0022-0167.56.1.152>
- Silverchanz, P., Cortina, L., Konik, J., & Magley, V. (2008). Slurs, snubs, and queer jokes: Incidence and impact of heterosexist harassment in academia. *Sex Roles*, 58, 179-191.
- Smith, E. (2008). Pitfalls and promises: The use of secondary data analysis in educational research, *British Journal of Educational Studies*, 56(3), 323-339.
- Sobel, M. E. (1982). Aysmptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology*. San Francisco: Jossey-Bass.
- Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in covariance structure models. In N. Tuma (Ed.), *Sociological Methodology*. Washington, DC: American Sociological Association.
- Sontag-Padilla, L., Dunbar, M., Ye, F., Kase, C., Fein, R., Abelson, S., Seelam, R., & Stein, B. (2018). Strengthening college students' mental health knowledge, awareness, and helping behaviors: The impace of Active Minds, a peer mental health organization. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(7), 500-507.
- Soria, K. (2015). Factor structure and reliability of the 2015 student experience in the research university survey, research paper (grey literature). Minneapolis, MN: University of Minnesota-Twin Cities, Office of Institutional Research.
- Strayhorn, T. L., Blakewood, A. M., & DeVita, J. M. (2010). Triple threat: Challenges and supports of Black gay men at predominantly white campuses. In T. L. Strayhorn & M. C. Terrell (Eds.), *The Evolving challenges of Black College Students: New Insights for Practice and Research*, 85-103. Sterling, VA: Stylus.

- Student Experience in the Research University. (2018). 2018 Undergraduate experience at the research university survey. [Unpublished].
- Student Experience in the Research University. (2018a, October 9). *About*. Retrieved at <https://seru.umn.edu/undergraduate-seru/about>.
- Student Experience in the Research University. (2021, May 20). *FAQ*. Retrieved at <https://seru.umn.edu/faq>.
- Student Experience in the Research University. (n.d.). *SERU Mission*. Retrieved at <https://cshe.berkeley.edu/seru/about-seru/seru-mission>.
- Switcher, A., Moss, C., Pribesh, S., St. John, D., Burnett, D., Thompson, L. & Foss, J. (2018). *Journal of College Student Development*, 2018(1), 3-20.
- Tetreault, P., Fette, R., Meidlinger, M., & Hope, D. (2013). Perceptions of campus climate by sexual minorities. *Journal of Homosexuality*, 60(7), 947-964. doi: 10.1080/00918369.2013.774874
- Thielking, M. (2017, February 6). A dangerous wait: Colleges can't meet soaring student needs for mental health care [blog post]. Retrieved from <https://www.statnews.com/2017/02/06/mental-health-college-students/>.
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, D.C.: American Psychological Association.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition research (2nd ed.)*. Chicago, IL: University of Chicago.
- Tetreault, P., Fette, R., Meidlinger, M., & Hope, D. (2013). Perceptions of campus climate by sexual minorities. *journal of homosexuality*, 60(7), 947-964.
- Turk, J., Soler, M., Chessman, H. & Gonzalez, A. (2020). College and university presidents respond to COVID-19: 2020 fall term survey, part II. American Council on Education.
- Vaccaro, A. & Mena, J. (2011). It's not burnout, it's more: Queer collect activists of color and mental health. *Journal of Gay & Lesbian Mental Health*, 15(6), 339-367.
- Windmeyer, S., Humphrey, K., & Barker, D. (2013). An institutional responsibility: Tracking retention & academic success of out LGBT students. Retrieved from https://www.myacpa.org/sites/default/files/acpa_campuspride_apr2013.pdf
- Woodford, M., Han, Y., Craig, S., Lim, C., & Matney, M. (2014). Discrimination and mental health among sexual minority college students: The type and form of discrimination does matter. *Journal of Gay & Lesbian Mental Health*, 18(2), 142-163, doi: 10.1080/19359705.2013.833882
- Woodford, M., Howell, M., & Silverschanz, P., Yu, L. (2012). "That's so gay": Examining the covariates of hearing this expression among gay, lesbian, and bisexual college students. *Journal of American College Healthy*, 60(6), 429-434.
- Woodford, M., Kolb, C. Durocher-Radeka, G., & Javier, G. (2014). Lesbian, gay, bisexual, and transgender ally training programs on campus: Current variations and directions. *Journal of College Student Development*, 55(3), 317-321.
- Woodford, M. & Kulick, A. (2015). Academic and social integration on campus among Sexual minority students: The impacts of psychological and experiential campus climate. *American Journal of Community Psychology*, 55, 13-24. doi:10.1007/s10464-014-9683-x
- Woodford, M., Kulick, A., Atteberry, B. (2014). Protective factors, campus climate,

- and health outcomes among sexual minority college students. *Journal of Diversity in Higher Education*, 8(2), 73-87.
- Woodford, M. R., Kulick, A., Garvey, J. C., Sinco, B. R., Hong, J. S. & Sung, J. (2018). LGBTQ policies and resources on campus and the experiences and psychological well-being of sexual minority college students: Advancing research on structural inclusion. *Psychology of Sexual Orientation and Gender Diversity*, 5(4), 445–456.
- Woodford, M., Kulick, A., Sinco, B., Hong, J. S. (2014a). Contemporary heterosexism on campus and psychological distress among LGBTQ students: The mediating role of self-acceptance. *American Journal of Orthopsychiatry*, 84(5), 519-529. doi:10.1037/ort0000015
- Woodford, M., Weber, G., Nicolazzo, Z., Hunt, R., Kulick, A., Coleman, T., Coulombe, S., Renn, K. (2018). Depression and attempted suicide among LGBTQ college students: Fostering resilience to the effects of heterosexism and cisgenderism on campus. *Journal of College Student Development*, 59(4), 421-438. doi:10.1353/csd.2018.0040
- Wright, C., Luo, Y., Wright, P., & Kraus, A. (2014). Reexamining LGBT resources on college counseling center websites: An over-time and cross-country analysis. *Journal of Applied Communication Research*, 43(1), 112-129.
- Wright, P. & McKinley, C. (2011). Mental health resources for LGBT collegians: A content analysis of college counseling center websites. *Journal of Homosexuality*, 58, 138-147.
- Wright, A.J. & Wegener, R. (2012). Homonegative microaggressions and their impact on LGB individuals: A measure validity study. *Journal of LGBT Issues in Counseling*, 6(1), 34-54.
- Wolf-Wendel, L., Ward, K., & Kinzie, J. (2009). A tangled web of terms: The overlap and unique contribution of involvement, engagement, and integration to understanding college student success. *Journal of College Student Development*, 50(4), 407–428.
- York, T., Gibson, C., & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research, and Evaluation*, 20(5), 1-20.

Appendix A

Table 12

Factor Statistics

	Campus Climate	Academic Involvement	Collaborative Work	Extracurricular Engagement	Poor Academic Habits
Mean	0	0	0	0	0
Standard deviation	1	1	1	1	1
Skewness	-0.995	0.194	0.060	2.647	1.082
Kurtosis	2.412	-0.529	-0.552	10.592	1.799
Minimum	-4.60	-2.355	-2.518	-1.377	-1.608
Maximum	1.63	2.292	2.196	6.647	4.139

APPENDIX B

Findings

Table 13

Models Exploring the Direct Effects of Mental Health and Mediating Effects of Campus Climate on Academic Engagement, Academic Disengagement, and Academic Success

	Academic Involvement		Collaborative Work		Extracurricular Activity		Poor Academic Habits		Academic Success	
	β		β		β		β		β	
<u>Mediation Model</u>										
Campus Climate for Diversity	0.008		0.052	***	-0.084	***	-0.098	***	0.043	***
Mental Health Concern	0.034		-		-0.100	***	0.308	***	-0.129	***
			-							
Gender	-0.066	*	0.065	*	-0.169	***	-0.041		-0.065	
Hispanic	-0.265	***	0.118	***	0.030		0.007		-0.143	***
Asian	-0.320	***	0.095	*	0.025		0.178	***	-0.011	
African American/Black	0.108		-		0.009		0.223	***	-0.228	***
			-							
Pacific Islander	0.010		0.033		0.120		-0.012		-0.083	
			-							
American Indian Race/Ethnicity	0.094		0.055		-0.130		-0.046		-0.031	
Unknown	0.009		0.086		0.144		-0.050		0.000	
R ²	0.153	***	0.098	***	0.170	***	0.201	***	0.040	***

Table 13 (cont.)

Models Exploring the Direct Effects of Mental Health and Mediating Effects of Campus Climate on Academic Engagement, Academic Disengagement, and Academic Success

	Academic Involvement		Collaborative Work		Extracurricular Engagement		Poor Academic Habits		Academic Success	
	β		β		β		β		β	
Total Effects Model										
Mental Health			-							
Concern	0.031		0.104	***	-0.053	**	0.339	***	-0.142	***
			-							
Gender	-0.067	**	0.071	**	-0.157	***	-0.029		0.031	*
Hispanic	-0.270	***	0.084	**	0.094	***	0.069	**	-0.170	***
Asian	-0.324	***	0.070		0.074	*	0.226	***	-0.032	
African			-							
American/Black	0.100		0.078		0.109	*	0.321	***	-0.271	***
			-							
Pacific Islander	0.100		0.032		0.119		-0.013		-0.082	
			-							
American Indian	0.089		0.088		-0.066		0.016		-0.059	
Race/Ethnicity										
Unknown	0.005		0.062		0.191		-0.005		-0.020	
R ²	0.153	***	0.083	***	0.119	***	0.176	***	0.061	***

Note. β = Beta, the standardized regression coefficient

* $p < .05$ ** $p < .01$ *** $p < .001$