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LGBT+ Friendly: Campus Climate, Minority Stress, and Mental Health of LGBT+ College Students in Virginia

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**LGBT+ Friendly: Campus Climate, Minority Stress, and Mental Health of LGBT+ College
Students in Virginia**

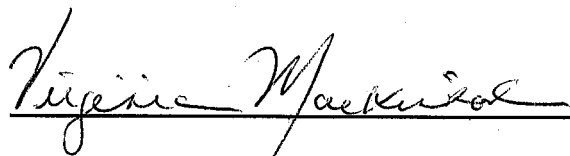
A senior thesis submitted to the
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In partial fulfillment of the requirements for
Departmental Honors

Erin Shaw

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This is to certify that the thesis prepared by Erin Shaw entitled: "LGBT+ Friendly: Campus Climate, Minority Stress, and Mental Health of LGBT+ College Students in Virginia" has been approved by her committee as a satisfactory completion of an honors thesis as partial fulfillment for the degree of Bachelor of Science.



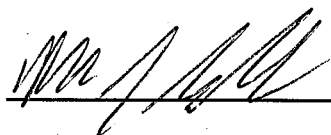
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LGBT+ Friendly: Campus Climate, Minority Stress, and Mental Health of LGBT+ College

Students in Virginia

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Abstract

Members of the LGBT+ community are at a higher risk for mental health concerns like depression, not because an LGBT+ identity is inherently a mental illness but, because LGBT+ people have more stressful experiences due to their minority status. The minority stress model illustrates how discrimination affects the mental health of individuals who are part of socially marginalized groups. In regard to LGBT+ college/university students, experiences of discrimination may be unique to their campus. Within this study, LGBT+ college students from three institutions in Virginia were surveyed regarding their perceptions of campus climate, experiences of minority stress, and depression symptomatology. A more positive perception of campus climate predicted lower minority stress scores. Lower minority stress predicted lower depression symptoms. However, there were no indirect effects of campus climate on depression symptoms. These findings indicate that LGBT+ college students are facing minority stress and depression symptoms, and that campus climate affects experiences of minority stress, but it is unclear how campus climate relates to depression symptoms. More research is needed to investigate this potential relationship further.

Keywords: LGBT+; minority stress; college students; LGBT+ college students

LGBT+ Friendly: Campus Climate, Minority Stress, and Mental Health of LGBT+
College Students in Virginia

The LGBT+ community is comprised of a diverse group of people who identify outside of heterosexual and/or cisgender societal norms. Many strides have been made in the case of LGBT+ rights over the past few years, such as the passage of marriage equality in 2015, representation of various LGBT+ people positively on television, and growing pride movement in the country. However, this does not mean that LGBT+ discrimination has disappeared. LGBT+ people experience discrimination in the form of rejection, microaggressions, and social isolation. These incidents are more common than one may assume. Experiences of microaggressions and direct discrimination have been shown to greatly affect the mental health of LGBT+ individuals (Kaufman, Baams, & Dubas, 2017; Mereish & Poteat, 2015; Meyer, 2003). However, it may be possible to buffer these adverse mental health outcomes for LGBT+ young adults by providing comprehensive supports in the environments they interact with most often. This study investigated LGBT+ college students' perceptions of support on campus, their experiences of minority stress, and whether these related to depressive symptomatology.

LGBT+ individuals are at a greater risk for poor mental health outcomes. This is not because being part of the LGBT+ community is inherently a mental illness but, rather, because of the stressors these individuals face in their lives (Meyer, 2003). This greater risk for mental health problems has been well-researched. In one study, LGBQ adolescents only made up 7% of the study's sample, but accounted for 67% of nonsuicidal self-injury. In addition, LGBQ participants also accounted for 80% of suicide attempts for the study population (Reisner, Biello, Perry, Gamarel, & Mimiaga, 2014). According to a meta-analysis by Connolly, Zervos, Barone, Johnson, and Joseph (2016), recorded rates of depression in the LGBT+ community range from

48-62%. This is much higher than the 16.6% rate of depression in the general population (Connolly et al., 2016). Williams, Frey, Stage, and Cerel (2018) found that 28-47% of gender and sexual minority individuals have experienced suicidal ideation. Not all members of the LGBT+ community are at the same risk for suicide, self-harm, and depression. Transgender individuals are at significantly higher risk (Wilson, Chen, Arayasirikul, Raymond & McFarland, 2016). In the meta-analysis by Connolly et al. (2016), 50.6% of transgender individuals were depressed (compared to 20.6% in the cisgender population), 31% had attempted suicide (compared to 11% of cisgender participants), and 30% reported self-harm (compared to 8% of cisgender participants).

Risks for mental health issues, such as depression and suicidality, are also important when looking at the college student population. The Suicide Prevention Resource Center (2014) estimates that 6.6-7.5% of undergraduates have seriously considered suicide, 2.3% have made a plan, and 1.2% have attempted suicide. While it is unknown how many college students identify as LGBT+, it has been estimated that around 20% of college students seeking out campus counseling are sexual minorities (Effrig, Maloch, McAleavey, Locke, & Bieschke, 2014).

Poor mental health in the LGBT+ community can be conceptualized through Meyer's (2003) minority stress model. Minority stress is a unique, chronic, and socially based source of stress that members of marginalized groups often face due to their minority status. It is unique in that it is experienced in addition to the typical stressors experienced by most people, like work or financial concerns. It is chronic due to underlying, unchanging social structures. It is socially based in that it extends beyond individual concerns to map onto a broader cultural and social structure or structures. Meyer refers to these structural issues as distal stressors for the minority

individual. These are the structures that determine whether groups of people are part of minority groups, e.g., do not fit into the norms of society (Mereish & Poteat, 2015; Meyer, 2003).

LGBT+ people do not conform to heterosexual and/or cisgender societal norms, which can be defined as heteronormativity and cisnormativity. These terms indicate the general assumption that all individuals identify as heterosexual and/or cisgender (Pryor, 2018). The pressures for not fitting these norms affect LGBT+ individuals through minority stress. For example, workplace discrimination, the expectation of having a heterosexual partner, and public restroom usage are all based in the structural assumption that all people are, and should be, heterosexual and cisgender. Not conforming to these norms increases the risk of experiencing discrimination. These distal stressors become proximal stressors, or more individual, based on how much they affect a person's day to day life (Mereish & Poteat, 2015).

Minority stress works primarily through external, objective stressful events, like direct discrimination, fear of discrimination (which can lead to hypervigilance), the internalization of discriminatory societal attitudes, and, in the case of the LGBT+ community, concealment of one's stigmatized identity (Mereish & Poteat, 2015; Meyer, 2003; Williams et al., 2018). Together, these factors can have a serious impact on the mental health of an LGBT+ person. (Meyer, 2003).

LGBT+ people experience minority stress in a variety of ways. Microaggressions, or subtle indications of discriminatory beliefs directed at an individual in the LGBT+ community, can be particularly stressful due to their frequency (Kaufman et al., 2017; Meyer, 2003). Microaggressions often "add up" over time, as they can be experienced at any time, whereas direct discrimination is less socially acceptable, and people are less likely to experience it on a daily basis. Microaggressions are directly associated with depressive symptoms, as they can

influence LGBT+ people to ruminate on several distressing experiences at once (Kaufman et al., 2017).

Discrimination against transgender people specifically has also been found to predict a greater risk for PTSD, depression, and suicidality (Wilson et al., 2016). Actively concealing one's identity as part of the LGBT+ community also increases the risk for poor mental health outcomes. However, active concealment of one's identity is sometimes necessary to stay safe. Many LGBT+ people must balance staying "in the closet" to protect themselves from discrimination and the freeing feeling of "coming out" (Quinn, Weisz, & Lawner, 2017). Shame about one's identity can lead to withdrawing from others and having negative relationships with friends as well as the LGBT+ community itself. Isolation can be detrimental to their overall mental health (Mereish & Poteat, 2015).

Campus-specific minority stressors are also a challenge that LGBT+ college students must face. In one study, one third of LGBT+ undergraduates reported being harassed on campus, and 20% indicated they feared for their physical safety (Johnson, Oxendine, Taub, & Robertson, 2013). A study that looked at the first-year experience for LGBT+ students supports the minority stress model in that first-year LGBT+ students must balance the stress of starting college with the difficulties of being LGBT+ (Alessi, Sapiro, Kahn, & Craig, 2017). Many reported fearing a homophobic roommate, not knowing when it was safe to disclose their identity, and the experience of microaggressions as additional stressors placed on them during their first year adjustment (Alessi et al., 2017). Fears about unaccepting peers are not unusual given that first-year students often have more bias against the LGBT+ community when compared to juniors and seniors who typically have more experience interacting with diverse groups of people (Copp & Koehler, 2017).

In addition, colleges and universities are not immune from the influence of social structures like heteronormativity and cisnormativity. The expectation of heterosexuality and cisgender identity is structural within society, and is reflected by institutions within that society. For example, campuses may not have gender neutral restrooms or dorms, and may not provide spaces for LGBT+ students to feel safe (Pryor, 2018). LGBT+ students often perceive their campus as less inviting than their heterosexual and cisgender peers (Pryor, 2018). Some common sources of expected heterosexuality and cisgender identity on campus are housing, Greek life, and athletics. LGBT+ students often feel they cannot get involved with these extracurriculars due to their expectations of heterosexuality and cisgender identity. However, involvement in campus activities is a protective factor in the experience of LGBT+ students on campus (Alessi et al., 2017; Pryor, 2018).

With all of these risk factors, it can be difficult for LGBT+ people to find support. However, there are several ways to combat these risks. Associating with the LGBT+ community in a positive way can improve positive self-image through social identity theory, which states that positive self-image is maintained through relating to people similar to oneself (Santos & VanDaalen, 2018). This promotes a positive collective identity, improving the self-image of group members. Having a positive relationship with the campus LGBT+ community could improve the self-worth of LGBT+ students at that particular university. Connecting with other LGBT+ students helps foster resilience. One easy way to do this is to join an LGBT+ organization on campus, which has been found to also act as a protective mechanism for LGBT+ students through social connectedness and pride in one's identity (Alessi et al., 2017).

On college campuses, it is important to have opportunities for LGBT+ visibility, a focus on student identity and experience, and an institutional climate that is supportive of LGBT+

identities (Alessi et al., 2017; Kortegast & van der Toorn, 2018). In the high school populations, it has been found that LGBT+ school based programs are helpful in building resilience in the face of risk factors (Goldbach & Gibbs, 2015). On college and university campuses, LGBT+ students have expressed that campus involvement, particularly as a leader on campus, can help combat minority stress (Pryor, 2018). In addition, providing LGBT+ inclusive spaces is a protective mechanism in the face of minority stressors (Alessi et al., 2017; Pryor, 2018).

Diversity/ally training, like the Safe Zone program developed at the University of North Carolina Greensboro in 2000, is another way to provide more resources to LGBT+ students on campus. Safe Zone, and programs like it, allow for students, faculty, and staff to be trained in LGBT+ issues and sensitivity, creating a more welcoming campus environment for LGBT+ students (Alessi et al., 2017; Johnson et al., 2013).

Despite the evidence that the environment plays an important role in the psychological wellbeing of LGBT+ college students, there is little research on the effect campus climate has on LGBT+ students' mental health, particularly their levels of depression symptoms. It is worth noting that these students are at a particularly vulnerable time in their lives, and having adequate support will likely act as a buffer for the various risks outlined above. This study aimed to investigate the level of support for LGBT+ students in public, mixed-sex, non-military, and non-community colleges and universities in Virginia. Campus climate was defined by the perception a given student has about the inclusivity of their campus. Minority stress was defined by instances of discrimination an individual experienced and how those instances were perceived by that individual. Depression symptoms were defined by the experiences of common signs of depression, like lethargy, cognitive/emotional issues, and motivation.

Hypotheses

I hypothesized that perceptions of campus climate would negatively predict minority stress. In addition, I hypothesized that minority stress would positively predict reports of depression symptoms. I hypothesized that minority stress would mediate the relationship between campus climate and depression.

Exploratory Analyses

In addition to the primary mediational hypothesis detailed above, I wanted to investigate whether demographic groups differed on any of the three variables (campus climate, minority stress, and depression symptoms). Demographics evaluated included institution, year in school, racial identity, sexual orientation, and gender identity.

Method

Procedures

A Qualtrics survey was distributed to public, mixed-sex, non-military, and non-community colleges and universities in the Commonwealth of Virginia. Those that fit all three categories were Christopher Newport University, William & Mary, George Mason University, James Madison University, Longwood University, Norfolk State University, Old Dominion University, Radford University, University of Mary Washington, University of Virginia, Virginia Commonwealth University, Virginia Tech, and Virginia State University. After identifying these schools, a list was compiled of LGBT+ resources, like student clubs and Safe Zone committees, complete with emails, webpages, and other contact information. The student clubs were asked to distribute this survey to their membership. The survey was first distributed to the University of Mary Washington's LGBT+ club, People for the Rights of Individuals of Sexual and Gender Minorities (PRISM). Members of the club then had the opportunity to fill out the survey. After the revised Common Rule was passed nationally for IRB approval, the survey was sent to the

LGBT+ focused clubs and organizations at other Virginia universities. This survey was anonymous, and participants were given the researcher's email in order to inquire about the study.

Participants

Out of the thirteen institutions who received the survey, students from three responded. These three institutions were Christopher Newport University (CNU), University of Mary Washington (UMW), and Virginia Tech (VT). CNU and UMW have similar student population sizes, both between around 5,000 undergraduate students (<https://www.forbes.com/colleges/christopher-newport-university/>; <https://www.umw.edu/about/>). VT currently has over 30,000 undergraduate students (<https://vt.edu/about/facts-about-virginia-tech.html>). In addition, VT has five LGBT+ focused clubs for undergraduate students and a Safe Zone program, whereas CNU and UMW each have one student club and a Safe Zone program (<https://ccc.vt.edu/index/lgbtq.html>; <http://cnu.edu/life/diversity/>; <https://diversity.umw.edu/>). A total of sixty-two individuals participated in this study.

Within this sample, 12.9% students attended CNU ($n = 8$), 59.7% students attended UMW ($n = 37$), and 27.4% students attended VT ($n = 17$). Out of these participants, 83.9% identified as White ($n = 52$), 4.8% as Black ($n = 3$), 3.2% as Latinx ($n = 2$), 1.6% as Asian/Pacific Islander ($n = 1$), and 6.5% as mixed race ($n = 4$). At the time of this study, 35.5% ($n = 22$) were freshmen/first years, 19.4% ($n = 12$) were sophomores/second years, 19.4% ($n = 12$) were juniors/third years, and 25.8% ($n = 16$) were seniors/fourth years.

Within the sample, 19.36% of participants identified as lesbians ($n = 12$), 17.74% as gay ($n = 11$), 29.03% as bisexual ($n = 18$), 6.45% as pansexual ($n = 4$), 11.29% as asexual ($n = 7$),

and 16.13% as other ($n = 10$). Participants who chose “other” supplemented their answer with their identity, which included “queer” ($n = 5$), “questioning” ($n = 1$). In addition, participants could choose more than one answer, so there is some overlap in these percentages.

In addition, 66.1% identified as cisgender ($n = 41$), and 33.9% identified as non-cisgender ($n = 21$), which included transgender (12.9%, $n = 8$), nonbinary (14.5%, $n = 9$), gender non-conforming (8.1%, $n = 5$), and genderfluid (8.1%, $n = 5$). More specifically, 62.9% of participants identify as female ($n = 39$), 19.4% identify as male ($n = 12$), 6.5% identify as neither ($n = 4$), and 8.1% identify as both or more ($n = 5$). Within this group, 6.5% identify as transgender men ($n = 4$), 1.6% identify as transgender women ($n = 1$), 11.3% identify as cisgender men ($n = 7$), 54.8% identify as cisgender women ($n = 34$), and 25.8% identify outside of the gender binary as nonbinary, genderfluid, and/or gender nonconforming ($n = 16$).

Materials

Demographics. The demographic questionnaire consisted of seven items asking the participant about their personal identity. This measure collected information on which institution the participant currently attended, racial identity, sexual orientation, gender identity, and year in school. See Appendix A for a complete list of questions.

Campus climate. The campus climate questionnaire was an eight-item measure that utilized a 5-point response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). This measure was used to assess student perceptions of diversity and inclusion for LGBT+ individuals on their respective campuses. Specifically, this measure looked at how students view their campuses as LGBT+ individuals. Participants were asked about feelings of acceptance, inclusion, and understanding of LGBT+ individuals. See Appendix B for a complete list of questions.

This measure has a Cronbach's alpha of .89. This was calculated using only the multipoint scale questions. This survey was created by the researcher, so the Chronbach's alpha was not based on any past research. These questions were chosen based on my experiences as an LGBT+ college student and as the president of my institution's LGBT+ student club. Within this measure, a higher score indicated a more positive perception of campus climate, while a lower score indicated a more negative perception of campus climate.

In addition, two questions asked if participants had experienced microaggressions and/or direct discrimination on campus. Participants who selected "yes" to either of these questions were then prompted to answer if they experienced discrimination from professors, students, and/or administrators.

Sexual Minority Stressors Scale. This measure was designed by Heron, Braitman, Lewis, Shappie, and Hitson (2018) to evaluate the experiences of sexual minority women on a college campus. It was modified for this study to include gender identity by adding "and/or gender identity" to each question that specifically asked about "sexual orientation" in the original version. In addition, a question was added to reflect gender identity based slur use (i.e., "I heard others make fun of, mock, or call gender minority people names, such as tr*nny, on campus"). This was added to differentiate from another question that asked specifically about sexual orientation slurs (i.e., "I heard others make fun of, mock, or call sexual minority people names, such as f*g or d*ke, on campus"). These words were censored in the survey as not to distress the participants. There were 9 total items on this scale which were evaluated through a 1-5 multipoint scale. A rating of 1 indicated "never", and a rating of 5 indicated "often." A higher score indicated higher minority stress. See Appendix C for a complete list of questions.

This measure has not been evaluated for internal consistency, test-retest reliability, or convergent validity. However, it has a high Cronbach's alpha both within my study ($\alpha = .88$) and the original study ($\alpha = .85$).

In addition, a qualitative question was added at the end asking if participants had "any specific experiences [they] would like to share." This question could be skipped.

University Student Depression Inventory (USDI). This is a non-clinical measure of depression symptoms of college and university students developed by Khawaja and Bryden (2006). This measure consisted of 30 items rated on a 1-5 multipoint scale. A rating of 1 indicated "not at all", and a rating of 5 indicated "always". This measure is specific to the college student population and investigates variables such as lethargy ("I am more tired than I used to be"), cognitive/emotional difficulties ("I feel sad"), and academic motivation ("Challenges I encounter in my studies overwhelm me"). A higher score on this measure indicated more depression symptoms. This measure has high internal consistency (.95) and test-retest reliability ($r = .86, p < .001$). When compared to a similar measure, the Depression Anxiety Stress Scale (DASS), the convergent validity of the USDI was .76 ($p < .001$). The Cronbach's alpha for this scale is also high ($\alpha = .97$) in my study and the original study ($\alpha = .95$). See Appendix D for a complete list of questions.

Results

Three correlation tests were conducted using the aggregated variables of minority stress, campus climate, and depression. It was expected that minority stress would positively relate to depression symptoms, and campus climate would negatively relate to depression symptoms. Out of these variables, it was found that minority stress and depression were significantly positively correlated ($r = .33, p = .009$), indicating that higher minority stress was related to higher

depression scores. In addition, minority stress and campus climate were inversely correlated at a significant level ($r = -.62, p < .001$), indicating that a more positive experience of campus climate was related to lower levels of minority stress. However, campus climate and depression were not significantly correlated ($r = -.16, p = .21$). See Table 1 for descriptive statistics and correlation coefficients.

It was hypothesized that minority stress would mediate the relationship between campus climate and depression symptoms, and PROCESS (Hayes, 2018; Model 4) was utilized to test the indirect effect of campus climate on depression symptoms via minority stress. First, campus climate was evaluated as a predictor of minority stress. This model explained 40% of the variance in minority stress scores ($F(1,60) = 2.87, p < .001$), with more positive perceptions of campus climate predicting lower minority stress. See Figure 1 for coefficient values. Next, campus climate and minority stress were evaluated as predictors of depression symptoms. This model was not significant ($F(2,59) = 2.87, R^2 = .09, p = .065$). However, it was found that minority stress does significantly predict depression, with higher minority stress predicting higher depression symptoms. The direct effect of campus climate, however, was not significant ($SE = .77, 95\% \text{ CI } [-1.36, 1.74]$). See Figure 1 for coefficient values. The confidence intervals include zero, indicating that there could be no direct effect of campus climate on depression symptoms at all. In addition, the indirect effect of campus climate on depression was also not significant. The completely standardized indirect effect was $-.20$ ($SE = .12, 95\% \text{ CI } [-.43, .03]$). The confidence intervals include zero, indicating there could be no indirect effect of campus climate on depression symptoms. Therefore, this mediation is not significant.

This study had several exploratory analyses that aimed to find differences between demographic groups on campus climate, minority stress, and depression. One-way ANOVAs

were used to test these differences. First, an ANOVA was used to compare sexual orientation (lesbian, gay, bisexual, pansexual, and asexual) and their experiences of campus climate. There were no significant differences found between these groups ($F(5,56) = .70, p = .63, \eta^2 = .06$). See Table 2 for a summary of descriptive statistics for these groups. A second ANOVA was conducted comparing sexual orientation and minority stress. There were no significant differences between groups on minority stress ($F(5,56) = 1.63, p = .17, \eta^2 = .13$). Finally, an ANOVA was conducted comparing sexual orientation on depression symptoms. There were no significant differences between groups on depression symptoms ($F(5,56) = .43, p = .82, \eta^2 = .04$). See Table 3 for a summary of descriptive statistics for these groups.

Next, three ANOVA tests were conducted to compare racial identity (White, Black, Latinx, Asian/Pacific Islander, and mixed race) on the three variables. There were no significant differences between groups on minority stress ($F(4,57) = .83, p = .51, \eta^2 = .03$), depression symptoms ($F(4,57) = .62, p = .65, \eta^2 = .05$), or campus climate ($F(4,57) = 1.86, p = .13, \eta^2 = .03$).

Three one-way ANOVAs were conducted comparing participants who identify as either cisgender or not cisgender (transgender, nonbinary, gender nonconforming, and/or genderfluid) on the three variables of minority stress, depression, and campus climate. There were no significant results when analyzing the relationship between campus climate and gender identity ($F(1,60) = .91, p = .35, \eta^2 = .02$). There was a significant relationship between minority stress and gender identity ($F(1,60) = 4.07, p = .048, \eta^2 = .06$). A Tukey Post Hoc test indicated that non-cisgender participants ($M = 18.10, SD = 7.86$) reported significantly higher minority stress than cisgender participants ($M = 14.66, SD = 5.43$). In addition, there was a significant relationship between depression and gender identity ($F(1,60) = 11.45, p = .001, \eta^2 = .16$). A

Tukey Post Hoc test indicated that non-cisgender participants ($M = 94.76$, $SD = 26.32$) also reported significantly higher depression levels than cisgender participants ($M = 70.32$, $SD = 27.22$). See Figure 2 for a graph comparing gender identity and depression symptoms.

Three one-way ANOVAs were conducted to compare how participants from the three institutions (CNU, UMW, VT) reported on minority stress, campus climate, and depression symptoms. There was no significant difference between these institutions in regard to depression symptoms ($F(2,59) = 1.48$, $p = .24$, $\eta^2 = .05$) or minority stress ($F(2,59) = 2.67$, $p = .08$, $\eta^2 = .08$). There were significant differences between institutions on campus climate ($F(2,59) = 20.87$, $p < .001$, $\eta^2 = .41$). A Tukey Post Hoc test indicated that participants from UMW ($M = 30.89$, $SD = 4.11$) reported better campus climate perceptions than VT ($M = 25.47$, $SD = 6.37$, $p = .001$) and CNU ($M = 20.13$, $SD = 2.30$, $p < .001$). In addition, participants from CNU reported significantly worse perceptions of campus climate than participants from VT ($p = .027$), but both were still more negative than UMW. See Figure 3 for a graph comparing campus climate scores by institution.

Finally, three one-way ANOVAs were conducted to compare experiences of students in different years in regard to campus climate, minority stress, and depression symptoms. There were no significant differences between year in school and depression scores ($F(3, 58) = .143$, $p = .93$, $\eta^2 = .007$). There were significant differences between year in school and minority stress ($F(3,58) = 5.94$, $p = .001$, $\eta^2 = .24$). A Tukey Post Hoc test indicated first years ($M = 13$, $SD = 3.78$) also had lower minority stress than third years ($M = 21.75$, $SD = 8.21$, $p = .001$). Second years ($M = 14.92$, $SD = 4.44$) were not significantly different from first years on minority stress ($M = 13$, $SD = 3.78$). However, second years ($M = 14.92$, $SD = 4.44$) had significantly lower minority stress than third years ($M = 21.75$, $SD = 8.21$, $p = .03$). There were no significant

differences between fourth years and any of these groups on minority stress ($M = 15.94$, $SD = 6.90$). See Figure 4 for a graph comparing year in school and minority stress. There were significant differences between year in school and campus climate reports ($F(3,58) = 4.03$, $p = .011$, $\eta^2 = .17$). A Tukey Post Hoc test indicated first years ($M = 30.55$, $SD = 5.14$) rated campus climate more positively than third years ($M = 24.58$, $SD = 6.69$, $p = .02$). There were no significant differences between fourth years and any of these groups on campus climate ($M = 29.06$, $SD = 5.52$).

Two questions on the campus climate measure asked participants if they had experienced microaggressions and/or direct discrimination at their institution. If participants answered “yes” to these questions, they were prompted with a follow-up asking if professors, students, and/or administrators were the ones to commit microaggressions/discriminate against them. Participants could pick more than one of these options. Out of 62 total participants, 28 said they experienced microaggressions, and 10 said they experienced direct discrimination. For those who reported microaggressions, 11 (39.29%) had experienced microaggressions from professors, 27 (96.43%) from students, and 7 (25%) from administrators. For those who reported direct discrimination, 2 (20%) had experienced this from professors, 9 (90%) from students, and 1 (10%) from administrators. The majority of experiences of both microaggressions and direct discrimination are from peers on campus.

One minority stress question was qualitative, asking if the participant had any specific examples of stressful experiences on campus. Fifteen participants provided supplemental qualitative information, which was not enough to analyze for themes, especially by institution. However, housing was brought up by two students at different institutions. A junior from VT explained she “had to leave [her] dorm room because [her] roommate made homophobic actions.

[She] was required to leave, not her [roommate]. They refused to remove her because words do not count as harm, even [though] she had pepper-sprayed [the participant] and messed with [her] belongings.” A senior from UMW discussed how the gender neutral residence hall, Madison, may still use residents’ assigned gender for room assignments. The student explained “I was told by another student that the gender inclusive residence hall, Madison, still based roommates on the sex listed on the person’s birth certificate, despite claiming to be gender neutral.”

Discussion

This study evaluated LGBT+ college student experiences of minority stress, campus climate, and depression at public, mixed-sex, non-military, and non-community colleges/universities in Virginia. Three out of the thirteen institutions surveyed participated: Christopher Newport University (CNU), University of Mary Washington (UMW), and Virginia Tech (VT). It was hypothesized that campus climate would negatively predict minority stress and minority stress would positively predict depression symptoms. In addition, it was expected that experiences of minority stress would act as a mediator between campus climate and depression symptoms, but this was not supported. While campus climate was a significant predictor of minority stress, and minority stress was a significant predictor of depression symptoms, campus climate and minority stress together did not significantly predict depression symptoms. In addition, neither the direct effect nor indirect effect of campus climate on depression symptoms were significant. Contrary to my hypothesis, the mediation model was not significant.

In addition, this mediation was underpowered. A Post Hoc power analysis indicated that the power level of this mediation was .22. A low power score like this limits the ability to detect a significant effect within this study. This could be due to several factors. For example, there were only 62 participants in this study. A larger sample size may have improved the power,

increasing the chance of finding a significant effect. In addition, the effect size for this analysis was low, making it even more difficult to detect a significant effect. Finally, it may be that there isn't a significant mediation at all, potentially because of the underdeveloped campus climate measure (GPower: Erdfelder, Faul, & Buchner, 1996).

There were several exploratory analyses in this study. One-way ANOVAs were utilized to investigate differences between minority stress, campus climate perceptions, and depression symptoms between various demographic groups. These groups included gender identity, racial identity, sexual orientation, year in school, and institution. There were no significant differences between racial or sexual orientation groups on any of the three variables.

Participants who identified as non-cisgender (transgender, nonbinary, gender non-conforming, and/or genderfluid) had significantly different experiences of minority stress and depression, but not campus climate, than cisgender participants. Cisgender individuals experience lower levels of minority stress and depression when compared to non-cisgender individuals, even within this small sample. This is consistent with research that the transgender, nonbinary, and genderfluid/nonconforming communities are particularly at risk for minority stress and mental health concerns, like depression (Connolly et al., 2016).

Each institution was also compared to the other two in regard to minority stress, campus climate, and depression. Depression symptoms and minority stress scores were not significantly different between the three institutions. However, UMW students reported significantly more positive perceptions of campus climate in comparison to VT and CNU. Additionally, CNU reported the worst perceptions of campus climate when compared to VT and UMW. This may be evidence of a general difference in campus climate. VT is a much larger institution than UMW or CNU, so there may be more opportunities to meet someone who holds anti-LGBT+ bias.

Evaluating more institutions with several LGBT+ clubs, like Virginia Commonwealth University or George Mason University, would be helpful to further this analysis.

Year in school was also evaluated. There were no significant differences between year in school and depression levels, and fourth years were not significantly different from any other group on any variable. However, first years reported significantly more positive perceptions of campus climate and lower minority stress than third years. Second years were not significantly different from first years on either of these variables, but they did report significantly lower minority stress than third years. As noted in a previous study looking at LGB first year students, many were excited to enter a new space where they can engage with a diverse community, despite fears of discrimination (Alessi et al., 2017). First years experiences may also be more positive because these students have not experienced as many microaggressions or direct discrimination as their third and fourth year counterparts. This compounding stress over time could shape perceptions of campus climate in third and fourth years, due to the additive and chronic nature of minority stress (Meyer, 2003). In addition, third years may be more disillusioned with their campus experiences, and may be more stressed in general (Beiter, Nash, McCrady, Rhoades, Linscomb, Clarahan, & Sammut, 2015). This evidence contrasts previous findings, which suggest first years may be more biased against the LGBT+ community due to fewer interactions with the community than juniors and seniors (Copp & Koehler, 2017).

To dive deeper into campus climate, two questions were evaluated further. These questions asked about experiences of microaggressions and direct discrimination from professors, students, and administration. There was not enough information gathered from these analyses to use as predictor variables, so they were evaluated separately. Participants indicated if they had experienced microaggressions and/or direct discrimination, and were then prompted to

provide more information on whether this discrimination came from professors, students, and/or administrators. Twenty-eight participants said they had experienced microaggressions, the majority of which were from students. Ten participants said they had experienced direct discrimination, which was also mainly from other students. This indicates that universities and colleges may need to invest more in raising student awareness and acceptance of the LGBT+ community.

In addition, one qualitative question was placed at the end of the Sexual Minority Stressors scale. This question asked for “specific experiences” the participant would like to share. It was not a forced response question, so only 15 participants provided supplementary information. This was not enough to evaluate for themes, but two participants from different institutions brought up issues they have faced with housing. Housing is a common concern for LGBT+ students, particularly first-years, and could be evaluated further in future studies (Alessi et al., 2017).

This study was not immune to limitations. First, the campus climate measure may not have accurately represented the variable. Further investigation into this construct may improve the measure, and perhaps a more accurate representation of the construct could lead to a significant mediation. Pryor (2018) defines campus climate as “mediated by the extent individuals feel a sense of safety, belonging, engagement within the environment, and value as members of a community” (pp. 33). A better operationalization this definition would likely improve the campus climate measure for future research. I used my own experiences as an LGBT+ college student and president of UMW’s LGBT+ club to form the questions. This was not empirically based. In the future, perhaps a more empirically supported measure could be used

to investigate the indirect effects of campus climate on depression symptoms, and if the minority stress mediation is possible.

In addition, the sample size was 62, which was small given the number of institutions contacted. Only three out of thirteen schools contacted actually had students participate. In the future, input from more institutions within and outside of Virginia could add to this research. Diversity was another limitation of this study. The majority of participants identified as cisgender women (53.2%). It would be useful to have more input from cisgender men, transgender individuals, and individuals who identify as nonbinary, gender non-conforming, and/or genderfluid. In addition, at the time of this study, I was a student at UMW and the president of their LGBT+ club, PRISM. Participants from UMW may have felt more compelled to answer the survey, and answer it positively, because of my involvement with campus life. However, UMW students were told to answer as honestly as possible, since I would not know who completed the survey.

In the future, it would also be interesting to test straight, cisgender, and non-asexual identified students as a comparison group against LGBT+ students at the same institution on the variables of campus climate, depression, and minority stress. This would be worth investigating further, especially since there were no significant differences between sexual orientations on any of the variables. More qualitative research could also be useful in evaluating student experiences. One question within this study prompted participants to tell personal stories, and their input was very interesting when taken in the context of minority stress. Most information provided were individual experiences of microaggressions and direct discrimination from other students. However, students from VT and UMW indicated that housing has been an issue at their

institutions. More qualitative information like this could be useful for universities when evaluating their LGBT+ programming and resources.

It would also be interesting and useful to investigate how different racial identities interact with LGBT+ identities on overall minority stress, campus climate, and depression scores. Past research has found that being part of both marginalized racial and sexual orientation groups can increase minority stress experiences, but also foster resilience through positive group identification (Santos & VanDaalen, 2018). Racial identity was not significant in this study, likely because over 80% of the participants identify as white. Perhaps a study with a larger sample could find significant results in regard to race.

Another variable worth evaluating more is the first year experience versus experiences of juniors and seniors. The first year experience is a priority for many institutions, and the experiences of LGBT+ first years could help institutions make their campuses more inclusive. In this study, first years were found to have more positive perceptions of campus climate and lower minority stress in comparison to some juniors and seniors. This is an interesting variable to investigate further.

Finally, more research on how cisgender and non-cisgender students experience campus climate, depression, and minority stress would add to the body of research on this topic and assist non-cisgender students in obtaining adequate resources. It may also be interesting to investigate how gender expression/presentation affects perceptions of campus climate, minority stress, and depression. Individuals who do not present in a traditionally gendered way may encounter more discrimination, even if they do not identify as transgender or nonbinary (Gordon & Meyer, 2008).

LGBT+ college students are a particularly vulnerable population, especially individuals who do not identify as cisgender. Colleges and universities should evaluate how to better serve this community, since perceptions of campus climate shapes the minority stress an individual experiences. Improving the quality of resources and programming available may improve perceptions of campus climate. In addition, targeting student perceptions about the LGBT+ community could help LGBT+ students feel safe and accepted at their respective institutions. Overall, the movement for LGBT+ acceptance needs to have a larger presence on college and university campuses so all students can succeed.

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Table 1

Descriptive Statistics and Correlations among All Measures

Measures	M	SD	Actual		Possible		Skewness	Kurtosis	Correlations		
			Range	Range	Range	Range			1	2	3
1. Campus Climate	28.02	6.02	14-39	8-40	8-40	8-40	-.46	-.84	--	--	--
2. Minority Stress	15.82	6.51	9-34	9-45	9-45	9-45	1.22	.83	-0.62***	--	--
3. Depression Symptoms	78.60	29.14	35-145	30-150	30-150	30-150	.40	-.71	-0.16	.33**	--

Note. $n = 62$

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

Table 2

Descriptive Statistics among Racial Identities on all Measures

Racial Identities	N	Campus Climate		Minority Stress		Depression Symptoms	
		Mean	SD	Mean	SD	Mean	SD
1. White	52	27.23	6.02	16.38	6.68	79.85	29.34
2. Black	3	31.00	6.08	15.33	7.57	64.67	37.23
3. Latinx	2	32.50	.71	11.00	1.41	53.50	26.16
4. Asian/Pacific Islander	1	39.00		9.00		92.00	
5. Other	4	31.00	3.16	13.00	3.83	82.00	29.14

Table 3

Descriptive Statistics among Sexual Orientations on all Measures

Sexual Orientations	N	Campus Climate		Minority Stress		Depression Symptoms	
		Mean	SD	Mean	SD	Mean	SD
1. Lesbian	12	28.75	5.08	13.00	2.86	76.41	34.75
2. Gay	11	28.63	7.70	15.18	7.08	77.91	32.72
3. Bisexual	18	27.11	6.15	18.89	8.46	84.28	30.47
4. Pansexual	4	32.50	2.65	18.25	7.04	84.75	28.06
5. Asexual	7	26.29	6.32	14.57	5.41	65.86	23.07
6. Other	10	27.50	5.74	14.30	3.68	78.20	22.41

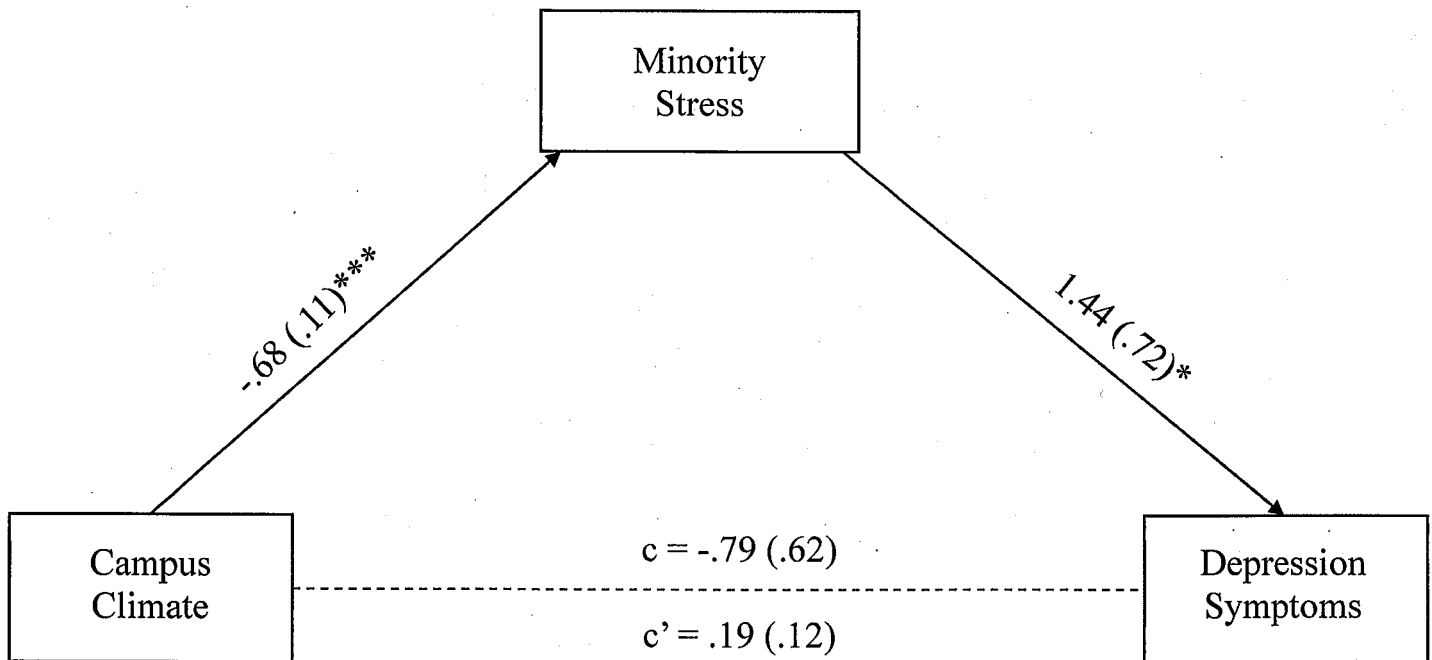


Figure 1. Path coefficients (and standard errors) showing the influence of campus climate on depression symptoms as mediated by minority stress

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

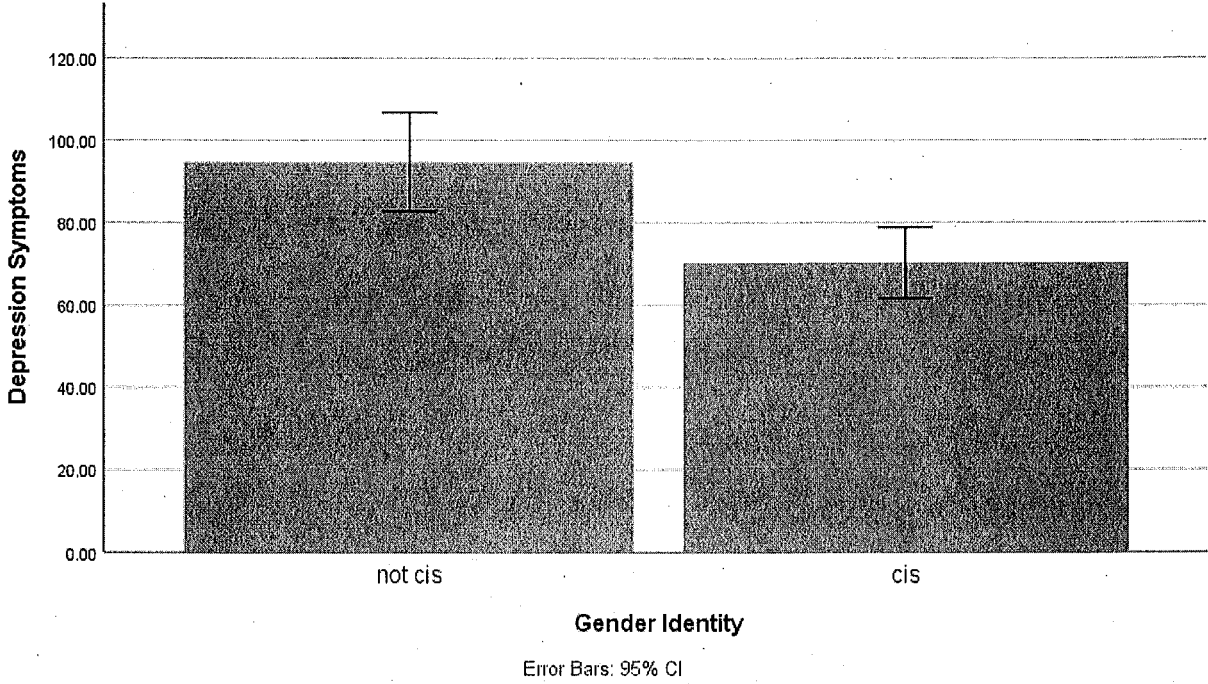


Figure 2. Depression symptoms by gender identity

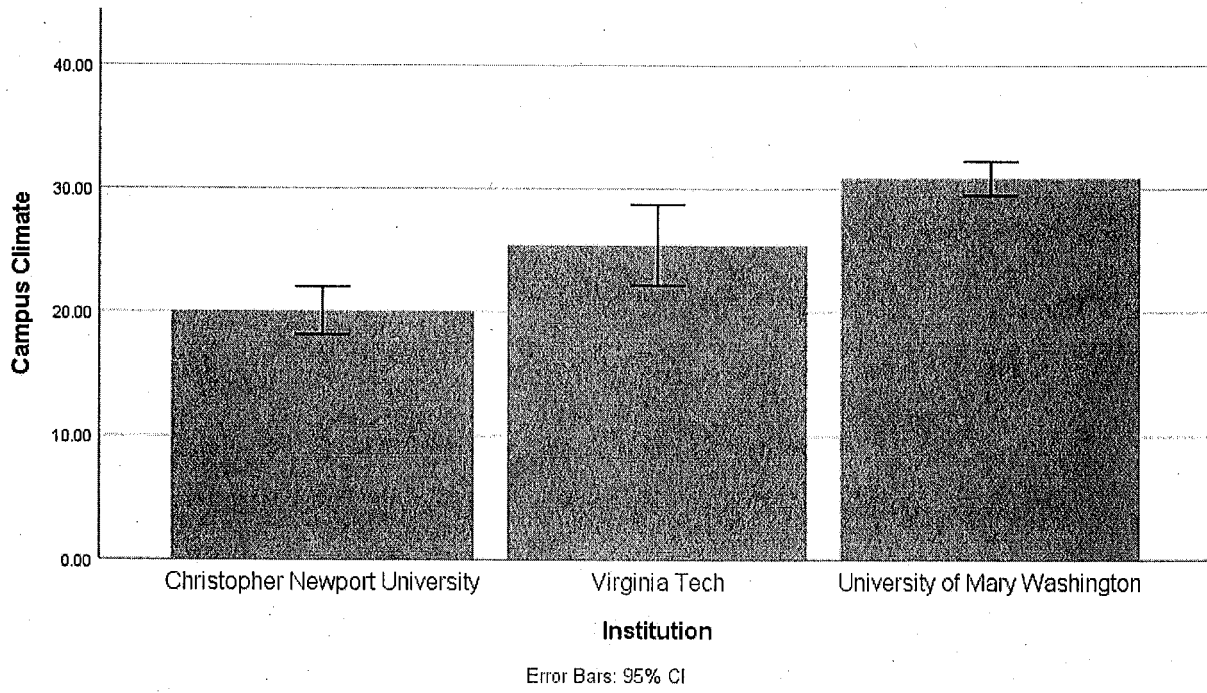


Figure 3. Campus climate scores by institution

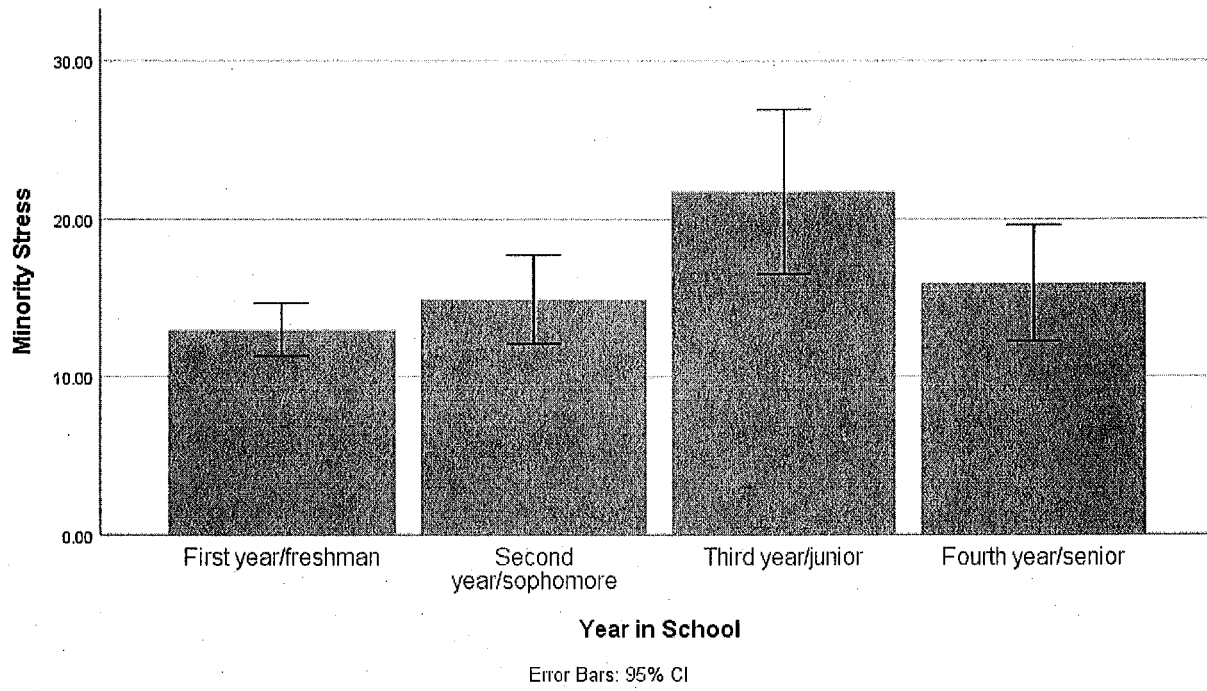


Figure 4. Minority stress levels by year in school

APPENDIX A
Demographic Questions

Please select which college/university you attend:

- Christopher Newport University
- William & Mary
- George Mason University
- James Madison University
- Longwood University
- Norfolk State University
- Old Dominion University
- Radford University
- University of Mary Washington
- University of Virginia
- Virginia Commonwealth University
- Virginia Tech
- Virginia State University
- None of the above

Are you a current student at this institution?

- Yes
- No

With what race do you identify?

- Latinx
- Black
- Asian/ Pacific Islander
- White
- Native American
- Other: _____

With what sexual orientation do you identify?

- Lesbian
- Gay
- Bisexual
- Pansexual
- Asexual
- Other: _____

Which one of these best describes you?

- Transgender
- Cisgender
- Nonbinary
- Gender-nonconforming
- Genderfluid

With what gender identity do you identify?

- Female
- Male
- Neither
- Both or more

What year are you?

- First year/freshman
- Second year/sophomore
- Third year/junior
- Fourth year/senior

APPENDIX B
Campus Climate Questionnaire

1. I feel my professors understand LGBT+ issues.
2. I feel like the university administration understands LGBT+ issues.
3. I feel like my fellow students understand LGBT+ issues
4. I feel my school embraces diversity
5. I would recommend my college/university to other members of the LGBT+ community
6. Have you experienced microaggressions on your campus?
 - a. Yes
 - i. If so, from who? (check all that apply)
 1. Professors
 2. Students
 3. Administrators
 - b. No
7. Have you experienced direct discrimination on your campus?
 - a. Yes
 - i. If so, from who? (check all that apply)
 1. Professors
 2. Students
 3. Administrators
 - b. No
8. How accepted do you feel on your campus?
9. How safe do you feel on your campus?
10. How inclusive to the LGBT+ community would you rate your campus?

APPENDIX C
Sexual Minority Stressors Scale

1. I have been verbally harassed by someone on campus.
2. I have been told I was overreacting or being oversensitive regarding sexual and gender minority issues.
3. Someone responded defensively or disagreed with me when I pointed out heterosexist language or thought something was homophobic or transphobic.
4. I heard others make fun of, mock, or call sexual minority people names, such as f*g or d*ke, on campus.
5. I heard others make fun of, mock, or call gender minority people names, such as tr*nny, on campus.
6. Someone laughed at me, made jokes at my expense, or called me a name on campus.
7. I was explicitly threatened with harm as a result of my sexual and/or gender minority identity on campus.
8. I heard anti-LGBT talk from faculty.
9. I perceived a situation, individual, or environment to be unsafe because of my sexual and/or gender minority identity.
10. Do you have any specific experiences you would like to share?

APPENDIX D
University Student Depression Inventory

1. I am more tired than I used to be
2. I feel sad
3. Challenges I encounter in my studies overwhelm me
4. My mood affects my ability to carry out assigned tasks
5. I have thought about killing myself
6. The activities I used to enjoy no longer interest me.
7. I don't attend lectures as much as I used to
8. I don't feel rested even after sleeping
9. I wonder whether life is worth living
10. My energy is low
11. I think most people are better than me
12. I do not have any desire to go to lectures
13. Going to university is pointless
14. I spend more time alone than I used to
15. I do not find study as interesting as I used to
16. I have trouble completing study tasks
17. I have trouble starting assignments
18. I feel withdrawn when I'm around others
19. I don't feel motivated to study
20. I feel worthless
21. I feel disappointed in myself
22. I feel emotionally empty
23. I feel like I cannot control my emotions
24. My study is disrupted by distracting thoughts
25. I worry I will not amount to anything
26. I do not cope well
27. I do not have the energy to study at my usual level
28. No one cares about me
29. I find it hard to concentrate
30. Daily tasks take me longer than they used to