

Sexual and Gender Minority College Student Retention: The Unique Effects of Mental Health and Campus Environment on the Potential for Dropout

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ABSTRACT

Background: While limited data has been collected, some findings show that sexual and gender minority (SGM) students are at higher risk for dropping out of college than their peers. Research on issues such as campus connectedness and mental health among this population indicates both may affect retention.

Aim: This study examined how mental health and perceptions of campus connectedness may mediate the relationship between SGM identification and intentions to drop out of college.

Methods: Survey data collected from 1,793 randomly selected students across eight different public universities in Mississippi were used to conduct a parallel mediation analysis.

Results: Mediation analyses indicated that there was a significant direct effect of SGM identity on intentions to drop out, and that both mediators had a significant indirect effect. Psychiatric symptoms had a relatively larger indirect effect than campus connectedness.

Conclusions: These results contribute to the limited quantitative literature on SGM student retention, supporting previous work indicating these students are at higher risk of attrition. The results suggest that student retention may be bolstered if access to SGM-competent mental health services is provided. Additionally, campuses should continue to support SGM-friendly policies and create inclusive spaces as a protective resource for students.

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BACKGROUND

Retaining students through graduation is an issue that is relevant for every institution of higher learning. Prior research on factors associated with retention suggests that various student demographic characteristics are associated with higher risk of dropout. For example, students who identify as racial/ethnic minorities or who are economically



underprivileged are at higher risk for not graduating (Barbera et al., 2020). However, relatively little attention has been dedicated to understanding the factors influencing another at-risk group: students who identify as sexual (e.g., lesbian, gay, bisexual, queer) and/or gender (e.g., transgender, nonbinary, genderqueer) minorities (SGM). While most studies of student retention have not incorporated this set of student identities, one longitudinal study demonstrated that a majority of LGBTQ (lesbian, gay, bisexual, transgender, and queer) students at one institution were no longer enrolled by their second academic year (Trimble, 2019). This suggests that SGM students, like other minority students, experience relatively greater risk of college attrition. The lack of study dedicated to understanding risk for academic attrition among these students has been attributed to the historical lack of inclusion of these identities in national or campus-wide survey instruments that incorporate other demographic identities (Rankin et al., 2019). Additional research in this area is needed to advocate and support this group of at-risk students.

Given the lack of studies that explore the relationship between SGM identity and college attrition, little is known about factors that mediate this relationship. In a review of the literature on LGBTQ+ college student academic experiences and outcomes, Beattie et al. (2021) identified factors related to the academic environment and the unique stress that LGBTQ+ students experience including interpersonal interactions, cultures of support, and structures of support as predictors of academic outcomes. For example, Woodford and Kulick (2015) found that the experience of a heterosexist climate, i.e., a social climate reflecting bias in favor of heterosexual relationships, was only detrimental to academic outcomes for LGB students when paired with personal heterosexist harassment. Importantly, positive interpersonal relationships with instructors or the sexual minority community had a positive impact on outcomes but did not moderate the effects of climate on outcomes. In interviews conducted with 22 LGB individuals, Fine (2016) found that those who had interrupted their undergraduate studies frequently reported an absence of social integration when they encountered homophobia and heterosexism. In contrast, those who completed their education without interruption either delayed coming out or reported strong social integration and support. Similarly, in a large campus climate survey of an entire state higher education system, Garvey et al. (2018) found that campus climate accounted for 23% of the variance in sexual minority students' reported academic success, and comfort with campus climate demonstrated a particularly strong association ($r = .42$) with academic success.

Importantly, less work has focused directly on experiences and predictors of academic outcomes for gender minority college students than sexual minority college students, but existing work also supports risk and protective factors directly related to identity. In a recent study, Crane et al. (2022) demonstrated that students who identified as SGMs were more likely to cease their enrollment at their current institution as the frequency of sexual orientation microaggressions, i.e., verbal or behavioral slights that demonstrate negativity toward non-heterosexual identities, they experienced increased. This relationship was also mediated by student perceptions of how accepting the campus was toward SGM students. Duran et al. (2020) reminds us of the importance of an intersectionality lens when studying gender and sexual minority students' academic outcomes, as every person is much more than gender and sexual identity; students from different ethnic, cultural, racial, socioeconomic, and religious backgrounds may experience the college environment very differently than other students despite shared gender or sexual identity. Research on this nuanced view toward SGM intersectionality supports the notion that individuals with additional marginalized identities within the SGM college student community experience higher levels of minority stress and lower levels of belongingness across campus and within SGM communities (Cyrus, 2017; Evans et al., 2017).

In the general literature on college retention, mental health concerns like symptoms of depression, psychosocial stressors, and harmful substance use predict dropping out of college at all phases of enrollment (Thomas et al., 2021). Research examining SGM college student mental health has found that these students experience high minority stress and are at increased risk for poor mental health and psychological distress (Gonzales et al., 2016; O'Neill et al., 2022; Pellicane & Ciesla, 2022). Results from multiple iterations of the National College Health Assessment also indicate that SGM students experience a relatively higher rate of mental health concerns than their peers and are more likely to utilize mental health services (American College Health Association, 2022; Blosnich & Bossarte, 2012; Brittain & Dinger, 2015). SGM individuals routinely encounter unique stressors prior to and within the college environment and as part of the developmental process. In a survey that examined the experiences of 629 SGM and non-SGM individuals who attended 4-year-colleges (25.8% current enrollees) by the Williams Institute at UCLA (O'Neill et al., 2022), LGBTQ individuals were more likely to report facing discrimination, bullying, violence, and harassment during college. Gay, bisexual, and transgender individuals also experience higher rates of sexual victimization compared to their college peers (Johnson et al., 2016). SGM students report receiving little support from resident advisors and staff when students report these incidents (O'Neill et al., 2022), and campus health service providers do not always have adequate ability, training, or resources to properly assess and support SGM individuals (Hood et al., 2019; Smith-Millman et al., 2019). SGM individuals also spend far greater time and resources trying to avoid discrimination during their college years (O'Neill et al., 2022). LGBQ students experiencing difficulties negotiating their sexual identity or perceiving a need to conceal their identity also experience higher anxiety around their career decision-making (Morris & Lent, 2023). While little is known about how SGM mental health may affect college enrollment, the literature indicates that SGM students encounter more risk factors for poor mental health than non-SGM students.

There is also evidence to suggest that SGM mental health may be related to the campus environment. In addition to direct harassment and bullying, SGM students often encounter negative classroom and campus climates, which can contribute to low belongingness (Parker, 2021; Silverschanz et al., 2008). Whereas strong social networks and affirming peers and faculty can lessen the impact of negative campus climates (Woodford & Kulick, 2015). Low or no numbers of out faculty or staff is associated with worse mental health outcomes (Gnan et al., 2019), and individual hostile classroom environments can influence perceptions of negative overall campus climates (Garvey et al., 2015). Furthermore, certain groups in the SGM spectrum can experience discrimination or unwelcoming attitudes within queer spaces (Marine & Nicolazzo, 2014; Tavaréz, 2022), and colleges often lack adequate resources for SGM students, particularly for trans and gender-questioning individuals (Goldberg et al., 2019). These findings indicate that mental health and the campus environment may be linked for SGM students; however, it is unclear how they may uniquely predict college retention.

To expand the empirical research on SGM college student retention, the current study tests a model of SGM academic outcomes based on the literature reviewed. Specifically, we hypothesized that relative to non-SGM college students, those who identify as SGM would be more likely to report thoughts of dropping out of school. We further hypothesized that this effect would be mediated by both self-reported psychiatric symptoms and school connectedness.

METHODS

Between November and December of 2021, 16,031 students over the age of 18 across eight public universities in the state of Mississippi were randomly selected to receive an invitation to participate in a survey on college student mental health. Of these students, 1,831 completed the survey and 1,793 of these individuals provided full demographic information on gender identity and sexual orientation. Participants who completed the survey were entered into a raffle to win one of ten \$100 gift cards or one of two \$500 gift cards. In addition to answering questions about their mental health and demographics, participants provided responses about perceptions of their connection to their school environment and if they had been considering reducing or ending their enrollment in courses.

Measures

DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure - Adult

The study used the DSM-5 Level 1 Cross Cutting Measure (American Psychiatric Association, 2013) to assess clinically significant psychiatric concerns. This 23-item self-report measure assesses for the presence of symptoms in the past two weeks across 13 different psychiatric domains. Each item is rated on a 5-point Likert scale (0 = *None, Not at all* to 4 = *Severe, Nearly every day*), and most domains are considered to be a clinically significant psychiatric elevation if an item is scored at 2 (*Mild, Several Days*) or above. However, the domains of Suicidal Ideation, Psychosis, and Substance Use, only require a score of 1 (*Slight, Rare, less than a day or two*) to be considered clinically significant. Prior research has indicated that this is a valid measure of college student distress (Bravo et al., 2018).

College Student Subjective Wellbeing Questionnaire - School Connectedness Subscale

Participants completed the College Student Subjective Wellbeing Questionnaire, which is a 16-item scale with each item on a 7-point Likert scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*) that assesses various domains of student wellness (Renshaw, 2018). This measure has questions relating to the social structure of the school, e.g., “I feel like a real part of this school.” This subscale was used to approximate students’ comfort attending their respective schools. In addition to demonstrating construct validity, this measure was found to be associated with student mental health (Renshaw, 2018).

Anticipated Dropout

As part of this survey, all students were asked to indicate if they had thought about reducing their future coursework in the past year. For students that reported they had thought about reducing their course load, they were asked what degree of reduction they had been considering, e.g., “I thought about not taking any classes next semester.” For this study, a binary variable was created to compare students who had thought about dropping out with students who had not.

Data Analysis

Data for this study were analyzed using R version 4.22 (R Core Team, 2022). The parallel mediation analysis was carried out using the PROCESS function (Hayes, 2022). Academic year (e.g., freshman) was controlled for in all regression analyses.

RESULTS

Participants in this sample (Table 1) primarily identified as cisgender women (73.4%; cisgender referring to individuals whose gender identity matches their sex assigned at birth), White (57.8%), and heterosexual (84.3%). Across the entire sample, 15.7% of students identified as gender or sexual minority. Most students considered themselves to be a freshman, sophomore, or junior (51.4%). The average age of the participants was 24.37 ($SD = 8.56$), and the median age was 21. The average number of clinically significant psychiatric elevations reported by students was 6.42 ($SD = 3.59$). In terms of school connectedness, students reported an average total score of 21.20 ($SD = 5.07$), which corresponds to an average item score of 5.3 (*Slightly Agree*). Regarding intentions for future enrollment, 17.7% of students indicated they had thought about dropping out.

Table 1

Sample Demographics

Sample Characteristics	n (%)
Gender Identity	
Cisgender Woman	1316 (73.4)
Cisgender Man	441 (24.6)
Transgender Woman ¹	3 (.2)
Transgender Man ¹	6 (.3)
Nonbinary ¹	17 (.9)
Other Gender Identity ^{1,2}	10 (.6)
Sexual Orientation	
Straight (Heterosexual)	1512 (84.3)
Gay ¹	32 (1.8)
Lesbian ¹	36 (2.0)
Bisexual ¹	140 (7.8)
Queer ¹	19 (1.1)
Other Orientations ^{1,3}	54 (3.0)
Race/Ethnicity	
American Indian or Alaska Native	11 (.6)
Asian	44 (2.5)
Black or African American	622 (34.7)
Native Hawaiian or Other Pacific Islander	5 (.3)
Two or More Races	47 (2.6)
White	1036 (57.8)
Other Race	26 (1.5)
Hispanic or Latino or Spanish Origin	70 (3.9)
Academic Year	
Freshman	297 (16.6)

Sophomore	229 (12.8)
Junior	395 (22.0)
Senior	443 (24.7)
Graduate	429 (23.9)

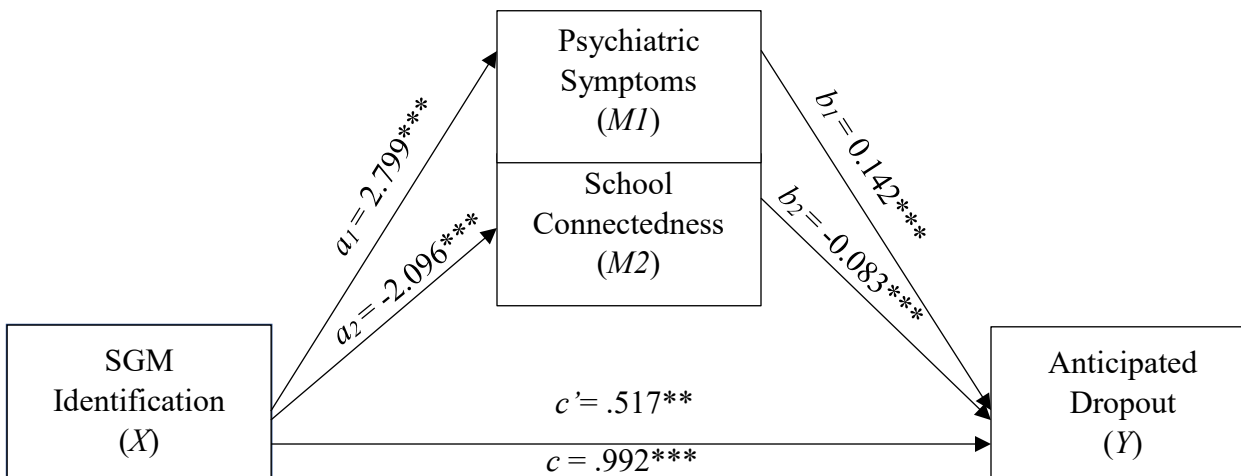
Note. N = 1793; ¹ = sexual orientation or gender identity included in the sexual and/or gender minority group; ² = Genderqueer, Genderfluid, and Other gender identity not listed; ³ = Questioning, Asexual, and Other sexual orientation not listed.

Mediation Analysis

For the mediation analyses, SGM identification was coded as a binary variable to estimate the effect that identifying as a gender or sexual minorities had on all outcomes. A logistic regression of anticipated dropout on SGM identification indicated that there was a significant total effect, $c = .992$, $SE = .147$, $p < .001$, OR: 2.697, 95% CI [.701, 1.279] (Figure 1), with SGM students being more likely to anticipate dropping out.

Figure 1

Mediating Effects of Psychiatric Symptoms and School Connectedness on the Relationship Between SGM Identification and Anticipated College Dropout



Note. SGM = Sexual and/or gender minority; SGM identification coded as 0 = Not SGM and 1 = SGM; The covariate path from academic year was excluded from this figure; $**p < .01$, $***p < .001$; All effects are unstandardized; c' is the direct effect of LGBTQ+ identification on anticipated dropout; c is the total effect of LGBTQ+ identification on anticipated dropout.

Both a paths in the model indicated that SGM identification was a significant predictor of each mediator, i.e., more elevated psychiatric symptoms, $a_1 = 2.799$, $SE = .237$, $p < .001$, 95% CI [2.334, 3.263], and reduced perceptions of school connectedness, $a_2 = -2.096$, $SE = .324$, $p < .001$, 95% CI [-2.732, -1.461]. Similarly, increases in elevated psychiatric symptoms, $b_1 = 0.142$, $SE = .018$, $p < .001$, 95% CI [.106, .178], and reductions in perceptions of school connectedness, $b_2 = -.083$, $SE = .013$, $p < .001$, 95% CI [-.108, -.058], significantly predicted anticipated dropout. The

direct effect of SGM identification on anticipated dropout was significant after accounting for both mediators, $c' = .517$, $SE = .159$, $p < .01$, OR: 1.677, 95% CI [.206, .828].

Indirect effects for the mediation model were calculated using 1000 bootstrap samples. The overall indirect effect was significant after controlling for both mediators, which indicates that each contributed to partial mediation of the relationship between SGM identification and anticipated dropout, $IE_{\text{overall}} = .571$, $SE = .073$, 95% CI [.433, .718]. A contrast of the indirect effects of elevated psychiatric symptoms, $IE_{a1b1} = .397$, $SE = .060$, 95% CI [.286, .519], and school connectedness, $IE_{a2b2} = .174$, $SE = .039$, 95% CI [.104, .260], indicated that psychiatric symptoms had a significantly greater indirect effect, $IE_{a1b1} - IE_{a2b2} = .223$, $SE = .070$, 95% CI [.090, .364].

DISCUSSION

The study results supported the hypotheses, which were that SGM students were more likely to consider dropping out, and that this relationship was partially mediated by students' current mental health symptoms and perceptions about how connected they felt to their campus. Overall, SGM students were more than 2.5 times more likely to consider dropping out than their peers, and this odds ratio was still significant after accounting for both mediators. While both mental health and campus connection partially explained this relationship, SGM student mental health may have relatively more effect on students' decisions about discontinuing their future enrollment. These findings add to the growing quantitative literature about risk factors for SGM student retention.

Given that psychiatric symptoms were a partial mediator of the association between SGM identification and anticipated dropout, accessibility of mental health resources that are attuned to the specific issues SGM students experience may be a key intervention point to improve outcomes. Although SGM students are more likely to experience psychological distress and mental health related academic impairment, results from a large survey of California college students indicated that sexual minority students were more likely to use mental health services (Dunbar et al., 2017). In addition to general psychiatric services targeting psychiatric symptoms, it may be important to tailor interventions to the unique experiences and needs of SGM students. For example, there is evidence that resilience (i.e., the ability to bounce back in stressful situations) and identity pride may buffer SGM students from the effects of heterosexism, cisgenderism, and harassment on college campuses (Woodford, Weber, et al., 2018)

While expanding access to mental health for SGM students appears to be part of the answer, increasing access may not be sufficient by itself. In their examination of state-level structural policies as predictors of college counseling center website SGM friendliness, Campbell and Mena (2021) found that colleges in states with hate-crime and employment non-discrimination protections for individuals identifying as an SGM had friendlier websites as indicated by factors such as mentions of SGM specific resources, services, or information and direct or indirect support statements. Thus, students in states or regions in which they may be more likely to experience heterosexism or harassment may also be the states in which college counseling centers are least explicitly welcoming to SGM students. This is particularly important as other work on SGM experiences with mental health services showed that poor experiences with navigating the mental health system was a commonly cited barrier to seeking care (Holt et al., 2023). Thus, many students may be vigilant toward what mental health services are available on campus and may elect to avoid seeking care if these services do not appear to be welcoming or supportive of SGM students. Merely increasing access to mental health services on campuses located in states with higher levels of stigma toward the SGM community

may not result in utilization. Without inclusive language and outward demonstrations of support, SGM students may not feel safe seeking mental health care on campus.

Although psychiatric symptoms may have a relatively greater effect on SGM student retention, perceptions about the campus environment also uniquely influenced students' decisions about dropping out. Fortunately, there appears to be a range of tools that campuses can utilize to maintain a supportive and inclusive environment. Experts in the field of SGM student issues have recommended that campuses implement classroom and curricular supports (e.g., including SGM leaders in lecture material), transparent SGM affirming policy, and inclusive demographic items in student surveys (Cooper et al., 2020). Qualitative work in the area of campus environment has frequently indicated that students attribute their personal well-being and continued enrollment to direct support provided by faculty members (Linley et al., 2016). A review of the literature on LGBTQ mental health and campus climate supports this finding, as these students may be at less risk of developing of mental health concerns, including suicidality, on campuses with more affirming climates (Ancheta et al., 2021). Students have also reported that they feel more welcome on campuses with policies that support student inclusion and when there are ample spaces for SGM students to connect with one another (Pitcher et al., 2018; Woodford, Kulick, et al., 2018). While this research is largely qualitative in nature, it supports this study's findings that the campus environment is an important factor that affects student perceptions about their academic institutions.

In addition to bolstering support for SGM students, work should also be done to integrate the entire academic community into the SGM space. For example, Gilbert et al. (2021) recommend that leaders and academic entities would benefit from advocating on behalf of SGM resources. This includes building specific connections between SGM communities on campus and counseling centers to ensure student mental health care is most effectively managed. The results of this study support this recommendation, as efforts to integrate the SGM community across campus may help students feel more connected to the broader campus environment. Furthermore, integrating campus mental health into the SGM space on campus may provide counseling centers with the opportunity for staff to seek out training and understand the unique and diverse lived experiences across the SGM spectrum (Gilbert et al., 2021). Efforts to support this integration may include inviting SGM content experts to provide continuing education to counseling center staff, regularly inviting campus SGM groups to provide their campus experiences to counseling center staff as an informal needs assessment for clinical staff to address, hiring staff with joint appointments in SGM-specific campus offices and the counseling center, and regular attendance of SGM events on campus by counseling center staff.

Despite the efforts many institutions of higher education may make to offer effective mental health treatment options and a welcoming space on campus, larger societal issues may create barriers for sustained enrollment among SGM students. A recent example that has affected the SGM community has been the proliferation of anti-SGM legislation across the country, including the state of Mississippi. This type of legislation has been shown to negatively affect the mental health of SGM individuals who reside in states considering these bills (Horne et al., 2022). Unfortunately, this may mean that the work to support SGM students may be undermined by state and regional politics that aim to restrict SGM human rights and access to healthcare. With the growing number of legal barriers to equal rights for SGM students across the country, this is a reality that college administrators will continue to face. This is especially true in the southern United States, where relatively more anti-SGM legislation has passed in an area where people identifying as SGM already have less support and experience more socioeconomic disparities than other

regions of the United States (Hasenbush et al., 2014). Importantly, while there may be little that campuses can do to fight against legislation that is known to have a deleterious effect on SGM mental health, campuses can provide explicit messages of support for SGM students. In the absence of direct policy intervention, this may be the best tool that institutions of higher education have in these situations.

Limitations

Despite the contributions this study provides to the limited research in SGM student retention, there are some limitations. First, all SGM identities were collapsed into a dichotomous variable comparing these students to those who did not identify as SGM. This limits the ability to show nuanced understanding of how the many different sexual and gender identities reported in the study experienced campus connectedness, mental health concerns, and intentions to discontinue their enrollment. Second, due to the random sample design of the data collection, there were relatively few participants who identified as a gender minority. This limited the ability to examine within-group differences due to a lack of statistical power. Third, despite the model showing significant partial mediation, the cross-sectional nature of the design does not allow for any causal interpretation to be made from the results. Finally, while the study examined intentions for discontinuing enrollment, it was not able to show how these intentions matched actual behavior, e.g., whether students who intend to drop out actually do in the following semester.

CONCLUSIONS

This study indicates that there is work to be done to reduce the educational inequities between SGM students and non-SGM students. Students identifying as SGM may not feel connected to their campus while simultaneously experiencing an elevated rate of clinically significant mental health concerns. Prior literature indicates both mediators are risk factors for student attrition, and this study indicated that clinically significant mental health concerns may contribute more to SGM students' decisions to not continue their college enrollment. While SGM school connectedness and mental health both deserve individual attention, the best approach for campuses may be to create supportive SGM networks across campus that are able to provide access to SGM-competent mental health services on campus or in the surrounding community. In the face of increasing legal impositions on SGM rights across parts of the United States, campuses must demonstrate their support for SGM students in order to equitably serve this student population.

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