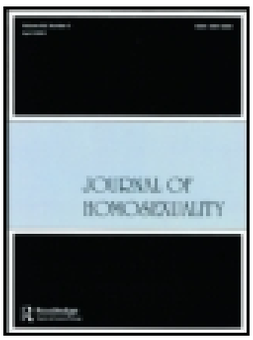

Journal of Homosexuality

ISSN: 0091-8369 (Print) 1540-3602 (Online) Journal homepage: http://www.tandfonline.com/loi/wjhm20

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To cite this article: Katie Heiden-Rootes, Ashley Wiegand, Danielle Thomas, Rachel M. Moore & Kristin A. Ross (2018): A National Survey on Depression, Internalized Homophobia, College Religiosity, and Climate of Acceptance on College Campuses for Sexual Minority Adults, Journal of Homosexuality, DOI: 10.1080/00918369.2018.1550329

To link to this article: https://doi.org/10.1080/00918369.2018.1550329

Published online: 05 Dec 2018.

JOURNAL OF HOMOSEXUALITY
https://doi.org/10.1080/00918369.2018.1550329

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A National Survey on Depression, Internalized Homophobia, College Religiosity, and Climate of Acceptance on College Campuses for Sexual Minority Adults

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ABSTRACT

Sexual minority persons have an increased risk for negative mental health outcomes in adulthood. This seems to largely be due to experiences of stigma in social settings. This study sought to understand the relationship between attending a religiously conservative college, internalized homophobia (a measure of sexual stigma), and depressive symptoms for sexual minority adults. Sexual minority adult participants (n = 384) from across the U.S. were recruited and completed a Web-based, anonymous survey. A mediation model predicting depression through college religious conservatism, college acceptance of sexual minority identities, and internalized homophobia was tested using path analysis. Results revealed an indirect effect of increased religious conservatism of a college predicted higher depression through lower college acceptance and higher internalized homophobia. Implications for the mental health of sexual minority adults and future research are examined.

KEYWORDS

College; religiosity; lesbian; gay; bisexual; sexual minority; acceptance; internalized homophobia; depression

The school climate of acceptance for sexual minority (e.g., lesbian, gay, bisexual, pansexual, queer) individuals is associated with emotional and social wellbeing. Social stigma, prejudicial attitudes (Meyer, 2003), and rejection experienced within high schools and colleges are significant predictors of poorer mental health outcomes for sexual minority adults (Bontempo & D'Augelli, 2002; Garofalo, Wolf, Kessel, Palfrey, & DuRant, 1998; Goodenow, Szalacha, & Westheimer, 2006; Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016; O'Shaughnessy, Russell, Heck, Calhoun, & Laub, 2004; Reis, 1999). Overall, sexual minority individuals are at higher risk compared to their heterosexual peers for depression (D'Augelli, 2002; D'Augelli & Hershberger, 1993; King et al., 2008; Silenzio, Pena, Duberstein, Cerel, & Knox, 2007), suicide attempts and ideation (D'Augelli, Hershberger, & Pilkington, 2001; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; King

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et al., 2008; McDermott, Roen, & Scourfield, 2008; Remafedi, French, Story, Resnick, & Blum, 1998; Silenzio et al., 2007), and internalized homophobia (Cochran, Sullivan, & Mays, 2003; D'Augelli, 2002; Meyer, 2003).

The most recent and comprehensive survey of college climate for sexual minority people showed significantly greater harassment and discrimination than heterosexual allies (Rankin, Weber, Blumenfeld, & Frazer, 2010). This was compounded by multiple cultural and social minority identities (e.g., race) significantly increased negative experiences and perceptions of campus climate (Rankin et al., 2010). A college climate that reinforces negative societal stigmas against sexual minority individuals can exacerbate health consequences for this population as described by the minority stress model (Meyer, 1995). Higher internalized homophobia, a measure of minority stress (Meyer, 1995), is associated with a higher incidence of recent and chronic suicidal thoughts (Gibbs & Goldbach, 2015), increased negative global self-concept, and poorer psychological wellbeing and health (Allen & Oleson, 1999; Herek, Cogan, Gillis, & Glunt, 1998; Meyer & Dean, 1998; Rowen & Malcolm, 2002). College religious affiliation was associated with poorer mental health outcomes (Wolff, Himes, Soares, & Miller Kwon, 2016) and the underuse of health care services (Nadal, 2008; Sue et al., 2007; Willging, Salvador, & Kano, 2006) for sexual minority students. This seems to be due to lower college and peer acceptance, support, and inclusion on more religiously conservative college campuses (Wolff et al., 2016). However, only a few studies (e.g., Wolff et al., 2016; Yarhouse, Stratton, Dean, & Brooke, 2009) exist examining the experience of sexual minority students on religiously conservative campuses, and none of the studies surveyed for the existence of groups to stop same-sex attractions and its association to minority stress (e.g., internalized homophobia). This study sought to add to the growing body of literature on the relationships between college climates of acceptance toward sexual minority inclusion, minority stress, and mental health outcomes for sexual minority adults.

Religiosity in college life

In religious environments, prejudicial attitudes and active rejection of sexual minority identities may be more visible (Yarhouse et al., 2009) and maybe become a source of interpersonal conflict for sexual minority students (Gibbs & Goldbach, 2015). Religion significantly shapes language used in college environments about sexual minority persons (e.g., abomination, reconciling) perpetuating negative views and behaviors toward sexual minority students. *Abomination* and *reconciling* are both terms with biblical and theological grounding that connote "sin" and efforts toward stopping or preventing sinful behavior, respectively. As a result, some religiously affiliated college campuses may offer "support" groups to promote the process of "reconciling" or

stopping same-sex partnering, sexual behavior, and attraction. Therefore, sexual minority adults who attended religious colleges with these "support" groups may fail to have vital, affirming space of their sexuality, which could lead them to internalize feelings of homophobia based on their college climate.

College religiosity and acceptance

College campuses seem to vary on social climate for sexual minority students by religious affiliation. Levels of acceptance, negative responses, and prejudicial attitudes in school settings are predictors of health for sexual minority individuals (Bontempo & D'Augelli, 2002; Garofalo et al., 1998; Goodenow et al., 2006; Kosciw et al., 2016; O'Shaughnessy et al., 2004; Reis, 1999; Yarhouse et al., 2009). At more liberal Christian universities, such as a Jesuit Catholic University, sexual minority students reported the climate on campus to be more welcoming (Hughes, 2015). Whereas at more conservative Christian colleges, sexual minority students reported higher levels of depression, social anxiety, religious incongruence (Wolff et al., 2016), internalized homophobia, and lower levels of acceptance (Yarhouse et al., 2009). Differences in college climate are reflected in the kinds of student groups available to sexual minority students. Student groups for sexual minority students on more conservative college campuses may seek to assist them in stopping or not acting on same-sex attractions by partnering or engaging in same-sex sexual behavior. Same-sex attraction (SSA) groups are an outgrowth of beliefs about what is morally acceptable sexual expression and beliefs that through sincere prayer "God will heal broken pieces of the psyche and bring the individual to psychological maturity and thus heterosexuality" (e.g., different-sex romantic and sexual relationships; Wolkomir, 2001, p. 309). The most famous use of SSA groups was in the ex-gay ministries of evangelical Christianity in the U.S. that persist to this day (see the Institute for Welcoming Resources, 2018, for links to anti-gay religious organizations and recovery from participation in ex-gay ministries). Little research exists on the prevalence of SSA groups and their impact on participants, though one study suggests participants learned to emotionally express "remorse for homosexual sin, and pride in their ongoing struggle" (Wolkomir, 2001, p. 317). For sexual minority students, the existence of SSA groups may increase feelings of internalized homophobia and, subsequently, depressive symptoms. No studies to date could be found examining the relationships between college acceptance, as measured by the existence of SSA groups, to internalized homophobia and depression.

By contrast, the existence of sexual minority identity affirming groups may promote college acceptance in the general college climate. For example, the presence of a gay-straight alliance (GSA) group in high schools (Heck, Flentje, & Cochran, 2011) and colleges (Wolff et al., 2016) are significantly

associated with improved mental health and more positive school experiences for sexual minority students. One study found that college students who went to a high school with a GSA group reported more positive beliefs about sexual minority individuals (Worthen, 2014). The GSA group in a college environment, especially one affiliated with the college, typically signals community-level acceptance for sexual minority adults.

The current study

One broad research question informed this study: What is the effect of religious college life experiences on the mental health of sexual minority adults? Previous research on sexual minority adults suggested that religiosity of a college plays a key role in predicting experiences of acceptance at college (Hughes, 2015; Yarhouse et al., 2009). Additional factors may affect the mental health of sexual minority adults on religious college campuses, such as the general college conservatism and presence of a SSA group. This study focused on depression as a mental health outcome given its significant association with suicidality (Igartua, Gill, & Montoro, 2003; Marshal et al., 2011; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010) and internalized homophobia for sexual minority adults (Igartua et al., 2003). The presence of a GSA affiliated with the university seems to signal acceptance, given previous research showing its positive impact on sexual minority students (Wolff et al., 2016), whereas the presence of SSA groups signals rejection given the stated desire to stop same-sex attractions and not support same-sex relationships. Collectively, then, the presence or absence of a GSA or SSA and their affiliations with the college would signal community-level acceptance of sexual minority persons. In addition, the religious and conservative leanings of a college likely predict the degree of community-level acceptance on campus for sexual minority individuals. As a result, sexual minority adults who attend college may experience varied levels of internalized homophobia and depressive symptoms depending on college religious conservatism and community-level college acceptance. A model was tested to predict depression for sexual minority adults who attended any college. One hypothesis was proposed to test a mediation model (see Figure 1) predicting the relationship between college acceptance, college religious conservatism, internalized homophobia, and depression:

Hypothesis 1: Greater college religious conservatism will predict less college acceptance; in turn, less college acceptance will predict more internalized homophobia; and, finally, higher internalized homophobia will predict higher depression.

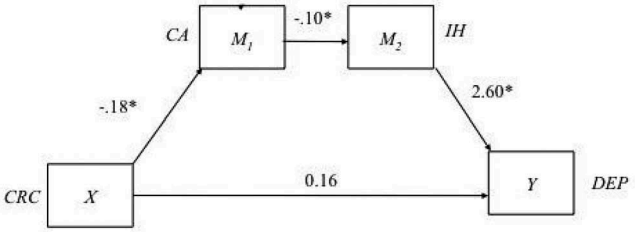

Figure 1. Test of the proposed moderated mediation model fit with the data predicting depression; CRC = college religious conservatism; CA = college acceptance; IH = internalized homophobia; DEP = depression.

Method

Procedure

The design of the study was a mixed methods concurrent triangulation strategy with qualitative and quantitative data gathered at one time (Fetters, Curry, & Creswell, 2013) via a Web-based survey. The study was approved by a private, Midwestern university Internal Review Board. To take part in the survey, participants must be an adult (over the age of 18), raised in a religious family, be out to at least one family member or friend as experiencing same-sex attractions, identify as gay, lesbian, bisexual, or another sexual minority identity, and have attended some college at some point in their life. "Religious family" was defined broadly to include different religious tradition and affiliation (e.g., Catholic, Baptist, Judaism), though the sample included mostly Christian traditions. Participants were asked to indicate their family's religious affiliation at the beginning of the survey. The Web-based survey was hosted by Qualtrics and took approximately 30 minutes to complete. Demographic information (e.g., age, gender identity, age when first came out) and all measures for this study were gathered in the survey. Additional measures and items not analyzed in this article include family and friend acceptance and relationship quality and can be found in previous publication by the authors (see Heiden-Rootes, Wiegand, & Bono, 2018 for analysis of these variables). For this article, variables used were captured in the quantitative portion of the survey. At the end of the survey, a debriefing script reminded the participants of the purpose of the study and provided mental health resource links.

In order to disperse the survey nationwide, multiple channels were used, including posting on social media groups for sexual minority adults from specific religious organizations (e.g., Mormon/LDS), e-mail to national professional organizations that have sexual minority-affirming sections (e.g., National Council on Family Relations), contact with student organizations at religious colleges, and newspaper ads in college newspapers. Sexual minority adults from religious homes may not be out (Barnes & Meyer, 2012);

therefore, snowball sampling was used as well asking participants to pass along recruitment materials to those who may be able to participate. Recruitment materials for the survey were distributed through each channel methodically every two weeks over a six-week period.

Participants

Completion rate (e.g., those who consented and completed all measures) for the online survey was 69.2% with a final sample size of 384 (see Table 1). A majority of the states in the U.S. (41 out of 50) were represented. A majority of participants came from Missouri, Illinois, Arkansas, California, Washington, Texas, Utah, Pennsylvania, and North Carolina. The participants covered the major regions of the U.S., and demographics of the sample show a range of educational levels, religious affiliations, ages, gender identity, and sexual minority identities (Table 1). The sample was predominantly cisgender (cis-male = 35.9%; cis-female = 53.6%), with 9.1% indicating nonbinary, gender non-conforming, or transgender. Racially, the sample consisted of 83.3% White, 5.5% Multiracial, and 2.3% Black/African American, and 6.4% reported other racial minority (e.g., Latinx, Asian/Asian American, Native American, Middle Eastern). In terms of college life, 61.5% of the sample reported a GSA on their college campus; 96.6% of those GSA groups were affiliated with the college. About one fifth of the sample (20.1%) reported the presence of SSA groups. We did not ask if they participated in the groups directly given that we were only interested in the general college climate of acceptance.

Measures

College religious conservatism

Two items measured level of religious conservatism. The first asked about the degree of conservatism of the college on a 7-point Likert scale ranging from *very liberal* (1) to *very conservative* (7). The second item assessed the level of religiosity for the college, ranging from *not at all religious* (1) to *very religious* (7) on a 7-point Likert scale. These two items were significantly correlated ($r = 0.67$) and were summed for a total score of religious conservatism. Higher scores indicated greater religious conservatism. In a 1-way analysis of variance (ANOVA) of the college religious affiliations by levels of religious conservatism, universities affiliated with Mormon/LDS and Other Christian (e.g., Evangelical-Free, nondenominational Christian churches) church bodies were significantly more religious and conservative than Catholic, Protestant, and non-religious-affiliated universities. This grouping of affiliation by degree of religious conservatism fits with previous findings showing more conservative denominations

Table 1. Comparison by age group (years old).

Variable	18–25 (n = 100)	26–30 (n = 114)	31–40 (n = 85)	41–70 (n = 85)
Family Life				
Years Out, *M* (*SD*)				
To Parents*	2.30 (2.67)	5.11 (4.71)	8.92 (7.02)	17.67 (12.78)
To Siblings*	2.36 (2.50)	5.80 (4.60)	9.05 (6.69)	20.57 (11.25)
To Friends*	4.35 (2.94)	8.19 (4.21)	13.54 (5.98)	27.56 (10.35)
Religious Affiliation, *n* (%)				
Catholic*	32(32.0%)	19(16.7%)	17(20.0%)	19(22.4%)
Protestant*	24(24.0%)	36(31.6%)	23(27.1%)	31(36.5%)
Mormon/LDS*	14(14.0%)	22(19.3%)	24(28.2%)	17(20.0%)
Other Christian*	23(23.0%)	30(26.3%)	16(18.8%)	8(9.4%)
Other (e.g., Judaism)*	7 (7.0%)	7 (6.1%)	5 (5.9%)	10 (11.8%)
College Life				
College Religious Conservatism, *M* (*SD*)	6.75 (3.18)	7.89 (3.81)	7.45 (4.11)	8.05 (3.98)
Religious Affiliation, *n* (%)				
Catholic	10 (10.0%)	8 (7.0%)	2 (2.4%)	8 (9.4%)
Protestant	11 (11.0%)	9 (7.9%)	6 (7.1%)	7 (8.2%)
Mormon/LDS	6 (6.0%)	13 (11.4%)	9 (10.6%)	7 (8.2%)
Other Christian	6 (6.0%)	17 (14.9%)	10 (11.8%)	14 (16.5%)
Other (e.g., Islam, Judaism)	< 5 (1.0%)	< 5 (0.9%)	-	-
None or other	66 (66.0%)	66 (57.9%)	58 (68.2%)	49 (57.6%)
College Acceptance, *M* (*SD*)*	2.51 (0.87)	2.08 (1.19)	1.88 (1.21)	1.33 (1.02)
Gay-Straight Alliance present, *n* (%)*	85 (85.0%)	78 (68.4%)	48 (56.5%) Δ	25 (29.4%)Δ
Gay-Straight Alliance affiliated, n (%)	81 (95.3%)	74 (94.9%)	45 (93.8%)	20 (80.0%)
Group for stopping same-sex attractions, *n* (%)	15 (15.0%)	29 (25.4%)	18 (21.2%)	15 (17.6%)
Self (current)				
Age, *M* (*SD*)*	22.09 (2.28)	27.81 (1.42)	34.91 (2.79)	51.88 (7.26)
Race (White), *n* (%)	78 (78.0%)	98 (86.0%)	69 (81.2%)	73 (85.9%)
Gender identity, *n* (%)				
Nonbinary/Transgender	9 (25.7%)	18 (51.4%)	7 (20.0%)	1 (2.9%)
Cis-female	63 (30.3%)	58 (27.9%)	48 (23.1%)	39 (18.8%)
Cis-male	28 (19.9%)	38 (27.0%)	30 (21.3%)	45 (31.9%)

(*Continued*)

Table 1. (Continued).

Variable	18–25 (n = 100)	26–30 (n = 114)	31–40 (n = 85)	41–70 (n = 85)
Sexual identity, *n* (%)				
Gay*	22 (22.0%)	28 (24.6%)	25 (29.4%)	40 (47.1%)
Lesbian*	29 (29.0%)	32 (28.1%)	23 (27.1%)	32 (37.6%)
Bisexual/Pansexual/Queer*	49 (49.0%)	54 (47.4%)	37 (43.5%)	13 (15.3%)
Education level, *n* (%)				
Partial Post-Secondary*	62 (62.0%)	18 (15.8%)	12 (14.1%)	9 (10.6%)
Earned Undergraduate Degree*	10 (10.0%)	33 (28.9%)	22 (25.9%)	22 (25.9%)
Enrolled in Graduate Program*	22 (22.0%)	21 (18.4%)	14 (16.5%)	2 (2.4%)
Graduate/Prof. Degree*	6 (6.0%)	42 (36.8%)	37 (43.5%)	52 (61.2%)
Partnered	67 (67.0%) Δ	75 (65.8%) Δ	63 (74.1%)	60 (70.6%)Δ
Same-sex partnered*	43 (64.2%)	56 (74.7%)	45 (71.4%)	58 (85.3%)
Religiosity, *M* (*SD*)*	2.93 (1.67)	2.94 (1.82)	3.28 (1.96)	3.71 (1.86)
Conservatism, *M* (*SD*)	2.02 (1.12)	2.09 (1.04)	2.26 (1.31)	2.19 (1.19)
Religious Affiliation, *n* (%)				
Catholic	12 (12.0%)	7 (6.1%)	3 (3.5%)	8 (9.4%)
Protestant	8 (8.0%)	8 (7.0%)	8 (9.4%)	14 (16.5%)
Mormon/LDS	5 (5.0%)	10 (8.8%)	10 (11.8%)	8 (9.4%)
Other Christian	19 (19.0%)	21 (18.4%)	14 (16.5%)	14 (16.5%)
Agnostic	22 (22.0%)	32 (28.1%)	15 (17.6%)	9 (10.6%)
Atheism	14 (14.0%)	15 (13.2%)	11 (12.9%)	8 (9.4%)
Other (e.g., Buddhism, Judaism)	20 (20.0%)	21 (18.4%)	24 (28.2%)	24 (28.2%)
LGB connect, *M* (*SD*)	4.56 (1.77)	4.56 (1.52)	4.50 (1.50)	4.90 (1.53)
Mental Health				
Internalized Homophobia, *M* (*SD*)	1.69 (0.83)	1.61 (0.72)	1.67 (0.83)	1.65 (0.68)
Depression, *M* (*SD*)*	9.85 (6.84)	7.03 (6.2)	7.66 (6.19)	5.22 (5.49)
No Dep (0–4)*	30 (30.0%)	48 (42.1%)	31 (36.5%)	51 (60.0%)
Mild Dep (5–9)*	21 (21.0%)	37 (32.5%)	28 (32.9%)	17 (20.0%)
Mod Dep (10–14)*	23 (23.0%)	13 (11.4%)	9 (10.6%)	11 (12.9%)
Severe Dep (15+)*	26 (26.0%)	16 (14.0%)	17 (20.0%)	6 (7.1%)
Clinical Cutoff (10+)*	49 (49.0%)	29 (25.4%)	26 (30.6%)	17 (20.0%)
Internalized Homophobia, *M* (*SD*)	1.69 (0.83)	1.61 (0.72)	1.67 (0.83)	1.65 (0.68)

Chi-square test for categorical variables and ANOVA for continuous variables.
*$p < 0.05$.
Δ 1 or 2 subjects did not complete.

being more rejecting of sexual minority identities (Ammerman, 2005; Button, Rienzo, & Wald, 1997; Gay & Ellison, 1993).

College acceptance

Three items assessed acceptance on the college campus. The first two items asked about the presence of a Gay/Straight Alliance (or similar) group and then if it was affiliated with the college. Participants answered "yes" or "no" to both items (yes = 1; no = 0). The final item measured the presence of a group to stop same-sex attractions (SSA). Participants answered "yes" or "no" for this item (yes = 0; no = 1). These three items were summed with higher scores indicating greater college acceptance. Inter-item reliability of the total scale was acceptable (Cronbach's α = 0.77).

Internalized homophobia

The Internalized Homophobia Scale–Revised (IHP-R) was used and consisted of five items assessing internalized stigma associated with being a sexual minority person (Herek, Gillis, & Cogan, 2009). Item answers were on a 5-point Likert scale (1 = *disagree strongly* and 5 = *agree strongly*). Total scores ranged from 5 to 25. Higher scores indicated greater internalized homophobia (IH). An example of one item is "I feel that being gay/lesbian/bisexual is a personal shortcoming for me." Internal consistency reliability for this sample (Cronbach's α = 0.75) was similar to a previous study (Herek et al., 2009).

Depression

Depression was measured using the Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001). The 9-item survey uses a 4-point Likert scale ranging from *not at all* (0) to *nearly every day* (3). Possible total scores ranged from 0 to 27 points with higher scores indicating more frequent depressive symptoms. One example item from the PHQ-9 is "Little interest or pleasure in doing things." The current study showed similar reliability (Cronbach's α = 0.91) to previous studies (Cronbach's α = 0.86 to 0.89; Kroenke et al., 2001). Scores of 10 or higher are considered a clinical cutoff for treatment of moderate depression (Spitzer, Kroenke, & Williams, 1999; Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000).

Results

Data analysis procedures

First, data were reviewed and analyzed for missing data points. Participants with less than 50% of measures completed were removed from the final

Table 2. Intercorrelations of study variables.

Variable	*M (SD)*	1	2	3	4
1. CRC	7.53(3.78)	-	−.61*	.25*	.02
2. CA	1.98(1.15)		-	−.23*	−.02
3. IH	1.65(0.76)			-	.30*
4. PHQ-9	7.50(6.40)				-

Note. N = 384. CRC = College religious conservatism, CA = College acceptance, DEP = depression.
*$p < 0.05$.

dataset. No demographic differences were found between those who were removed from the dataset and those who were maintained. Degree of randomness and patterns of missing data were assessed next with no patterns detected. Less than 2% missing data points were identified overall. Item means were imputed for individual missing data points. Linear assumptions, univariate and multivariate outliers, skewness, and kurtosis were tested and met assumptions (Byrne, 2010; Kline, 2011).

Initial data analysis

Demographics were initially assessed for associations to each other and study variables. Few differences emerged related to depression and internalized homophobia except for by age. Being younger was associated with increased depressive symptoms (r = −0.22, $p < 0.05$), being less religious (r = 0.18, $p < 0.05$), coming from a less religious family (r = 0.13, $p < 0.05$), and attending more accepting colleges (r = −0.37, $p < 0.05$). In 1-way ANOVA comparisons by age groups (see Table 1), 18–25-year-olds were associated with significantly more accepting colleges compared to all other age groups. Additionally, being 41–70 years old was associated with the lowest mean levels of college acceptance compared to all other age groups. However, college religious conservatism was not significantly different across age groups. Increased religiosity in their family while growing up was associated with increased college religious conservatism (r = 0.22, $p < 0.05$) and decreased college acceptance (r = −0.22, $p < 0.05$).

Next, inter-correlational relationships for all study variables were analyzed (Table 2). Greater college religious conservatism was significantly related to less college acceptance and higher internalized homophobia, whereas more college acceptance was related to lower internalized homophobia. Higher internalized homophobia was significantly associated with more depressive symptoms. When the presence of a SSA group was isolated as a variable, the association with college religious conservatism (r = 0.53, $p < 0.05$) and internalized homophobia were significant (r = −0.23, $p < 0.05$). By contrast, the presence of a GSA was significantly associated with decreased college

religious conservatism ($r = 0.49$, $p < 0.05$) and internalized homophobia ($r = 0.18$, $p < 0.05$). The inter-correlational relationships give support for use of the variables in the mediation model predicting depression.

Hypothesis testing

To test the model predicting depression (Figure 1), PROCESS (Hayes, 2013), an SPSS macro, was also used. Ordinary least squares estimate models and regression statistics such as R^2 in PROCESS (Hayes, 2013). The bias-corrected confidence intervals and 5,000 bootstrap samples recommended were used (Preacher & Hayes, 2008). Age was entered as a covariate given the significant association with depression. College religious conservatism and depression were entered with college acceptance and internalized homophobia as mediators between college religious conservatism predicting depression. Age (as a continuous variable) was included as a covariate.

Results showed the model was significant, $F(4, 373) = 16.09$, $p < 0.00$; $R = 0.38$, explaining 14.72% of the variance in depression. College acceptance ($B = -.10$, $SE = .05$, $p < 0.05$, 95% CI [−.19, −.01]) and internalized homophobia ($B = 2.60$, $SE = 0.42$, $p < 0.00$, 95% CI [1.75, 3.39]) mediated the relationship between college religious conservatism ($B = -.18$, $SE = .012$, $p < 0.00$, 95% CI [−.20, −.15]) and depression. The direct effect of college religious conservatism on depression was nonsignificant ($B = .15$, $SE = 0.10$, $t = 1.41$, $p = .16$).

Given the significant range of ages in the sample, a moderation model was tested with age tested as a moderating variable. Age may interact with college acceptance to predict internalized homophobia with older participants possibly being less affected by college acceptance either due to years since being on campus or being older students who are less involved or aware of GSA and SSA groups. The interaction term was not significant ($B = -.005$, $SE = 0.003$, $t = 1.55$, $p = .12$, 95% CI [−.012, .001]). Overall, the results suggested increased college religious conservatism predicted depression through decreased college acceptance and increased internalized homophobia. Age as a moderator in the relationship between college acceptance and internalized homophobia was nonsignificant.

Discussion

This study examined the relationships between college religious conservatism, college acceptance, internalized homophobia, and depression for sexual minority adults. Overall, the results provided evidence for the hypothesis tested and suggested college climate of acceptance predicted depression through internalized homophobia. The mechanism for the model tested in this study could be explained through minority stress theory, where experiences of proximal stress predicts more negative mental health outcomes for LGBT people (Meyer, 2015). Interestingly, given the college experience and

how this may situate our sample in a higher socioeconomic and educational bracket, campus climate of acceptance remained significantly associated with internalized homophobia and depression. This coincides with previous research showing college religiosity (Hughes, 2015; Yarhouse et al., 2009) and the presence of sexual minority affirming groups (e.g., GSA groups; Wolff et al., 2016) predicted better mental health outcomes for sexual minority students. This study adds to the literature by including the presence of SSA groups as a significant factor associated with more conservative religious colleges, the climate of college acceptance, and the relationships between minority stress and mental health for sexual minority adults.

Age did not seem to be a significant factor in the overall model. Stigmatizing experiences can remain psychologically and affect the health of sexual minority adults over the long term (Meyer, 2003). Younger participants were more likely to report coming from less religious families, identifying themselves as less religious, and attending more accepting colleges. The differences by age found in this study may indicate a cultural shift in the United States as same-sex relationships gain more acceptance (Pew Research Center, 2016). However, younger participants also reported some of the highest levels of depression, with 49% of the 18–25-year-olds in the sample meeting cut-off for clinical depression. The transition from adolescence to emerging adulthood (18–25) is a unique developmental period that brings along many factors, such as shifting family relationships, roles, and responsibilities (Lindell & Campione-Barr, 2017) that may complicate understanding the findings in this study. Young adults experience the highest prevalence of depression across adulthood in the United States (NIMH, 2016), which may explain why age as a moderator in this study was non-significant; the younger age group sampled may be experiencing various developmental transitions that are contributing to their reported depression.

Other factors not explored in this article are likely related to the depression scores of the youngest age group, including close proximity to coming out and experiencing family rejection (see Heiden-Rootes, et al., 2018; Ryan et al., 2009). Recently coming out to family is associated with increased suicidality for sexual minority individuals (Meyer, Teylan, & Schwartz, 2015). When coming out is met with family rejection, this is associated with higher rates of depression (Ryan et al., 2009). Because the age range in the study was so large (18–70), it was difficult to adequately analyze factors and themes specific to generational groups and developmental stages. Being younger seems to afford a more accepting social experience for sexual minority adults; however, being older may provide time and opportunities to seek psychotherapy, build relationships with accepting peers, and connect with the LGB community to reduce minority stress and improve mental health. Yet the model tested in this study was not significantly moderated by age, suggesting the issue of college climate on the health of sexual minority individuals is more nuanced and complex by individual context and experiences.

Another explanation for the results of this study could be the nature of the sample sharing one underlying characteristic—being raised in a religious family. Higher college religious conservatism and lower college acceptance was significantly associated with higher family religiosity. The college experience may be part of a personal history of living within religious and family environments that are rejecting. Minority stress, then, was experienced within the context of family and college. In the family, the experience of rejection and its relationship to mental health may continue long into adulthood (Heiden-Rootes, et al., 2018). College acceptance is likely not the unique source of minority stress for these participants. The results do, however, add to the growing body of literature on the importance of acceptance at the community-level in colleges for sexual minority adults (Hughes, 2015; Wolff et al., 2016; Yarhouse et al., 2009). Making apparent the inclusion of sexual minority individuals as valued members of a college community has implications for the mental health of sexual minority college students.

Limitations and future research

This study was based on a large sample of sexual minority adults with a wide range of ages, identities, and experiences. Like many studies examining marginalized groups, this study did not include random sampling, and therefore may be biased and not fully representative of the larger population of sexual minority adults. Causal statements cannot be made due to the use of cross-sectional data collection and regression analysis. A majority of the sample was cisgender (cis-male n = 35.9%; cis-female n = 53.6%) and identified as White (83%), limiting its generalizability. Age of the sample and time since when they were in college required retrospective data collection for some of the participants. Retrospective data collection can lead to misremembering and, as a result, misreporting of the facts. For example, the measure of college conservatism was retrospective and based on a one-item Likert scale. A more comprehensive scale on conservatism based on policies and beliefs of the college may have been a more accurate measure. In addition, gathering these data on the college while attending or soon thereafter may have increased the accuracy of the measure.

Future research should look at racial minorities who also identify as sexual minorities as well, as this sample was composed of a mostly White sample (83.3%). Perhaps those that identify as a racial, gender, and sexual minority experience compounded or intersectional minority stress difficult to capture in research given the additive nature of the empirical methodology used in this study and others (Bowleg, 2008). Future research is also needed to understand the impact that family religiosity has on college choice and its relationship to continued minority stress. The findings of this study indicate a need for research on factors that help decrease minority stress for students in colleges that are more religiously conservative and less accepting of sexual minorities.

Conclusion

Sexual minority adults are at greater risk for serious mental health issues. This study highlights the interaction between college religious conservatism, college acceptance, internalized homophobia, and depression for sexual minority adults who attend college. Depressive symptoms were significantly accounted for by the model tested, with the youngest age group (18–25) reporting the highest levels of depressive symptoms. While depression can have an impact throughout the lifespan, it is important to understand the unique developmental transitions younger individuals may be facing beyond their sexual minority status. The presence of a GSA on college campuses was associated with higher levels of acceptance, which further signifies the importance of having affirming spaces on campus.

Disclosure statement

No potential conflict of interest was reported by the authors.

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