

6-2015

Deconstructing the LGBT-Victimization Association: The Case of Sexual Assault and Alcohol-Related Problems

Shanna Felix

Department of Criminal Justice and Criminology, Georgia Southern University,
shanna_n_felix@georgiasouthern.edu

Justin Hoyle

Department of Criminal Justice and Criminology, Georgia Southern University,
jhoyle12@georgiasouthern.edu

Chad Posick

Department of Criminal Justice and Criminology, Georgia Southern University,
cposick@georgiasouthern.edu

Bryan Lee Miller

Department of Criminal Justice and Criminology, Georgia Southern University,
bryanmiller@georgiasouthern.edu

John Stogner

Department of Criminal Justice and Criminology, University of North Carolina at Charlotte,
johnstogner@uncc.edu
See this and additional works at: <https://digitalcommons.library.tmc.edu/jfs>

Recommended Citation

Felix, Shanna; Hoyle, Justin; Posick, Chad; Miller, Bryan Lee; and Stogner, John (2015) "Deconstructing the LGBT-Victimization Association: The Case of Sexual Assault and Alcohol-Related Problems," *Journal of Family Strengths*: Vol. 15: Iss. 1, Article 3.

DOI: <https://doi.org/10.58464/2168-670X.1264>

Available at: <https://digitalcommons.library.tmc.edu/vol15/iss1/3>

The *Journal of Family Strengths* is brought to you for free and open access by CHILDREN AT RISK at DigitalCommons@The Texas Medical Center. It has a "cc by-nc-nd" Creative Commons license" (Attribution Non-Commercial No Derivatives) For more information, please contact digitalcommons@exch.library.tmc.edu

Introduction

There is a growing research interest in lesbian, gay, bisexual, and/or transgender (LGBT) victimization because members of the LGBT population face a greater risk for violent and sexual victimization than do non-LGBT persons (Stotzer, 2012). This risk and the experience of victimization negatively impact the educational, vocational, and emotional health of LGBT individuals, including those who are in college settings, because they deal with discrimination and increased stress as a result of their sexuality or gender identity (Beckerman & Auerbach, 2014; Meyer, 2014). Specifically, substance use and sexual assault are important issues within the college setting and disproportionately affect LGBT students (Goldbach, Fisher, & Dunlap, 2015; Mereish, O’Cleirigh, & Bradford, 2014). This article aims to investigate the correlates of victimization and its relationship to alcohol-related problems among LGBT students. By exploring the role of LGBT status within this context, we can form a better understanding of a complex relationship and inform intervention efforts.

Definitions and Prevalence

The acronym LGBT refers to people who self-identify as lesbian, gay, bisexual, and/or transgender. LGBT is the most commonly-used term for such individuals, but it is continuously evolving and not necessarily all-encompassing. For example, the acronym GLBTQQCSI (gay, lesbian, bisexual, transgender, queer, questioning, confused, supportive, and intersexed) has been used at activist rallies in order to express the LGBT community’s acceptance of non-normative preferences (Shankle, 2006).

It is worth noting that there is a distinct difference between a person who identifies as lesbian, gay, or bisexual and a person who identifies as transgender. A person who identifies as lesbian, gay, or bisexual is referring to his or her sexual orientation (i.e., the gender to which he or she is attracted), whereas a person who identifies as transgender is referring to a dissonance between his or her own gender and his or her own biological sex. For instance, a transgender man is a person who was born as a biological female but currently identifies as male. By contrast, a person who is “cisgender” is someone whose biological sex and gender are the same, which is the case for the vast majority of Americans, who are born as one sex and identify that as their gender for the rest of their lives (Gates, 2011). A person may simultaneously identify as lesbian, gay, or bisexual *and* transgender. A person may be born as a male and be attracted to women. Later in life, the person may identify as female but still be attracted to women. Thus, the person in this example is a transgender, lesbian woman. Furthermore, a person may be transgender and heterosexual (e.g., a transgender woman who is attracted to *men*). These people are sometimes isolated from the “gay” community but may still identify with the LGBT political movement as a whole.

It is estimated that approximately 3.8% of Americans (some 9 million) self-identify with the LGBT community (Gates, 2011, 2014). Higher rates are found in younger populations, and the LGBT community is also ethnically diverse. The analysis of national polls by Gates (2014) suggests that members of minorities may be slightly more likely to be in the LGBT community. The analysis also shows that female respondents are more likely to identify as LGBT than male respondents, in particular as bisexual. These findings do not imply that non-heterosexuality is more prevalent in

those populations. Instead, perhaps they imply that such communities are more accepting than their counterparts; for instance, young people may be more accepting of gender nonconformity, and women may view sexuality as more fluid than men.

The LGBT population is measured by assessing an individual's self-identification with words like *gay*, *bisexual*, *lesbian*, and *transgender*. There may be a reluctance among survey participants to identify with such labels for many reasons – some LGBT people do not yet identify with the community, and some may not be “out” (i.e., may not actively identify as a member of a gender / sexual minority). Other than directly asking participants about their sexual orientation, another way to measure the LGBT community is to apply survey instruments designed to measure lifetime same-sex attraction or participation, which leads to much higher estimates of the LGBT community (Gates, 2011).

Sexual Orientation and Victimization

Gender and sexual minorities are at a higher risk for all types of victimization, including property victimization (Stotzer, 2012). Members of gender and sexual minorities in general are also at a higher risk for interpersonal victimization than are their heterosexual counterparts (Walters, Chen, & Breiding, 2013). Furthermore, gay and transgender youth are at a higher risk for homelessness (Cochran, Stewart, Ginzler, & Cauce, 2002), which in itself carries an increased exposure to violent and property victimization (Hagan & McCarthy, 1998). Thus, homeless LGBT youth are at an even greater risk for victimization (Cochran et al., 2002).

The 2010 National Intimate Partner and Sexual Violence Survey (NISVS) found a significantly higher lifetime prevalence of sexual violence against LGB men and women, with 40% of gay men, 47% of bisexual men, 46% of lesbian women, and 75% of bisexual women having been sexually victimized at some point in their lifetime, vs. 20% of straight men and 43% of straight women (Walters et al., 2013). Bisexual women were also at a significantly higher risk for rape, with 46% of bisexual women having been raped at some point in their lifetime, vs. 17% of heterosexual women. The NISVS also found higher rates of intimate partner victimization and stalking among lesbian and bisexual women and bisexual men, but somewhat similar rates for gay men and heterosexual men. The survey did not report rates for transgender participants. Finally, Cramer, McNiel, Holley, Shumway, & Boccellari (2012) found that hospital admissions for sexual assault were higher for LGBT individuals than for heterosexual individuals.

Data on the transgender population are more difficult to come by. The term *transgender* can refer to a wide range of people who are gender nonconforming, ranging from those who wish to undergo sex reassignment surgery to those who simply dress or behave in ways that are not traditional for the sex assigned to them at birth. Typically, a person who self-identifies as transgender is someone who is living as a member of the sex opposite the one he or she was assigned at birth. In a survey conducted by the Anti-Violence Project of Massachusetts, 61% of the transgender respondents reported being the victim of a “hate crime,” which was defined as a crime committed against a transgender person *because of* his or her transgender status (Gorton, 2011). An additional study, conducted by Toomy, Ryan, Diaz, Card, & Russell (2010), found that gender nonconformity predicted victimization risk such that students

needed only to perceive another student as gender nonconforming before the nonconforming student was victimized. In a series of independent studies, it appeared that LGBT status is a risk factor for personal victimization.

Victimization and Substance Use / Abuse

One of the most consistent predictors of substance abuse is childhood victimization in general (i.e., not necessarily victimization as a result of gender identity or sexual orientation). Childhood trauma has been strongly linked to the early onset of alcohol use in adolescence (Dube et al., 2006), and childhood sexual victimization involving rape has been found to be significantly and strongly correlated with the onset of substance abuse (Kendler et al., 2000). The severity of the abuse seems to have an effect on age at the onset of substance abuse, with more severe abuse possibly triggering an earlier onset of substance abuse.

Evidence suggests that bullying victimization also increases the risk for substance use (Tharp-Taylor et al., 2009), and this extends to cyber victimization. Mitchell, Ybarra, & Finkelhorn (2007) found that youths who reported online harassment were twice as likely to have engaged in substance use, and those who reported being sexually solicited were even more likely to have engaged in substance use. With evidence showing a significant relationship between victimization in many forms and the onset of substance use, it is of vital importance that we study the exact nature of this relationship.

One study, using data collected in 2008 from public high school students (grades 9–12) in Boston, Massachusetts, revealed that LGBT students who lived in a

neighborhood with more LGBT hate crimes were more likely to use marijuana than were those who did not reside in areas with high rates of hate crimes (Duncan, Hatzenbuehler, & Johnson, 2014). This finding suggests that there may be larger contextual effects of victimization and the prevalence of substance use in LGBT individuals.

Sexual Orientation and Substance Use / Abuse

Research has shown a consistent correlation between being the member of a sexual orientation minority and an increased risk for substance abuse (Garofalo, Wolf, Kessel, Palfrey, & Durant, 1998; Marshal et al., 2008). However, the mechanisms behind this pattern are yet to be fully understood. One possible explanation is simply that because members of gender and sexual minorities are more likely to be victimized, they are (consequently) more likely to use and/or abuse substances. Another possible explanation postulates that the distress of identifying oneself within a socially stigmatizing label leads to an increased risk for substance abuse (Matthews, Hughes, Johnson, Razzano, & Cassidy, 2002). Interestingly, researchers have noted that the usual patterns of desistance with increasing age and fewer female users found in the general population are not found in LGBT samples (Noell & Ochs, 2001).

Although the general consensus is that gender and sexual minorities as a whole are at a greater risk for substance abuse, it is important to note that the evidence is conflicting. For example, McCabe, Hughes, Bostwick, West, and Boyd (2009) found no significant difference between the levels of substance use of males who reported only male sexual partners and those of males who reported only female sexual partners;

however, males who identified as bisexual were at a greater risk than males belonging to either of the other two categories. Hughes and Eliason (2002) found more substance use in the LGBT community, whereas Jordan (2000) argued that drug and alcohol use is elevated in only a subset of the LGBT community. Continuing to define the relationship between sexual orientation and substance abuse is important to determining which explanation is more plausible.

The Present Study

Hypotheses

We propose four major hypotheses: (1) respondents who claim LGBT status will be at increased risk for sexual victimization; (2) LGBT respondents will be at increased risk for alcohol-related problems; (3) sexual assault will be positively related to alcohol-related problems; and (4) the association between LGBT status and alcohol-related problems will be partially accounted for by sexual assault.

Sample

The data for this research are drawn from a paper survey administered to 2352 students in 40 randomly selected classes at a large university in the southeastern United States during the 2011–2012 academic year. Classes were randomly selected from two strata: 15 from high-enrollment classes (more than 100 students) and 25 from moderate-enrollment classes (30–99 students). Stratification by class size ensured that we would sample both upper division classes (typically smaller) and lower division classes (typically larger).

Online, physical education, laboratory, and low-enrollment classes (those with 29 or fewer students) were excluded from the sampling frame for logistical purposes. Any selected class in which the instructor was unwilling to allow participation was replaced by another randomly selected class from the same stratum. A single research assistant administered the surveys in each of the 40 participating classes. Students who were enrolled in multiple selected classes were not permitted to take the survey more than once, and no attempt was made to contact students who were absent on the day that the survey was administered. More than 80% of the students in the selected classes were in attendance and completed the survey.

After three cases had been removed for chronically missing data, the resulting sample of 2349 students was employed. The demographic characteristics of the sample were largely representative of the university population; of the respondents, 48.4% were male, 68.9% white, 24.4% black, and 2.8% Hispanic (4.0% identified themselves as Asian / Indian, Native American, or “other”), whereas the university population during the 2011–2012 academic year was 48.5% male, 65.5% white, 25.0% black, and 3.8% Hispanic. Participants reported a median family income category of \$75,000 to \$99,999 and a mean age of 20.06 years. Of the students in the sample, 15.7% reported participating in Greek organizations, and 30% indicated that they were employed on either a part-time or full-time basis.

Measures

Focal Measures

Sexual Orientation and Identity. Students were asked whether they identified themselves as heterosexual, homosexual, bisexual, or transgender and were instructed

to mark all that applied. Those who marked only heterosexual were coded as 0, and all respondents who selected homosexual, bisexual, and/or transgender were classified as LGBT and coded as 1. Because only 64 individuals (2.8%) classified themselves as LGBT, it was necessary to collapse lesbian females, gay males, bisexual females, bisexual males, and transgender individuals into a single category to prevent deductive disclosure. It should be noted that there are limitations associated with all current methods of measuring the LGBT community. Members of the transgender community may be heterosexual, which distinguishes them from the LGB community, but for the purposes of most criminology research, the subtle differences between these terms have been largely ignored. We chose to include transgender individuals regardless of their sexual orientation in the LGBT category because they face similar marginalization as a gender and sexual minority.

Sexual Assault. Sexual assault was measured with one survey item asking, “In the last year, have you been the victim of any of the following? (check all that apply).” Six different categories were presented to the respondent. Those indicating that they had been victimized were coded as 1, and all others were coded as 0. One category read “Sexual Assault” and if checked was coded as 1. According to this self-report measure, 50 respondents of the sample (2.1%) had experienced sexual victimization in the past year.

Alcohol-Related Problems. We used the 10-item alcohol-related problem scale of Maney, Higham-Gardill, and Mahoney (2002). The Likert-type scale provides six options ranging from “not a problem” (1) to “severe” (6) to assess the degree to which an individual feels that alcohol use has created health, behavioral, relationship, family, and

professional / school problems in the last year. The scale was created by averaging the component items, shows adequate reliability ($\alpha=.822$), and has been used with college populations in past research (Baldwin, Stogner, & Miller, 2014). Nondrinkers all had a score of 1 (corresponding to none of the 10 scenarios being a problem resulting from alcohol use).

Control Variables

It is also useful to control for the effects of variables that reflect leading explanations of antisocial and criminal behavior. This study used Agnew's general strain theory (GST), (1992), Akers' social learning theory (SLT) (1973), and low self-control theory (LSCT; Gottfredson and Hirshi, 1990) as control measures in order to ascertain any intervening effects. GST has been moderately linked to alcohol-related issues in a variety of samples (Swatt, Gibson, & Piquero, 2007; Akins, Smith, & Mosher, 2010; Botchkovar & Hughes, 2010). SLT and LSCT have gained a more robust degree of support (Akers, La Greca, Cochran, & Sellers, 1989; Keane, Maxim, & Teevan, 1993; Jones et al., 2015; DeMartino, Rice, & Saltz, 2015). By including these variables in the models, the study was able to more fully understand the relationship between LGBT status and alcohol-related issues.

Low Self-control. Low self-control is the core concept in Gottfredson and Hirschi's general theory of crime (1990) and was measured with the 24-item scale of Grasmick, Tittle, Bursik, & Arneklev (1993). This scale is frequently used in criminological studies and includes measures focused on impulsivity, risk taking, preference for physical activities, and short-sightedness. The meta-analysis of Pratt and Cullen (2000) shows an impressive amount of empirical support for low self-control in predicting crime and

deviance. They argue that models failing to include this measure risk mis-specification. Low self-control also has been demonstrated to be a key factor in explaining victimization (Schreck, Stewart, & Fisher, 2006). The scale shows good reliability ($\alpha = .889$).

Drug-Using Peers. A single measure of differential association was adapted from Akers, (1973, 2009; Burgess & Akers, 1966) to measure peer drug use. Akers (2009) has argued that differential association refers to differences in peer substance use rather than differences in violence, property offenses, or general peer delinquency. Therefore, we employed a measure specifically tailored to substance use. Four items adapted from Lee, Akers, and Borg (2004) asked the respondents, “How many of your closest friends” use alcohol, binge drink, use marijuana, and use other drugs? Optional answers for each ranged from “none” (1) to “almost all” (4). The scores for these four items were averaged to indicate drug-using peers. This scale showed good reliability ($\alpha = .801$).

Perceived Stress or Strain. Because most college students do not experience major stressors connected to drug use and abuse, such as homelessness, poverty, and abuse, we used a measure more appropriate for this population. The perceived stress scale of Cohen and Williamson (1988) includes 10 items frequently used to quantify stress in university populations. Items ask if recent life events have caused respondents to feel nervous and stressed, led them to feel overwhelmed, or caused them to feel behind in their tasks, with optional answers ranging from “never” (1) to “very often” (5). The scale showed good internal consistency ($\alpha = .754$). Although this measure does not assess stress specific to sexual and gender minorities, it is likely to capture these

stresses and has been employed in research on LGBT populations (Riggle, Rosotsky, & Horne, 2010; Rosotsky, Riggle, Horne, & Miller, 2009).

Excellent Health. In addition to the theoretical controls, we also inquired about the respondents' overall health by asking, "In general, how is your health?" Responses included "excellent," "good," "fair," and "poor." This measure was re-coded into a dummy variable with (1) being excellent and (0) being less than excellent. Physical health has been linked to alcohol use and abuse in several previous studies (Bedard-Gilligan, Cronce, Lehavot, Blayney, & Kaysen, 2014; Grao-Cruces, Nuviala, Fernandez-Martinez, & Martinez-Lopez, 2015; Lisha, Sussman, & Leventhal, 2013).

Demographic and Lifestyle Variables. Certain demographic characteristics and lifestyles were controlled in the study. Age (in years), biological sex (0, male; 1, female), race (0, white; 1, nonwhite), Greek affiliation (0, does not belong to a fraternity or sorority; 1, belongs to a fraternity or sorority), and employment status (0, not employed full-time; 1, employed full-time) were included in all models.

Analytic Strategy

We began by describing our study variables and the zero-order correlations of the study variables with LGBT status. The main analysis used a path model (Figure 1); model 1 used a dichotomous measure of sexual victimization as the dependent variable, and model 2 used a measure of alcohol-related problems as the dependent variable.

Because sexual victimization is a binary variable, we used logistic regression for the first model. In the second model, the alcohol-related problems measure conformed to a Poisson distribution, and therefore we used Poisson regression. All analyses were

conducted on a data set constructed with the use of multiple imputation through chained equations in Stata 13 (StataCorp LP, College Station, Texas). Only 3% of the individuals in our sample were of LGBT status, information on at least one variable was missing in 24% of our sample, and we did not want to lose valuable information because of missing data. Multiple imputation preserved our statistical power and avoided the bias of variable coefficients (Acock, 2005). The estimates provided in the analyses were constructed from the joint estimation of 10 complete data sets. No systematic trends were found within the missing data, increasing confidence in the results. The total sample size was 2315 individuals.

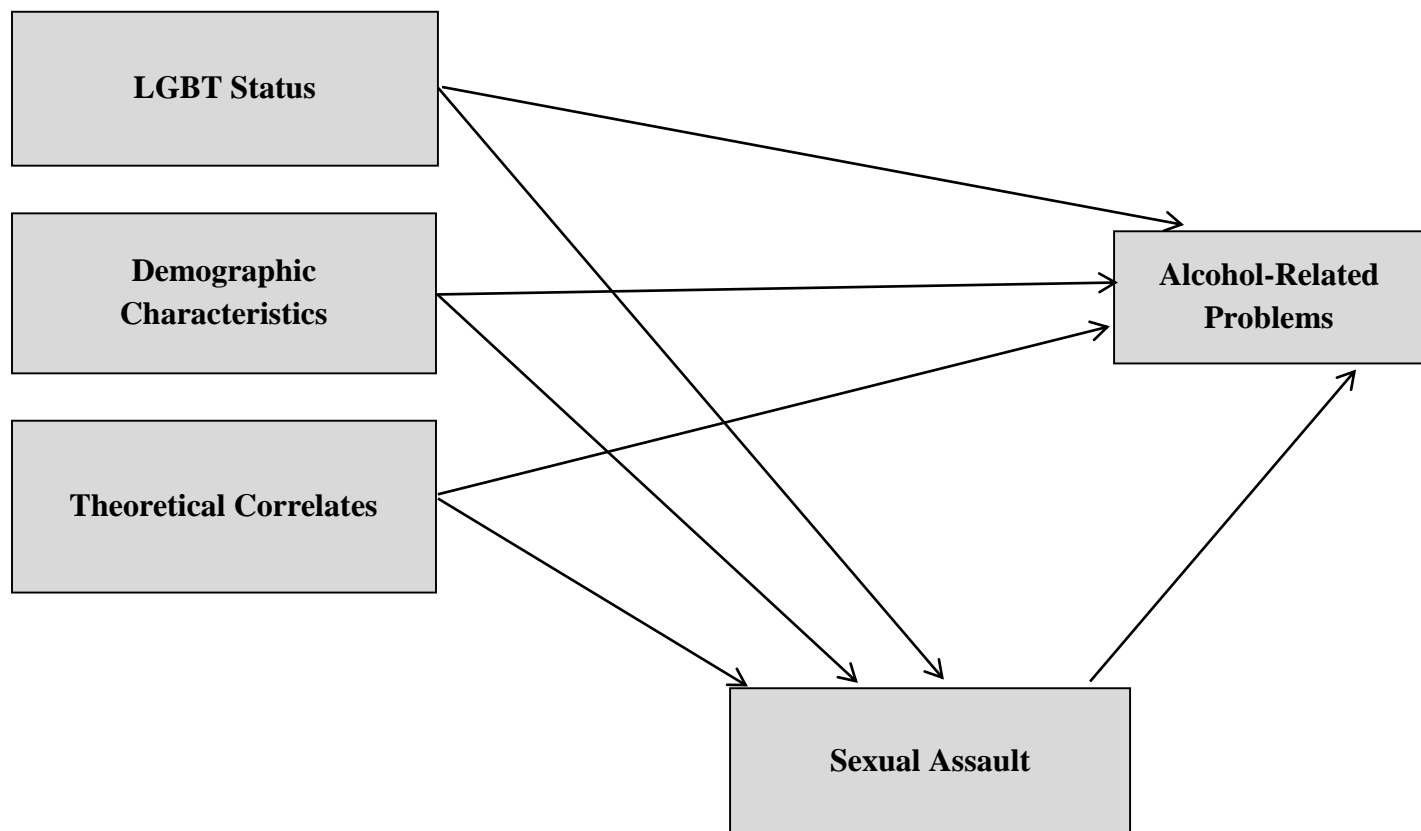


Figure 1. Analytical model for the pathway analysis. Coefficients are listed in Table 3 and have been omitted in the theoretical model above. LGBT, lesbian, gay, bisexual, and/or transgender.

Results

Table 1 presents the descriptive statistics for our analytical sample. Almost equal numbers of males and females were represented in the study (52% male), almost a third were non-white (31%), and the mean age of the respondents was just over 20 years of age. In total, 30% were employed full- or part-time, and over half (57%) said that they were in excellent health. Finally, 2% responded that they had experienced a sexual assault in the past year, and 3% reported belonging to an LGBT category. By comparison, the National Intimate Partner and Sexual Violence Survey estimated that 1.6% of women had been raped in the year before taking the survey. The sample of men was too small to measure for past-year victimization.

Table 1. Descriptive Statistics for the Sample (N=2315)

<i>Continuous variables</i>	Mean	SD	Min – Max
Age	20.06	3.01	16 – 58
Low self-control	2.12	.41	1 – 4
Drug-using peers	2.48	.71	1 – 4
Perceived stress	3.05	.49	1 – 4.6

Alcohol problems	1.42	.58	1 – 5.5
------------------	------	-----	---------

<i>Dichotomous variables</i>	Percentage
Gender	
Male	52%
Female	48%
Race	
White	69%
Non-white	31%
Fraternity / sorority	
No	84%
Yes	16%
Full- or part-time employment	
No	70%
Yes	30%
Excellent health	
No	43%
Yes	57%
Sexual assault	
No	98%
Yes	2%
LGBT status	
No	97%
Yes	3%

SD, standard deviation; Min, minimum; Max, maximum; LGBT, lesbian, gay, bisexual, and/or transgender.

Table 2 presents the bivariate associations between LGBT status and our study variables. Being female, having low self-control, and having experienced a sexual assault were all positively associated with LGBT status. Having excellent self-assessed health was negatively related to LGBT status, indicating that gender minorities reported having a significantly lower level of overall health. It should be noted that although these relationships are statistically significant, their substantial correlations are small. Age, race, belonging to a fraternity / sorority, employment status, having peers who use

drugs, stress, and alcohol-related problems were all unrelated to LGBT status at the bivariate level.

Table 2. Bivariate Correlations Between LGBT Status and Study Variables (N=2315)

Study Variables	Bivariate Associations With LGBT Status
Age	.01
Female	.05*
Non-white	.04
Fraternity / sorority	-.03
Full- or part-time employment	.01
Excellent health	-.06**
Low self-control	.05*
Drug using peers	.00
Perceived stress	.02
Sexual assault	.07**
Alcohol problems	.02

LGBT, lesbian, gay, bisexual, and/or transgender.

** $P < .01$; * $P < .05$.

Table 3 presents our main analysis. Model 1 shows the results from our first step, and model 2 shows the results from the second step. The first step regresses sexual victimization on our study variables. Our focal independent variable, LGBT status, is significantly and substantially related to sexual assault (3.54; $P > .001$; odds ratio=34.47). Additionally, being female, having low self-control, and associating with peers who use drugs substantially increase one's susceptibility to sexual assault. Being in excellent health is associated with a decrease in risk for sexual victimization. Interestingly, analysis of our interaction term between sex (being female) and LGBT status (being a member of a gender minority) indicates that males who report being LGBT are at higher risk than females (heterosexual or LGBT). However, it should be noted that this cell (or

the number of males who reported LGBT status) is very small. Thus, this finding should be interpreted with caution.

Table 3. Path Model of Sexual Assault and Alcohol Problems on LGBT Status and Covariates (N=2315)

	Model 1: Sexual Assault		Model 2: Alcohol Problems	
	Coef	95% CI	Coef	95% CI
LGBT status	3.54***	[1.69; 5.39]	-.02	[-.12; .08]
Age	-.22	[-.44; .00]	.00	[.00; .01]
Female	2.52***	[1.49; 3.56]	.05**	[.02; .08]
Non-white	.00	[-.73; .73]	-.06**	[-.10; -.02]
Fraternity / sorority	-.76	[-1.72; .21]	.07**	[.03; .11]
Full- or part-time employment	.05	[-.68; .78]	.00	[-.03; .04]
Excellent health	-.88*	[-1.61; -.15]	-.07***	[-.10; -.03]
Low self-control	1.13**	[.37; 1.88]	.17***	[.13; .22]
Drug-using peers	.81**	[.27; 1.34]	.19***	[.16; .21]
Perceived stress	.06	[-.70; .82]	.10***	[.06; .14]
LGBT x female	-3.67**	[-5.92; -1.42]	NS	–
Sexual assault	–	–	.13*	[.01; .26]
Intercept	-5.93	[-11.01; -.84]	-.64	[-.84; -.44]

LGBT, lesbian, gay, bisexual, and/or transgender; Coef, coefficient; CI, confidence interval; NS, not significant.

*** $P < .001$; ** $P < .01$; * $P < .05$.

In the second step, presented in model 2, we regress alcohol-related problems on our study variables. LGBT status is no longer significant, but sexual assault is significant and positive (.13; $P < .05$; odd ratio=1.14). Thus, LGBT students are at elevated risk for sexual victimization, and one negative outcome of that victimization is having alcohol-related problems. In line with the first step, females, those low in self-control, and those who associate with peers who use drugs are all at greater risk for having alcohol-related problems. Excellent health is again negatively related to our outcome. Additionally,

being non-white, belonging to a fraternity / sorority, and having high levels of stress are all significantly and positively related to alcohol-related problems. Our interaction term was not significant and thus was removed from the model.

Discussion

Consistent with our first hypothesis and prior research (Walters et al., 2013), those respondents indicating membership in the LGBT community were significantly more likely to be victims of sexual assault. Even with control for demographic characteristics, personality traits, social influences, and levels of stress, LGBT students were more likely to be victimized. The magnitude of this relationship is particularly concerning. LGBT students, specifically male LGBT students, are far more likely than their same-gender counterparts to experience sexual victimization. Similarly, women (all women, both heterosexual and LGBT) are at greater risk than heterosexual men for sexual victimization.

These findings reinforce the need for programs that deter potential offenders by promoting prosocial behavior. They also highlight the need to develop programs that assist gay and bisexual males in avoiding situations where they are at increased risk for victimization; this population may not be receiving the same preventative measures that are provided to women. On a related note, it cannot be assumed that programs to prevent sexual assault will have equal efficacy for LGBT and heterosexual individuals. Given that LGBT students may seek alternate social settings and be alienated from or

experience discrimination by others, it is imperative that efforts to reduce victimization focus on the challenges and environments specific to this population. Similarly, risk mitigation measures successful for LGBT individuals in a large community (with a relatively large network of LGBT individuals) may not have the same efficacy in rural communities. As a result of this study's findings, we recommend that educators, counselors, and public health officials work to remind LGBT students of their enhanced risk and how it is best mitigated. Notably, these individuals and parents should remind LGBT students to remain in the company of trusted others when possible, avoid excessive substance use, and seek assistance at the first sign of threatening behavior.

Our analysis did not give full support to our second hypothesis – that LGBT respondents would have significantly higher levels of alcohol-related problems – because the bivariate association failed to reach significance. This is in concert with some literature that finds no difference between rates of alcohol use and abuse among the larger LGBT community and rates in heterosexuals (Jordan, 2000). The complexity of this relationship is revealed through the path model analysis, which shows that although sexual victimization is positively related to alcohol-related problems (in support of hypothesis 3), it does not serve as a mediator for LGBT status. Thus, hypothesis 4 is not supported. Future research should further explore how LGBT status and sexual victimization are related to alcohol-related problems and other negative health outcomes.

This research exposes the complexity of the relationship between LGBT status and alcohol-related problems. Programs aimed at curbing problematic drinking among this special population need to take into account the pivotal role that sexual victimization

may play and acknowledge these underlying issues within educational, treatment, and support programs. Early detection and intervention, particularly by family and friends, would assist in funneling students to the appropriate resources early on, when prevention is most successful.

Although numerous substance use, abuse, and prevention programs argue that they offer specialized counseling for LGBT individuals, the majority are operationally identical to the services provided to other clients (Cochran, Peavy, & Robohm, 2007). In order to truly improve these programs, the special needs of LGBT individuals must be acknowledged. Much in the same way that minority status may compound the prejudices held against a substance user, discrimination against an individual's sexual orientation can exacerbate the stress associated with recovery and admission of a problem. Given that many recovery processes stress openness and deep personal discussions, LGBT users must feel comfortable divulging their orientation within the confines of the program if success is to be expected. LGBT substance users may also struggle with recovery because of the association between LGBT socialization and the bar scene (Barbara, 2002); thus, a particular emphasis of LGBT programming must be on alternative social opportunities that minimize the importance of alcohol. Overall, efficient programming that does not discriminate against LGBT individuals is only a first step – specialized and tailored programming is preferable and justified, given the victimization risks associated with LGBT substance use.

The present study is not without limitations. The sample was drawn solely from a student population at a major university. Collegiate institutions are typically more accepting of non-normative sexual expression and have a support network for LGBT

students that may serve to assist and intervene when sexual assault is perpetrated against LGBT individuals. This support network may alter the relationship between victimization and negative coping behaviors. On the other hand, university populations have a more permissive attitude toward substance use, which may facilitate substance-related problems. Data have indicated that the LGBT population engages in higher rates of emerging drug use in addition to marijuana use (Agnich et al., 2013; Miller & Stogner, 2014; Stogner & Miller, 2014). Overall, this finding suggests that generalization beyond a collegiate population is not possible with the current data. Oversampling this group of individuals may assist in the generalization of results in future studies. Furthermore, sexual victimization (which is measured with only one item in the current study – future research should include a more comprehensive measure) may have a long-term impact on alcohol use, and only past-year victimization was recorded. Similarly, positive coping mechanisms were not measured in the data set, and indicators of general social support were absent. These factors may influence whether a victimized LGBT individual begins to engage in problematic alcohol use.

References

- Acock, A. C. (2005). Working with missing values. *Journal of Marriage and Family*, 67, 1012–1028.
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 31, 47–87.
- Agnich, L. E., Stogner, J. M., Miller, B. L., & Marcum, C. D. (2013). Purple drank prevalence and characteristics of misusers of codeine cough syrup. *Addictive Behaviors*, 38, 2445–2449.
- Akers, R. L. (1973). *Deviant behavior: A social learning approach*. Belmont, CA: Wadsworth.
- Akers, R. L. (2009). *Social learning and social structure: A general theory of crime and deviance*. New Brunswick, NJ: Transaction Publishers.
- Akers, R. L., La Greca, A. J., Cochran, J., & Sellers, C. (1989). Social learning theory and alcohol behavior among the elderly. *The Sociological Quarterly*, 30(4), 625–638.
- Akins, S., Smith, C. L., & Mosher, C. (2010). Pathways to adult alcohol abuse across racial/ethnic groups: An application of general strain and social learning theories. *Journal of Drug Issues*, 40, 321–351.
- Baldwin, J. M., Stogner, J. M., & Miller, B. L. (2014). It's five o'clock somewhere: An examination of the association between happy hour drinking and negative consequences. *Substance Abuse Treatment, Prevention, and Policy*, 9(1), 17.
- Barbara, A. M. (2002). Substance abuse treatment with lesbian, gay, and bisexual people: A qualitative study of service providers. *Journal of Gay and Lesbian Social Services*, 14, 1–18.
- Beckerman, N. L., & Auerbach, C. (2014). PTSD as aftermath for bullied LGBT adolescents: The case for comprehensive assessment. *Social Work in Mental Health*, 12(3), 195–211.
- Bedard-Gilligan, M., Cronce, J. M., Lehavot, K., Blayney, J. A., & Kaysen, D. (2014). The relationship between assault and physical health complaints in a sample of female drinkers: Roles of avoidant coping and alcohol use. *Journal of Interpersonal Violence*, 29(8), 1359–1379.
- Botchkovar, E. V., & Hughes, L. A. (2010). Strain and alcohol use in Russia: A gendered analysis. *Sociological Perspectives*, 53, 297–319.

Burgess, R. L., & Akers, R. L. (1966). A differential association-reinforcement theory of criminal behavior. *Social Problems*, 14(2), 128–147.

Cochran, B.N., Peavy, K.M., & Robohm, J.S. (2007). Do specialized services exist for LGBT individuals seeking treatment for substance misuse? A study of available treatment programs. *Substance Use & Misuse*, 42(1), 161-176.

Cochran, B. N., Stewart, A. J., Ginzler, J. A., & Cauce, A. M. (2002). Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *American Journal of Public Health*, 92(5), 773–777.

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the US. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology* (pp. 31–67). Newbury Park, CA: Sage.

Cramer, R. J., McNeil, D. E., Holley, S. R., Shumway, M., & Boccellari, A. (2012). Mental health in violent crime victims: Does sexual orientation matter? *Law and Human Behavior*, 36(2), 87–95.

DeMartino, C. H., Rice, R. E., & Saltz, R. (2015). An applied test of the social learning theory of deviance to college alcohol use. *Journal of Health Communication*, 20(4), 479–490.

Dube, S. R., Miller, J. W., Brown, D. W., Giles, W. H., Felitti, V. J., Dong M., & Anda, R. F. (2006). Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence. *Journal of Adolescent Health*, 38(4): e1–e10.

Duncan, D. T., Hatzenbuehler, M. L., & Johnson, R. M. (2014). Neighborhood-level LGBT hate crimes and current illicit drug use among sexual minority youth. *Drug and Alcohol Dependence*, 135, 65–70.

Garofalo, R., Wolf, R. C., Kessel, S., Palfrey, J., & Durant, R. H. (1998). The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics*, 101(5), 895–903.

Gates, G. J. (2011). *How many people are lesbian, gay, bisexual, and transgender?* Retrieved from The Williams Institute:
<http://williamsinstitute.law.ucla.edu/research/census-lgbt-demographics-studies/how-many-people-are-lesbian-gay-bisexual-and-transgender/>

Gates, G. J. (2014). *LGBT demographics: comparisons among population-based surveys*. Retrieved from The Williams Institute:
<http://williamsinstitute.law.ucla.edu/research/census-lgbt-demographics-studies/lgbt-demogs-sep-2014/>

Goldbach, J., Fisher, B. W., & Dunlap, S. (2015). Traumatic experiences and drug use by LGB adolescents: A critical review of minority stress. *Social Work Practice in the Addictions, 15*(1), 90–113.

Gorton, D. (2011). *Anti-transgender hate crimes: The challenge for law enforcement*. Retrieved from The Anti-Violence Project of Massachusetts: http://www.masstpc.org/pubs/3party/AVP-anti_trans_hate_crimes.pdf

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

Grao-Cruces, A., Nuviala, A., Fernandez-Martinez, A., & Martinez-Lopez, E. J. (2015). Relationship of physical activity and sedentarism with tobacco and alcohol consumption, and Mediterranean diet in Spanish teenagers. *Nutrición Hospitalaria, 31*(4), 1693–1700.

Grasmick, H. G., Tittle, C. R., Bursik, R. J., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime and Delinquency, 30*(1), 5–29.

Hagan, J., & McCarthy, B. (1998). *Mean streets: Youth crime and homelessness*. Cambridge, MA: Cambridge University Press.

Hughes, T. L., & Eliason, M. (2002). Substance use and abuse in lesbian, gay, bisexual and transgender populations. *Journal of Primary Prevention, 22*(3), 263–298.

Jones, S., Lynam, D. R., & Piquero, A. R. (2015). Substance use, personality, and inhibitors: Testing Hirschi's predictions about the reconceptualization of self-control. *Crime & Delinquency, 61*(4), 538–558.

Jordan, K. M. (2000). Substance abuse among gay, lesbian, bisexual, transgender, and questioning adolescents. *School Psychology Review, 29*(2), 201–206.

Keane, C., Maxim, P. S., & Teevan, J. J. (1993). Drinking and driving, self-control, and gender: Testing a general theory of crime. *Journal of Research in Crime and Delinquency, 30*(1), 30–46.

Kendler, K. S., Bulik, C. M., Silberg, J., Hettema, J. M., Myers, J., & Prescott, C. A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women: An epidemiological and cotwin control analysis. *Archives of General Psychiatry, 57*, 953–959.

Lee, G., Akers, R. L., & Borg, M. J. (2004). Social learning and structural factors in adolescent substance use. *Western Criminology Review, 5*(1), 17–34.

Lisha, N. E., Sussman, S., & Leventhal, A. M. (2013). Physical activity and alcohol use disorders. *The American Journal of Drug and Alcohol Abuse, 39*(2), 115–120.

- Maney, D. W., Higham-Gardill, D. A., & Mahoney, B. S. (2002). The alcohol-related psychosocial and behavioral risks of a nationally representative sample of adolescents. *Journal of School Health, 72*(4), 157–163.
- Marshal, M. P., Friedman, M. S., Stall, R., King, K. M., Miles, J., Gold, M. A., . . . Morse, J. Q. (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction, 103*, 546–556.
- Matthews, A. K., Hughes, T. L., Johnson, T., Razzano, L. A., & Cassidy, R. (2002). Prediction of depressive distress in a community sample of women: The role of sexual orientation. *American Journal of Public Health, 92*(7), 1131–1139.
- McCabe, S. E., Hughes, T. L., Bostwick, W. B., West, B. T., & Boyd, C. J. (2009). Sexual orientation, substance use behaviors and substance dependence in the United States. *Addiction, 104*(8), 1333–1345.
- Mereish, E. H., O’Cleirigh, C., & Bradford, J. B. (2014). Interrelationships between LGBT-based victimization, suicide, and substance use problems in a diverse sample of sexual and gender minorities. *Psychology, Health, & Medicine, 19*(1), 1–13.
- Meyer, I. H. (2014). Minority stress and positive psychology: Convergences and divergences to understanding LGBT health. *Psychology of Sexual Orientation and Gender Diversity, 1*(4), 348–349.
- Miller, B. L., & Stogner, J. M. (2014). Not so clean fun: An analysis of bath salt users among a college sample in the United States. *Journal of Psychoactive Drugs, 46*, 147–153.
- Mitchell, K. M., Ybarra, M., & Finkelhorn, D. (2007). The relative importance of online victimization in understanding depression, delinquency, and substance use. *Child Maltreatment, 12*(4), 314–324.
- Noell, J.W. & Ochs, L.M. (2001). Relationship of sexual orientation to substance use, suicidal ideation, suicide attempts, and other factors in a population of homeless adolescents. *Journal of Adolescent Health, 29*(1), 31-36.
- Pratt, T. C., & Cullen, F. T. (2000). The empirical status of Gottfredson and Hirschi’s general theory of crime: A meta-analysis. *Criminology, 38*(3), 931–964.
- Riggle, E. D. B, Rosotsky, S. S., & Horne, S. G. (2010). Psychological distress, well-being, and legal recognition in same sex couple relationships. *Journal of Family Psychology, 24*(1), 82–86.

Rosotsky, S. S., Riggle, E. D. B., Horne, S. G., & Miller, A. D. (2009). Marriage amendments and psychological distress in gay, lesbian, and bisexual (LGB) adults. *Journal of Counseling Psychology, 56*(1), 56–66.

Schreck, C. J., Stewart, E. A., & Fisher, B. S. (2006). Self-control, victimization, and their influence on risky lifestyles: A longitudinal analysis using panel data. *Journal of Quantitative Criminology, 22*(4), 319–340.

Shankle, M. D. (2006). *The handbook of lesbian, gay, bisexual, and transgender public health: A practitioner's guide to service*. Binghamton, NY: Haworth Press.

Stogner, J. M., & Miller, B. L. (2014). A spicy kind of high: A profile of synthetic cannabinoid users. *Journal of Substance Use, 19*, 199–205.

Stotzer, R. L. (2012). *Comparison of hate crime rates across protected and unprotected groups: An update*. Retrieved from The Williams Institute: <http://nwnetwork.org/wp-content/uploads/2012/08/2012-TWI-Comparison-of-Hate-Crime-Rates-Among-Protected-Unprotected-Groups2.pdf>

Swatt, M. L., Gibson, C. L., & Piquero, N. L. (2007). Exploring the utility of general strain theory in explaining problematic alcohol consumption by police officers. *Journal of Criminal Justice, 35*, 596–611.

Tharp-Taylor, S., Haviland, A., D'Amico, E. J. (2009). Victimization from mental and physical bullying and substance use in early adolescents. *Addictive Behaviors, 34*, 561–567.

Toomy, R. B., Ryan, C., Diaz, R. M., Card, N. A., & Russell, S. T. (2010). Gender-nonconforming lesbian, gay, bisexual, and transgender youth: School victimization and young psychosocial adjustment. *Developmental Psychology, 46*(6), 1580–1589.

Walters, M. L., Chen, J., & Breiding, M. J. (2013). *The national intimate partner and sexual violence survey (NISVS): 2010 findings on victimization by sexual orientation*. Atlanta, GA; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/ViolencePrevention/pdf/NISVS_SOfindings.pdf

