Exploring Sexual and Behavioral Health Inequities among College Students: A Need for LGB-Specific Risk Reduction

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Abstract

Many studies have examined differences in sexual behavior based upon self-identified sexual orientation, with results often indicating that those with same-sex partners engage in greater risk behaviors than those with opposite sex partners. However, few of those studies consisted of large, national sample studies. To address that gap, the present study examined the relationship between sexual orientation and both behavioral and sexual health outcomes in a national sample of U.S. college students. The Fall 2012 through Spring 2014 American College Health Association National College Health Assessment was used to examine behavioral and sexual health related responses from self-identified heterosexual, gay, lesbian, and bisexual students (*N* = 152,050). Items related to depression, abusive relationships, suicidal ideation, substance use, and engagement in consensual and nonconsensual sexual behaviors were examined. A series of cross tabulations indicated that sexual orientation was significantly associated with antecedents to sexual risk, including diagnoses of depression and engagement in abusive relationships. Self-identified sexual minorities reported significantly greater suicidal ideation and attempts, as well as engage in greater quantities of cigarette, alcohol, and marijuana use. Not only was sexual orientation significantly associated with the number of sexual partners in the previous 12 months, but similarly the occurrence of unprotected sex, sexual behaviors without providing consent, and sexual behaviors without receiving consent. Such findings were consistently found when disaggregating by sexual orientation and gender, and suggest that, as universities continue to foster a culture of diversity and acceptance, the unique experiences and prevention-based needs of sexual minority students must be addressed.

Keywords

Sexual orientation; College students; Sexual behavior; Risk reduction

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ABSTRACT

Many studies have examined differences in sexual behavior based upon self-identified sexual orientation, with results often indicating that those with same-sex partners engage in greater risk behaviors than those with opposite sex partners. However, few of those studies consisted of large, national sample studies. To address that gap, the present study examined the relationship between sexual orientation and both behavioral and sexual health outcomes in a national sample of U.S. college students. The Fall 2012 through Spring 2014 American College Health Association National College Health Assessment was used to examine behavioral and sexual health related responses from self-identified heterosexual, gay, lesbian, and bisexual students (N = 152,050). Items related to depression, abusive relationships, suicidal ideation, substance use, and engagement in consensual and nonconsensual sexual behaviors were examined. A series of cross tabulations indicated that sexual orientation was significantly associated with antecedents to sexual risk, including diagnoses of depression and engagement in abusive relationships. Self-identified sexual minorities reported significantly greater suicidal ideation and attempts, as well as engage in greater quantities of cigarette, alcohol, and marijuana use. Not only was sexual orientation significantly associated with the number of sexual partners in the previous 12 months, but similarly the occurrence of unprotected sex, sexual behaviors without providing consent, and sexual behaviors without receiving consent. Such findings were consistently found when disaggregating by sexual orientation and gender, and suggest that, as universities continue to foster a culture of diversity and acceptance, the unique experiences and prevention-based needs of sexual minority students must be addressed.

Keywords: Sexual orientation; College students; Sexual behavior; Risk reduction

INTRODUCTION

Both the prevalence and severity of college student health issues have risen dramatically over the last twenty years. For the 65% of high school graduates who attend postsecondary education, the stress and anxiety that often accompany the transition to young adulthood may be

further amplified by increased academic expectations, exposure to new personal and social relationships, and enhanced responsibility for personal and professional growth (Hunt & Eisenberg, 2010; U.S. Department of Education, 2014). More than one in 10 students regularly seek some form of on-campus counseling, while an additional 29% are seen by college-based counselors in other settings (Gallagher, 2011). Failure to appropriately cope with and effectively respond to such challenges enhances the likelihood of physical, psychological, behavioral, and academic difficulties (Brougham, Zail, Mendoza, & Miller, 2009).

For many students, the college experience overlaps with critical stages of identity development, including sexual orientation (Pascarella & Terenzini, 2005). Lesbian, gay, and bisexual (LGB) students often face unique and disparate challenges related to their sexual orientation, gender identity, and gender expression, including physical, verbal, and sexual victimization and sexual harassment (Collier, van Beusekom, Bos, & Sandfort, 2013). Such challenges further impact levels of comfort, development, and perceived safety on a college campus (Woodford, Krentzman, & Gattis, 2012). Similarly, stigma and discrimination have been found to impact the physical and mental health status, access to health services, and quality of care received by those identifying as LGB (Centers for Disease Control and Prevention [CDC], 2014).

A growing number of colleges and universities have taken steps to create safer and more inclusive campuses for LGB students (Rankin, 2003). Despite such growth, studies consistently demonstrate that sexual minority students experience more discrimination than their heterosexual peers, and perceive campus climate to be less accepting (Tetreault, Fette, Meidlinger, & Hope, 2013; Reed, Prado, Matsumoto, & Amaro, 2010; Yost & Gilmore, 2011). Minority stress theory posits that chronic stress, marginalization, and interpersonal discrimination may put minority individuals at increased risk for negative physical, behavioral, and psychological outcomes, including substance use (Meyer, 2003). Studies have found that LGB young adults are at increased risk for depressive symptoms, suicidal ideology, and suicide attempts (Jiang, Perry, & Hesser, 2010; Saewyc et al., 2007). Similarly, disparities in rates of substance use exist between LGB young adults and heterosexual youth (Corliss et al., 2010; Marshal, Friedman, Stall, & Thompson, 2009). Sexual minority students are significantly more likely to report any alcohol use, any drug use, problematic drinking, and problematic drug use (Woodford et al., 2012). Community-based samples of young men who have sex with men have found that nearly 25% regularly engage in binge drinking behaviors (Wong, Kipke, & Weiss, 2008). Binge alcohol consumption, as well as the use of other illegal drugs, have further been found to reduce decision-making ability, thus increasing the risk of unsafe sex and transmission of sexually transmitted infections (Sanchez et al., 2013).

As universities embrace a comprehensive approach to student wellness through the integration of physical, behavioral, and mental health services, it is imperative that efforts reflect the diverse needs and makeup of the student community (Grizzell, 2012). Nowhere is this more critical than in working with LGB students who, in addition to having the same basic health needs as their heterosexual classmates, experience health disparities and barriers related to sexual orientation and/or gender identity or expression (Conron, Mimiaga, & Landers, 2010). Establishing nondiscriminatory clinical environments that promote health equity has been shown to predict earlier entry into services, and more effective and quality health outcomes for LGB students (Gay and Lesbian Medical Association, 2014). Efforts toward building a welcoming environment for sexual minority students (e.g., posting LGB-friendly symbols or stickers,

creating intake and/or health history forms with more inclusive choices for answers to questions, and avoiding language that presumes heterosexuality when discussing sexual practices) require a thorough understanding of existing gaps in health risk behaviors and outcomes. Identifying and responding to such discrepancies have been persistent goals of both the Healthy People and Healthy Campus 2020 initiatives (U.S. Department of Health and Human Services, 2016; American College Health Association, 2015). Yes, whereas studies have examined disparities in both predictors of risk and risk behaviors (e.g., levels of depression, alcohol and substance abuse), a paucity of research exists which focuses specifically on the outcome of such behaviors (Coker, Austin, & Schuster, 2010). Utilizing data from the American College Health Association – National College Health Assessment (ACHA-NCHA) II, the present study examined health outcomes among LGB and heterosexual college students, in an effort to identify disparities that may have vital implications for college health policy and practice (American College Health Association, 2014).

METHODS

Study Sample and Data Collection

The ACHA-NCHA II examines a broad range of student health behaviors, indicators, and perceptions, including topics such as alcohol, tobacco, and other drug use, sexual health, weight, nutrition and exercise, mental health, personal safety, and violence. Conducted during the fall and spring semesters, ACHA-NCHA databases only include data from colleges and universities that randomly select students, or survey students in randomly selected classrooms (Buhi, Marhefka, & Hoban, 2010). Appropriate levels of reliability and validity of this instrument have been consistently reported (American College Health Association, 2004; American College Health Association, 2005).

Institutional review board approval to analyze ACHA-NCHA II data was secured from the primary author's university, and data sets from Fall 2012 through Spring 2014 semesters were utilized (American College Health Association, 2014). This data set contained information collected from 205,865 undergraduate and graduate students enrolled part- and full-time, both at two- and four-year institutions across the nation. In an effort to most effectively generalize results to traditionally aged college students, analyses were limited to undergraduate students. To further mediate age-related developmental considerations that often impact behavior, only those respondents between 18 and 24 years of age were included in analyses. Lastly, as married students are not representative of the typical college student, they were similarly excluded from analysis in order to avoid bias from potential differences in behavior. This action is consistent with previous analytical protocol (Buhi et al., 2010).

After applying these criteria, the final sample consisted of 152,050 undergraduates. The average student was 19.9 years of age (SD = 1.64), female (66.3%), and enrolled full-time (97.6%). Nearly 1 in 20 students (4.9%) self-identified as gay, lesbian, or bisexual. Table 1 provides demographic and other characteristics of the sample.

Measures

*Demographics***.** Demographic items included age, gender, academic standing, race, relationship status, living arrangement, and sexual orientation. Response options for the sexual orientation item included heterosexual, gay/lesbian, bisexual, and unsure (American College Health Association, 2011). A respondent's identity as gay or lesbian was ascertained by cross-

referencing the items related to gender identity (male/female) and sexual orientation, allowing for analyses based upon gender and sexual identity (heterosexual, gay, lesbian and bisexual).

*Antecedents to risk***.** Prior research has found consistent relationships between an individual's mental health status and his/her engagement in health-compromising behaviors, including excessive alcohol use, illicit substance abuse, and suicide proneness (Lamis, Malone, Langhinrichsen-Rohling, & Ellis, 2010). Recent diagnosis and treatment for depression was assessed on the ACHA-NCHA II by asking, "Within the last 12 months, have you been diagnosed or treated by a professional for depression?" Response options included "No (indicating they had not been diagnosed or treated by a professional within the last 12 months); Yes, diagnosed but not treated in the last 12 months; Yes, treated with medication in the last 12 months; Yes, treated with psychotherapy in the last 12 months; Yes, treated with medication and psychotherapy in the last 12 months; and Yes, other treatment in the last 12 months." For this study, responses were dichotomized into a yes/no format.

Because psychological and physical intimate partner violence has similarly been found to impact both short and long term health, and increase one's risk for depression and substance use, a measure of partner-based violence was included in the study (Coker et al., 2002). Victimization was measured by asking respondents to respond dichotomously to the following questions, "Within the last 12 months, have you been in an intimate (coupled/partnered) relationship that was emotionally abusive (e.g., called derogatory names, yelled at, ridiculed); physically abusive (e.g., kicked, slapped, punched); and/or sexually abusive (e.g., forced to have sex with you/didn't want it, forced to perform or have an unwanted sexual act performed on you." Individuals responding affirmatively to one or more items were defined a priori as being in violent relationships.

*Risk Behaviors***.** A series of items examined respondents' engagement in cigarette, alcohol, and marijuana use, as well as suicidal ideation and attempts – behaviors often associated with enhanced risk for negative outcomes. Respondents were asked, "Within the last 30 days, on how many days did you use: cigarettes; alcohol (beer, wine, liquor); and marijuana (pot, weed, hashish, hash oil)?" Response options for each of the three behaviors (cigarette, alcohol, and marijuana use) included two indicating no engagement in the prior 30 days ("Never used" and "Have used, but not in the last 30 days"), as well as six options indicating previous engagement in the behavior (1-2 days, 3-5 days, 6-9 days, 10-19 days, 20-29 days, and used daily [in the last 30 days]). For the purpose of this study, responses to each activity were dichotomized into a yes/no format, with any indication of use in the prior 30 days being classified as use, regardless of frequency. Lastly, quantity of alcohol consumption was examined via an item asking, "The last time you partied/socialized, how many drinks of alcohol did you have?" An alcoholic beverage was defined *a priori* as a 12 ounce can or bottle of beer or wine cooler, a 4 ounce glass of wine, or a shot of liquor straight or in a mixed drink.

Recognizing existing links between substance use and suicidal ideation (Walsh, Edelstein, & Vota, 2012), two additional items examined student behavior, and the impact of alcohol on behavioral choices. Respondents were asked, "Within the last 12 months, have you seriously considered suicide when drinking alcohol?" Students were similarly asked, "Have you ever attempted suicide?" Response options for the first item included "Yes"; "No"; and "N/A, don't drink." Responses for the second item included "No, never"; "No, not in the last 12 months"; "Yes, in the last 2 weeks"; "Yes, in the last 30 days"; and "Yes, in the last 12 months."

Non-drinkers were removed from analysis, after which responses were dichotomized (yes/no) for analytical purposes.

Sexual risks. Among college students, alcohol has been consistently associated with risk of unwanted sexual contact or sexual assault (Palmer, McMahon, Rounsaville, & Ball, 2010). To examine such risks, the ACHA-NCHA poses a series of questions. Items include "Within the last 12 months, with how many partners have you had oral sex, vaginal intercourse, or anal intercourse?" Respondents were similarly asked to indicate "yes" or "no" to the following items: "Within the last 12 months, were you sexually touched without your consent?; was sexual penetration attempted (vaginal, anal, oral) without your consent?; and were you sexually penetrated (vaginal, anal, oral) without your consent?" The impact of alcohol on sexual choices is addressed more specifically. Respondents were asked to indicate "yes" or "no" to items asking: "Within the last 12 months, has someone has sex with you without your consent when drinking alcohol?; have you had sex with someone without their consent when drinking alcohol?; and have you had unprotected sex with drinking alcohol?"

Data Analyses

Basic descriptive statistics were calculated using IBM SPSS Statistics 22.0 for Windows (IBM Corp., 2013). To examine disparities in antecedents to risk, risk behaviors, and sexual health between self-identified heterosexual and LGB students, 39 separate cross-tabulations were conducted with Phi, a measure of association based on chi-square (Daniel & Cross, 2013). By utilizing the mean square contingency, phi eliminates the impact of sample size on calculated results. Six independent samples *t*-tests were also conducted, to assess differences in both the mean number of alcoholic beverages consumed and sexual partners between self-identified heterosexual and LGB students, self-identified heterosexual and gay/bisexual males, and self-identified heterosexual and lesbian/bisexual females.

Table 1
Socio-demographic Characteristics of 18-24 Year Old American College Health Association – National College Health Assessment (ACHA-NCHA) Undergraduate Participants, 2012-2014

Characteristic	Participants	
	Frequency (*n*)	% Valid
Gender		
Male	50,965	33.7
Female	100,313	66.3
Ethnicity		
White	113,038	69.1
Black or African American	9,274	5.7
Hispanic or Latino/a	11,731	7.2
Asian or Pacific Islander	17,902	10.9
American Indian, Alaska Native or Native Hawaiian	2,413	1.5
Biracial or Multiracial	5,426	3.3
Other	3,736	2.3
Year in School		
First year undergraduate	47,136	33.0
Second year undergraduate	33,066	23.3
Third year undergraduate	32,026	22.4
Fourth year undergraduate	24,292	17.0
Fifth year or more undergraduate	6,199	4.3
Current Residence		
Campus residence hall	70,659	46.6
Off-campus housing	44,645	29.4
Parent/guardian's home	21,660	14.3
Other university/college housing	9,399	6.2
Fraternity/sorority house	2,410	1.6
Other	2,967	1.9
Sexual Orientation		
Heterosexual	141,091	95.1
Gay/Lesbian	2,905	2.0
Bisexual	4,325	2.9

RESULTS

Antecedents to Risk

Significant differences were noted between experiences of self-identified heterosexual and sexual minority students (Table 2). Collectively, LGB respondents were nearly three times more likely to have been diagnosed or treated for depression during the prior twelve month

period (*OR* = 2.94, $p < .001$). Similarly, lesbian, gay and bisexual students were significantly more likely to be in intimate relationships that were characterized by emotional, physical, and sexual abuse (*OR* = 1.84, 2.43, and 2.17, $p < .001$, respectively). The impact of such abuse may be further evident when examining possible coping mechanisms. Post-hoc independent samples *t*-tests revealed that sexual minority students who engaged in abusive relationships not only drank a significantly greater number of alcoholic beverages, but also had a significantly greater number of sexual partners ($p < .001$ for each). These observed differences continued when disaggregated by gender. When compared to their heterosexual counterparts, gay and bisexual males were almost twice as likely to experience emotional and physical abuse in their relationships (*OR* = 1.81 and 1.72, $p < .001$), and 2.5 times more likely to be victims of intimate partner sexual violence (*OR* = 2.56, $p < .001$) (Table 3). Similarly, lesbian and bisexual females were more than three times more likely to have a diagnosis of depression compared to their heterosexual counterparts (*OR* = 3.10, $p < .001$), and were nearly three times more likely to experience physical abuse (*OR* = 2.92, $p < .001$).

Risk Behaviors

As a group, LGB students were significantly more likely to engage in both legal and illegal substance use, as well as experience both thoughts and behaviors related to suicide (Table 2). Of particular concern was the tobacco use patterns of sexual minorities, which were more than twice that of heterosexual students (*OR* = 2.21, $p < .001$). This disparity may be largely attributable to lesbian and bisexual females, whose use of cigarettes is nearly three times that of heterosexual females (*OR* = 2.82, $p < .001$). Independent samples t-tests further found that LGB students consumed significantly greater quantities of alcohol when socializing (3.66 beverages vs. 3.49 beverages, respectively; $p < .001$), owing considerably to the behavioral patterns of self-identified lesbian and bisexual females (Table 5). Compared to their heterosexual counterparts, self-identified lesbian and bisexual females consumed 13% more alcohol per occasion (*OR* = 1.13, $p < .001$), whereas gay and bisexual males drank significantly less than their heterosexual male classmates ($p < .001$).

While suicidal ideation was 50% greater among sexual minorities (*OR* = 1.50, $p < .001$), the rate of attempted suicide was particularly disparate. Collectively, LGB students were nearly four times more likely to have attempted suicide over the course of their lifetime (*OR* = 3.70, $p < .001$). Self-identified lesbian and bisexual females were again disproportionately impacted, with risks of suicide over four times that of their heterosexual counterparts (*OR* = 4.10, $p < .001$).

Sexual Risks

Similar to findings related to both antecedents to and engagement in health risk behaviors, sexual minority students were at significantly greater risk of engaging in or being victims of sexual acts that may not only be illegal, but also enhance the possibility of either pregnancy or transmission of infection. Results of independent samples t-tests found that, collectively, LGB students reported nearly twice as many sexual partners than heterosexual students over the prior 12 months ($p < .001$), with self-identified gay and bisexual males having the greatest number of partners overall. Despite having fewer sexual partners than gay or bisexual males, self-identified lesbian and bisexual females reported a significantly higher number of sexual partners than heterosexual female students ($p < .001$).

LGB respondents not only reported a greater number of sexual partners, but also greater predilection for risk behaviors with such partners. As a group, LGB respondents were twice as likely to have been sexually touched without providing consent during the prior 12 months (*OR*

= 2.08, $p < .001$), and had a 50% greater risk of engaging in unprotected sex (*OR* = 1.51, $p < .001$). Significant disparities were seen among gay and bisexual males who, compared to their heterosexual cohort, were at a near five-fold greater risk of attempting sexual penetration without receiving consent from their sexual partner (*OR* = 4.75, $p < .001$). Gay and bisexual males were similarly at significantly greater risk of being sexually penetrated without providing consent (*OR* = 4.78, $p < .001$). Lesbian and bisexual females were at 60% greater risk of engaging in sexual behaviors without providing or receiving consent (*OR* = 1.60 and 1.62, $p < .001$, respectively). These rates rise considerably when sexual penetration is taken into account. Self-identified sexual minority females had a two-fold greater risk of being sexually penetrated without providing consent (*OR* = 2.21, $p < .001$), yet were similarly at greater risk of perpetrating such an action without seeking consent (*OR* = 1.92, $p < .001$).

A series of post-hoc analyses further revealed significant differences in the experiences of sexual minority students as a function of racial/ethnic identity. Compared to their Caucasian, Hispanic/Latino, Asian and Pacific Islander, and American Indian counterparts, African American sexual minority students were more likely to be in relationships characterized by emotional, physical, and sexual abuse ($p <.001$ for each). They were similarly more likely to both attempt and be victims of sexual penetration without consent, as well as be victims of nonconsensual sexual touching ($p <.001$ for each).

Table 2

Antecedent, Behavioral, and Sexual Risks of Self-Identified Heterosexual (n = 141,091) and Sexual Minority (n = 7,230) Undergraduate Students

Form of Risk	*N*	% yes among heterosexuals	% yes among sexual minorities	χ^2	Effect Size		
					φ	*OR*	95% CI
Antecedent							
Diagnosed or treated for depression, prior 12 mos.	147,160	7.9	20.2	1,410.08*	0.61	2.94	[2.76, 3.12]
Emotionally abusive relationship, prior 12 mos.	147,792	9.4	16.1	346.21*	0.38	1.84	[1.73, 1.97]
Physically abusive relationship, prior 12 mos.	147,634	2.1	4.9	256.03*	0.43	2.43	[2.12, 2.73]
Sexually abusive relationship, prior 12 mos.	147,076	1.6	3.3	129.99*	0.41	2.17	[1.89, 2.48]
Risk Behavior							
Cigarette use, prior 30 days	147,744	14.6	27.4	1,281.23*	0.52	2.21	[2.09, 2.33]
Alcohol use, prior 30 days	147,204	64.2	71.4	294.66*	0.19	1.39	[1.32, 1.47]
Marijuana use, prior 30 days	147,532	15.3	25.0	875.29*	0.31	1.85	[1.75, 1.95]
Considered suicide, lifetime	147,702	16.5	43.7	3,658.32*	0.22	1.50	[1.41, 1.60]
Attempted suicide, lifetime	147,412	6.2	20.1	2,113.47*	0.62	3.70	[3.23, 4.23]
Sexual Risk							
Sexually touched without consent, prior 12 mos.	147,879	6.7	13.0	418.78*	0.29	2.08	[1.94, 2.24]
Attempted penetration without consent, prior 12 mos.	147,806	2.5	5.2	189.02*	0.51	2.11	[1.89, 2.36]
Sexually penetrated without consent, prior 12 mos.	147,645	1.5	3.5	190.01*	0.44	2.47	[2.16, 2.82]
Had sex without providing consent, prior 12 mos.	110,884	2.1	3.8	291.42*	0.23	1.53	[1.44, 1.62]
Had sex without receiving consent, prior 12 mos.	110,884	0.4	0.8	220.29*	0.31	1.56	[1.46, 1.65]
Had unprotected sex, prior 12 mos.	110,917	16.5	19.0	225.47*	0.26	1.51	[1.42, 1.61]

Note. OR = odds ratio; CI = confidence interval.
*$p < .001$.

Table 3

Antecedent, Behavioral, and Sexual Risks of Self-Identified Heterosexual (n = 46,941) and Sexual Minority (n = 2,811) Undergraduate Male Students

Form of Risk	*N*	% yes among heterosexuals	% yes among sexual minorities	χ^2	Effect Size		
					φ	*OR*	95% CI
Antecedent							
Diagnosed or treated for depression, prior 12 mos	49,298	4.7	12.9	411.14*	0.56	2.99	[2.66, 3.37]
Emotionally abusive relationship, prior 12 mos	49,554	6.6	11.3	92.27*	0.15	1.81	[1.60, 2.05]
Physically abusive relationship, prior 12 mos	49,499	2.1	3.5	26.18*	0.22	1.72	[1.39, 2.12]
Sexually abusive relationship, prior 12 mos	49,297	0.8	1.9	43.49*	0.43	2.56	[1.91, 3.42]
Risk Behavior							
Cigarette use, prior 30 days	49,510	18.4	25.0	135.19*	0.39	1.48	[1.36, 1.62]
Alcohol use, prior 30 days	49,347	64.7	71.4	95.79*	0.15	1.37	[1.25, 1.49]
Marijuana use, prior 30 days	49,456	19.7	22.9	81.91*	0.11	1.21	[1.10, 1.32]
Considered suicide, lifetime	49,520	15.0	34.9	797.49*	0.19	1.47	[1.34, 1.63]
Attempted suicide, lifetime	49,426	5.1	14.2	425.15*	0.46	3.01	[2.39, 3.81]
Sexual Risk							
Sexually touched without consent, prior 12 mos	49,601	3.5	9.9	291.44*	0.54	3.04	[2.66, 3.47]
Attempted penetration without consent, prior 12 mos	49,570	0.7	3.3	208.95*	0.61	4.75	[3.76, 6.00]
Sexually penetrated without consent, prior 12 mos	49,514	0.5	2.5	162.78*	0.53	4.78	[3.68, 6.26]
Had sex without providing consent, prior 12 mos	36,805	1.6	3.2	101.43*	0.22	1.47	[1.34, 1.62]
Had sex without receiving consent, prior 12 mos	36,818	0.6	0.9	71.79*	0.26	1.50	[1.36, 1.65]
Had unprotected sex, prior 12 mos	36,816	18.0	18.6	67.29*	0.19	1.48	[1.34, 1.64]

Note. OR = odds ratio; CI = confidence interval.
*$p < .001$.

Table 4

Antecedent, Behavioral, and Sexual Risks of Self-Identified Heterosexual (n = 93,629) and Sexual Minority (n = 4,318) Undergraduate Female Students

Form of Risk	*N*	% yes among heterosexuals	% yes among sexual minorities	χ^2	Effect Size		
					φ	*OR*	95% CI
Antecedent							
Diagnosed or treated for depression, prior 12 mos	97,247	9.5	24.6	1,076.01*	0.59	3.10	[2.88, 3.33]
Emotionally abusive relationship, prior 12 mos	97,622	10.8	19.1	283.82*	0.41	1.95	[1.80, 2.10]
Physically abusive relationship, prior 12 mos	97,522	2.1	5.8	265.79*	0.46	2.92	[2.55, 3.35]
Sexually abusive relationship, prior 12 mos	97,168	1.9	4.2	107.35*	0.41	2.21	[1.89, 2.59]
Risk Behavior							
Cigarette use, prior 30 days	97,616	12.6	28.9	1,333.85*	0.51	2.82	[2.63, 3.02]
Alcohol use, prior 30 days	97,245	63.9	71.5	280.21*	0.20	1.42	[1.32, 1.52]
Marijuana use, prior 30 days	97,463	13.1	26.4	1,103.73*	0.39	2.39	[2.22, 2.56]
Considered suicide, lifetime	97,566	17.3	48.9	2,953.78*	0.31	1.55	[1.43, 1.68]
Attempted suicide, lifetime	97,374	6.7	23.3	1,691.21*	0.67	4.10	[3.46, 4.86]
Sexual Risk							
Sexually touched without consent, prior 12 mos	97,662	8.3	14.9	232.49*	0.27	1.95	[1.78, 2.12]
Attempted penetration without consent, prior 12 mos	97,621	3.5	6.4	106.24*	0.21	1.92	[1.70, 2.18]
Sexually penetrated without consent, prior 12 mos	97,515	1.9	4.1	104.35*	0.29	2.21	[1.89, 2.59]
Had sex without providing consent, prior 12 mos	73,608	2.3	4.3	204.87*	0.32	1.60	[1.47, 1.73]
Had sex without receiving consent, prior 12 mos	73,594	0.3	0.6	157.18*	0.31	1.62	[1.49, 1.76]
Had unprotected sex, prior 12 mos	73,630	15.8	19.0	169.84*	0.34	1.57	[1.44, 1.70]

Note. OR = odds ratio; CI = confidence interval.
*$p < .001$.

Table 5

Alcohol Consumption and Sexual Partners among Undergraduate Students by Sexual Orientation

	Heterosexual	Gay, Lesbian or Bisexual	t	df	Heterosexual Male	Gay/Bisexual Male	t	df	Heterosexual Female	Lesbian/Bisexual Female	t	df
Number of alcoholic drinks consumed the last time student partied or socialized	3.49	3.66	-4.06*	197,313	4.60	4.07	6.23*	67,385	2.92	3.32	-9.83*	128,932
Number of sexual partners with whom having oral, vaginal, or anal intercourse (prior 12 months)	1.32	2.58	-46.67*	197,313	1.55	3.44	-31.19*	67,385	1.20	1.96	-31.91*	128,932

Note. * = $p \leq .001$

DISCUSSION

Despite a dearth of research examining intimate partner violence among sexual minority youth, the finding that self-identified gay and bisexual males, as well as lesbian and bisexual females were more likely to experience emotional, physical, and sexual abuse is not unfounded. Data from the Massachusetts Youth Risk Behavior Survey indicate that, as a whole, sexual minority youth are significantly more likely than their heterosexual counterparts to experience dating violence, with both prevalence and type of violence ranging considerably (Gillum & DiFulvio, 2012). Freedner, Freed, Yang, & Austin (2002) reported that 45% of gay male youth, 57% of bisexual male youth, 44% of lesbian youth, and 38% of bisexual female youth had experienced dating violence. Physical violence among LGB partners is most commonly reported, with frequencies ranging from 11.8% to 45.1%. Although comparatively less measured, lifetime rates of psychological violence are significant, with prevalence ranging from 5.4% to 73.2%. Reported sexual victimization rates among LGB partners have ranged from 5% to 30.7% (Finneran & Stephenson, 2013).

Higher rates of victimization reported by sexual minority females in the present study, in comparison to their male counterparts, are also supported by prior research. Bimbi, Palmadessa, and Parsons (2008) found that women were 1.5 times more likely to report any form of physical violence, and were more likely than gay or bisexual men to report being pushed or shoved, having something thrown at them, or being kicked. Lesbian and bisexual females were also more likely to report verbal abuse, such as being verbally put down in front of strangers.

The present study found significantly greater rates of depression among LGB students, in comparison to their heterosexual peers. Such findings parallel those of prior research, which has consistently indicated a higher prevalence of emotional distress and depression among sexual minority youth (Saewyc, 2011). Sandfort, de Graaf, Bijl, and Schnabel (2001) found a near three-fold increase in 12-month and lifetime prevalence of major depression and dysthymia among men who have sex with men (MSM), compared to non-MSM. Similarly disparate rates of depression have been found among lesbian and bisexual women (Marshal et al., 2008).

The use of drugs to manage depression and stress may be especially relevant for individuals who are members of a sexual minority, or who may be struggling to establish their sexual identity. The link between depression and other behavioral risks is well established in the literature (Coker et al., 2010; Corliss et al., 2010; Marshal et al., 2008). Disaggregated meta-analyses of adolescent sexual orientation and substance use found greater use patterns among both lesbian and bisexual females (OR = 5.0, $p < .001$) as well as gay and bisexual males (OR = 4.4, $p < .001$), compared to their heterosexual counterparts (Coker et al., 2010). Such patterns extend to both legal and illegal drugs. Garofalo, Wolf, Kessel, Palfrey, and DuRant's (1998) examination of Massachusetts Youth Risk Behavior Survey (YRBS) data indicated greater 30-day tobacco use patterns among those reporting same-sex attractions, mirroring findings from the present study (OR = 2.21, $p < .001$). Similarly, analysis supports Newcomb, Heinz, Birkett, and Mustanski's (2014) assertion that smoking disparities between LGB and heterosexual adolescents is larger among females than males. Self-identified lesbian and bisexual females were nearly three times more likely than heterosexual females to have used cigarettes within a one month period, nearly double the disparity between gay/bisexual and heterosexual males (OR = 1.48, $p < .001$).

The finding that both sexual minority males and females had a significantly higher 30-day prevalence of alcohol consumption (OR = 1.37 and 1.42, $p < .001$ for gay/bisexual males and

lesbian/bisexual females, respectively) is widely supported by the literature. Ample evidence suggests that across adolescence and adulthood, sexual minorities are more likely than heterosexuals to use alcohol (Rosario et al., 2014). Talley, Hughes, Aranda, Birkett, and Marshal (2014) found that sexual minority youths were more likely to report lifetime drinking and earlier drinking onset, as well as past month drinking and heavy episodic drinking. This is especially true for lesbian and bisexual young adults who, after controlling for demographic and college life variables, have consistently maintained elevated odds of binge drinking (Eisenberg & Wechsler, 2003).

Results of recent studies have implicated alcohol as the strongest gateway to substance abuse (Fiellin, Tetrault, Becker, Fiellin, & Hoff, 2013). Given such analysis, the present study's findings that LGB respondents were not only significantly more likely to be regular consumers of alcohol (OR = 1.39, $p < .001$), but also consumed greater quantities of alcohol per occasion (3.66 and 3.49 drinks for LGB respondents and heterosexual respondents, respectively $p < .001$), suggest that sexual minority respondents would similarly indicate more frequent use of marijuana. For both males (OR = 1.21, $p < .001$) and females (OR = 2.39, $p < .001$), self-identified LGB students were significantly more likely to be regular users of marijuana. It is plausible that such findings are due in large part to those male and female respondents who identified as bisexual, as research has consistently found use patterns among bisexuals in excess of twice that of gay and heterosexual college students (Eisenberg & Wechsler, 2003).

Although adolescents are a high-risk group for suicidal ideation and self-harm, there is increasing evidence that lesbian, gay, and bisexual youth are a subgroup especially vulnerable to both (Liu & Mustanski, 2012). The present study found a 50% greater likelihood of lifetime suicidal ideation among LGB respondents, compared to their heterosexual peers. Such results mirror Zhao, Montoro, Igartua, and Thombs' (2010) finding that, compared with heterosexually identified youth without same-sex attraction, 12-month suicidal ideation was significantly higher in sexual minority youth. Likewise, the finding that lesbian and bisexual females were more likely than gay and bisexual males to attempt suicide (23.3% vs. 14.2%, respectively, $p < .001$) mirror Jegannathan and Kullgren's (2011) research, which revealed that, while suicidal plans are reported more often by males, females typically report more attempts. The rate of suicide attempts among lesbian and bisexual girls is estimated to be nearly five times that of heterosexual females (King et al., 2008), similar to that found in the present study.

The evidence regarding sexual health inequities experienced by LGB respondents, while striking, is reflected in the broader research. Sexual minority youth are more likely to report having any sexual intercourse, having first sexual intercourse prior to age 13, and having more than three sexual partners (Coker et al., 2010). Similarly, Herrick, Marshal, Smith, Sucato, and Stall's (2011) meta-analysis indicated that, compared to their heterosexual peers, LGB youth are nearly twice as likely to report sex while intoxicated. Higher rates of most sexual behavior risks and potentially lower rates of condom use or contraception among LGB young adults may similarly explain documented disparities in sexual health outcomes (Saewyc, 2011). Men who have sex with men are more likely to have various sexually transmitted infections, including HIV, gonorrhea, human papillomavirus, hepatitis B, and possibly hepatitis A and C (Wolitski & Fenton, 2011). Such outcomes consonantly extend to lesbian and bisexual females, who report a prevalence of pregnancy twice as high as their heterosexual peers (Coker et al., 2010).

CONCLUSION

Limitations

The findings noted above are not without limitations. Although the National College Health Assessment has been administered at over 100 campuses — reflecting responses from 152,050 participants — the findings may not be fully generalizable to all students. Undergraduate males are underrepresented in the data. Although males comprise 43% of the undergraduate student population nationally, they represented only 33% of respondents in the sample. Similarly, ethnic minorities are underrepresented in the data. Non-white students constitute 40% of the college-attending population, yet represent only 31% of the present sample (U.S. Department of Education, 2014). Sexual minority students, who comprised nearly 5% of the sample, may also be underrepresented, as prior national research has indicated that nearly 13% of college students indicate a sexual orientation that is not heterosexual (McAleavey, Castonguay, & Locke, 2011). Because these analyses were conducted with students' survey data, self-report bias also remains a concern. However, previous formative research indicates that the ACHA-NCHA II is somewhat comparable to other large national health risk behavior surveys, including the National College Health Risk Behavior Survey, the Harvard University School of Public Health College Alcohol Survey, and the United States Department of Justice's National College Women Sexual Victimization Study (American College Health Association, 2004).

Bisexuals of either sex were grouped in aggregate with gay and lesbian students due to sample size concerns, negating the opportunity to empirically evaluate prior findings that bisexuals may engage in greater risk behaviors than their lesbian or gay counterparts (Centers for Disease Control and Prevention, 2011). Numerous studies have shown that bisexual individuals are at heightened risk for mental health problems that experts argue can be attributed to stigma and minority stress. When compared to heterosexual adults, bisexual adults report double the rate of depression and higher rates of binge drinking (Human Rights Campaign, 2016). Such behaviors similarly enhance the likelihood of engaging in risky sexual behaviors. Despite being more likely to have been tested for HIV than heterosexual or lesbian women, bisexual women report higher rates of behaviors that can increase the likelihood of HIV transmission, such as having anal sex and condomless sex with a non-steady partner. As a result of biphobia, bisexual men are less likely to get tested for HIV, resulting in a disproportionate impact within the bisexual male community (Persson & Pfaus, 2015). Bisexual adults are also more likely to engage in self-harming behaviors, attempt suicide or think about suicide than heterosexuals, lesbians or gay men (Human Rights Campaign, 2016). A larger and fully representative sample would provide opportunities to more fully examine and compare these health behaviors of self-identified bisexual students.

Implications for Practice

As institutions of higher learning embrace a culture of diversity, it is imperative that such efforts reflect the broad makeup of the student body, inclusive of gender, race/ethnicity, and religion. In attempting to normalize diversity, it is similarly essential that such endeavors span the entirety of the college experience, including both curricular and co-curricular programming. Nowhere is this more important than in working with sexual minority students, many of whom have uncertain sexual identities when they begin college (McAleavey et al., 2011).

Although measures of institutional change, such as the creation of LGB resource centers or the recognition of LGB student groups are important, there remains a need beyond individual

programs or enforced tolerance of LGB people. Curricular and co-curricular efforts to create transformational change, establish norms of respect and promote acceptance have taken many forms, including implementation of cross-cultural teaching and learning, organizational recognition through student government, and acceptance by campus religious organizations (Holland, Matthews, & Schott, 2013). Approaches that are inclusive of and receptive to LGB students have been shown to reduce emotional and behavioral risks, such as depression and substance abuse, associated with minority stress (Coker et al., 2010). Students engaged in curricula which include positive discussions of LGB people, history, and events report hearing fewer homophobic remarks, and a greater sense of safety (Center for American Progress, 2013). Similarly, Youth Risk Behavior Surveillance System data found that LGB youth at schools with LGB-sensitive HIV instruction were less likely to have had sex within the previous three months, reported fewer sexual partners, and were less likely to have used alcohol or drugs prior to their last sexual intercourse, compared to LGB youth at schools with HIV instruction reported as having minimal or no sensitivity to LGB issues (Coker et al., 2010).

College counselors would be professionally wise, and perhaps ethically obligated, to seek training and experience in working with members of sexual minority groups. A considerable body of literature is developing on counseling and psychotherapy with individuals who are sexual minorities. Given that somewhere between 8% and 19% of counseling center clients identify as a sexual minority, competence with this portion of clients is essential (McAleavey, Castonguay, & Locke, 2011). Prior research has indicated that, while counselors have both knowledge about and affirmative beliefs toward sexual minority clients, self-reported competence in service delivery are substantially lower, resulting in compromised levels of comfort in discussing matters of sexual identity, behavior, attractions, and other potential conflicts experienced by LGB students (Green, Murphy, Blumer, & Palmanteer, 2009). Sexual minorities report dissatisfaction with counseling and other mental health services at rates greater than twice those of heterosexuals (Mondragon, 2012). The provision of optimal care to sexual minority students requires welcoming clinical and program environments that promote affirmative communication and allow individuals to feel confident when addressing sensitive and personal issues. Mental health professionals, healthcare providers, and staff should have adequate training to speak with patients and clients in a non-judgmental, gender-appropriate, and professional way. These techniques should be taught during professional education and staff trainings, and should be reinforced with nondiscrimination policies in clinical and program settings, intake forms that ask about gender identities and same-sex partners, and visual cues in waiting and examination rooms that signal acceptance, such as brochures that discuss LGB health risks and promotion (Coker et al., 2010; National Research Council and Institutes of Medicine, 2009).

Strengthening collaborative relationships between academic affairs, university health centers, and mental health professionals may similarly reinforce the value of an inclusive campus environment. Greater mental health issues and psychological stressors experienced by sexual minority students, particularly bisexuals, have been shown to significantly impact academic performance. In the face of anxiety, depression, discrimination, stress, and difficulties with roommates and/or significant others, LGB students exhibited significantly lower exam and project grades, as well as greater disruptions in thesis and dissertation research and writing, compared to their heterosexual counterparts (Oswalt & Wyatt, 2011). The intersection of sexual

orientation, mental health, and academics may most effectively impact student success through positive and reciprocal exchanges between academic and student affairs.

As universities continue to foster a culture of diversity and acceptance, both academics and researchers would be wise to further examine the unique needs and experiences of sexual minority students. Both theoretical and empirical research into the different experiences of bisexual and homosexual individuals have suggested that bisexual individuals experience discrimination both from heterosexual and homosexual groups, and have different health profiles (McAleavey et al., 2011). Thus, there is good reason to investigate potential differences between homosexual and bisexual students' experiences of psychological distress and risk behaviors. Similarly, as other sexual minority groups such as transgender, questioning, and asexual become more accepted, understanding the variability of each of these groups is warranted, in an effort to minimize their experiences of discrimination and limited health care (Bradford, Reisner, Honnold, & Xavier, 2013; Stroumsa, 2014). Such examination may not only impact those health disparities addressed in Healthy People 2020, but also significantly impact programming efforts focused on Health Campus 2020 topic areas and objectives.

The present findings clearly suggest the critical need for effective strategies to counteract not only risky individual behaviors, but also higher-level structural factors which continue to place students at risk. Despite efforts to ensure efficient progress toward commencement, unsafe environment for LGBT students. The most comprehensive national report of its kind, results of Campus Pride's "State of Higher Education for LGBT People" indicated that nearly one in four (23%) respondents experienced harassment based upon sexual identity, whereas 39% reported gender identity/expression-based harassment (Rankin et al., 2010). Findings from the National School Climate Survey indicate that three-quarters of LGBT students reported feeling unsafe in school because of at least one personal characteristic, with sexual orientation and gender expression being the characteristics most commonly reported. Almost 90% of LGBT students reported being verbally harassed in school because of their sexual orientation, and two-thirds had been harassed because of how they expressed their gender (Kosciw, Diaz, & Greytak, 2008).

Higher reported rates of victimization suggest that LGBT individuals who are also racial/ethnic minorities are a multiply marginalized population subject to microaggressions associated with both racism and heterosexism (Balsam et al., 2011). Research reveals a significant overlap in racial and sexual orientation-based harassment, with nearly one-third of students bullied being subject to both types of harassment. Compounded bullying and harassment based on race and actual or perceived sexual orientation enhances levels of risk on a wide array of academic, health, and safety measures. LGBT youth of color face persistent and frequent harassment and bias-based bullying from peers and school staff, as well as increased surveillance and policing, relatively greater incidents of harsh school discipline, and consistent blame for their own victimization (Burdge, Licona, & Hyemingway, 2014). LGBT students of color who experience high severities of multiple forms of harassment have increased absenteeism, due to safety concerns (Diaz & Kosciw, 2009). They are also more likely to report being threatened or injured with a weapon; being hurt by a boyfriend/girlfriend; lower grades; depression, and seriously considering and/or making a plan for suicide (Burdge, Licona, & Hyemengway, 2014). It is imperative that higher education be examined not in isolation, but as a contributor to a larger network that includes family, peers, neighborhoods, and communities. These elements, individually and in combination, influence behavior and decision making. A more holistic approach, recognizing the interaction and integration of complex structural and

societal factors would serve to more effectively impact health-related decisions of LGBT students.

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