

## Research Article

# Sexual Violence Related to Alcohol Consumption among Gay/Lesbian and Bisexual College Students

Hosik Min\*

*Department of Sociology, University of South Alabama, USA*

## \*Corresponding author

Hosik Min, Department of Sociology, University of South Alabama, 5991 USA Drive North, Mobile, Alabama, USA, Tel: 1-251-460-7677; Fax: 1-251-460-7925; Email: hmin@southalabama.edu

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## Abstract

Sexual violence is one of the important public health issues, because it significantly affects the wellbeing of an individual physically, psychologically, and socially. This study hypothesizes the higher level of sexual violence to the homosexuals and bisexuals compared to the heterosexual students. Using the National College Health Assessment data, this study examines the relationship between sexual violence experience related to alcohol consumption and sexual orientation of college students. Sexual violence related to alcohol consumption, the dependent variable, was measured in two ways: whether someone had sex with me without my consent and whether a respondent had sex with someone without his or her consent within last 12 months. The logistic regression model found homosexuals compared to heterosexuals were more likely to be victims, while bisexuals compared to heterosexuals were more likely to be predators as well as victims. These results should be considered to make better prevention programs and policies.

## ABBREVIATIONS

ACHA-NCHA II: American College Health Association - National College Health Assessment II

## INTRODUCTION

Sexual violence is one of the important public health issues, as it significantly affects the wellbeing of an individual physically, psychologically, and socially [1-3]. One of the main studies on sexual violence is among college students, as the fact that college students compared to adults have more frequently have parties and engage in alcohol consumption [4-5]; substance use; and physical, emotional, and sexual violence. These behaviors are also common among homosexual and bisexual college students [6-11].

Factors associated to sexual violence and drinking are age, gender, race/ethnicity, school enrollment size, school location (urban-rural), varsity sport, fraternity/sorority participation, and housing type (on- and off-campus) [2,6-9,12]. For instance, when a person ages, s/he is less likely to experience sexual violence. Varsity sport and fraternity/sorority participation also greatly increased the risk of sexual violence. Universities with higher enrollment, urban campuses, and on-campus housing are other factors that make sexual violence more likely.

Studies on substance use have indicated the strong association between violence and drinking [5-7,13-14], and some of them

also have found that the prevalence of sexual violence increases significantly with alcohol consumption [15-19]. Due to the fact that sexual violence is often about power and control of men over women, most studies have focused on heterosexuals [4,20-22]. However, several studies have reported that homo- and/or bisexual individuals also experience sexual violence at similar or higher levels [12,18,23-28]. For instance, physical, emotional, and psychological violence levels against same-sex individuals are higher than levels associated with heterosexual individuals [6-11]. Sexual violence and substance use rates are also higher among homo- and bi-sexual individuals than heterosexuals [8,12,29].

Studies have indicated that college students have ample opportunities to drink at parties and thus experience higher level of sexual violence. Other studies also have examined increasing levels of violence among homo- and bi-sexual individuals. However, most of these studies focus on adolescents or adults. There is still no clear understanding of sexual violence rates among the homo- and bi-sexual college students. Thus, the purpose of this study is to examine the factors associated with sexual violence among the homo- and bi-sexual college students, comparing those rates to those associated with heterosexuality.

## MATERIALS AND METHODS

This study uses data from the American College Health Association National College Health Assessment II (ACHA-NCHA

II) survey conducted by ACHA. The ACHA-NCHA-II presents the largest known comprehensive data set on the health of college students, providing a vast spectrum of information on student health. The ACHA-NCHA-II, when compared to ACHA-NCHA, was modified and added a number of questions such as updated lists of illegal drugs, contraceptive methods, and vaccines. ACHA, the nation's principal advocate and leadership organization for college and university health, represents a diverse membership that provides and supports the delivery of health care, prevention and wellness services for the nation's 20 million college students [30]. This survey collected information from both online and mail submissions, but the majority of respondents submitted their responses online. Although this survey does not fully represent the US student population, it has proved its generalizability, reliability, and validity through comparison with other nationally representative surveys such as the National College Health Risk Behavior, the Harvard School of Public Health College Alcohol Study, and the National College Women Sexual Victimization Study. Academics, policymakers and health practitioners have increasingly used the data from the survey [31].

This study used the data from year 2011 to 2014 to obtain enough samples of homosexual and bisexual students for the analysis. The dependent variable is the existence of sexual violence related to alcohol consumption has two measurements: whether someone has sex with me without my consent (this can be interpreted as victims), and whether a respondent has sex with someone without his or her consent within last 12 months (this can be interpreted as predators). These two indicators are measured through dummy variables (yes=1, no=0). The logistic regression model is utilized to address a binary outcome, and statistical software was STATA 14.1 [32-33]. The independent variables are age, gender, race/ethnicity, housing type, fraternity/sorority participation, varsity sport, campus location, enrollment size, and sexual orientation. All of these independent variables are known contributing factors. Special attention was given to sexual orientation variables. Sexuality was self-reported: heterosexual, gay/lesbian, bisexual, and unsure. This study hypothesized higher odds ratios of sexual violence among homo- and bi-sexual college students when compared to heterosexual students based on Duncan's work [12].

## RESULTS AND DISCUSSION

Table (1) presents the percent of sexual violence cases related to alcohol consumption by sexuality. From this table, we observe that 1.2% of heterosexuals, 1.7% of homosexuals, 3.2% of bisexuals, and 2.9% of unsure said that they had sex without respondents' consent. At the same time, 0.3% of heterosexuals, 0.5% of homosexuals and bisexuals, and 1.2% of unsure said that they had sex without his or her consent. As expected, the percent of predators is much lower than that of victims. When this study analyzed gender by sexuality orientation, more than two

thirds of homosexual students were females (66.8%), 40.5% of homosexuals and 76.4% of bisexuals were females, respectively.

Table (2) shows the descriptive statistics. Average age is 22 years old, and two thirds of the individuals surveyed are female. Nine out of ten respondents are heterosexuals, while 2.8% of them are gay/lesbians, and 4.2% of them are bisexual. Race/ethnicity reflects the population composition of college students that is not the same as that of the general adult population in the U.S.: relatively higher percentages of Hispanics and Asians are enrolled in college when compared to African Americans. About 45.0% of respondents are living on campus, 11.4% of them participate in fraternity/sorority, and 7.8% of them engage in a varsity sport. On average, colleges are located in communities with a population size of 50,000-249,999, and student body enrollment is between 5,000-9,999.

Table (3) shows the results of the logistic regression models for sexual violence: both models fit well. To better understand the logit coefficients, this paper converted the coefficients to the odds ratios in percentage terms [32-34]. For instance, additional age decreases the risk of non-consensual sex within last 12 months by 5% in the first column in Table 3. The most important variable is sexual orientation. Homosexuals and bisexuals, when compared to heterosexuals, are more likely to be victims: When compared to heterosexuality, a gay or lesbian orientation led greater risk of someone has sex with me without my consent by 80%. When compared to heterosexuality, bisexuality increased the risk of someone has sex with me without my consent by 164%. Interestingly, when compared to heterosexuality, bisexuality orientation is more likely to be predators: they increase the risk of I has sex with someone without his or her consent by 80%. Other independent variables are significant in expected ways: females, minorities, housing types, fraternity/sorority, varsity membership, campus size and setting are positively related to victimhood. However, only housing, fraternity/sorority, varsity membership, campus size and setting are positively related to predators. Females are negatively related to predators, which supports existing literature [4,20-22].

## CONCLUSION

This study focuses on an important topic that has not been thoroughly analyzed. It provides evidence that homosexuals and bisexuals are experience more sexual violence related to alcohol consumption than do heterosexual college students. More importantly, homosexuals are more likely to be victims than bisexuals, who are more likely to be predators as well as victims. Sexual violence is not only one of the important public health issues, but also affects the victims physically, psychologically, and socially [1-3]. Homosexuals and bisexuals have known to experience lower levels of health access due to stigma surrounding sexual violence. Victims suffer from depression, anxiety, and other psychological problems. Given the stigma

**Table 1:** Percent of the Sexual Violence Incidence After Drinking (N=107,085).

Variable	Heterosexual		Gay/lesbian		Bisexual		Unsure		Total
	#	%	#	%	#	%	#	%	#
	(N=97,158)		(N=3,014)		(N=4,496)		(N=2,417)		(N=107,085)
<b>Had sex with me without my consent</b>	1,179	1.21	52	1.73	143	3.18	70	2.90	1,444
<b>Had sex with them without their consent</b>	303	0.31	14	0.46	23	0.51	30	0.35	370

**Table 2:** Descriptive Statistics (N=107,085).

Variable	%	Mean	Std. Dev.	Min	Max
Age*	22.2	22.20	6.03	18	98
Female	66.5	0.67	0.47	0	1
<b>Sexual Orientation</b>					
Heterosexual (reference)	90.7	0.91	0.29	0	1
Gay/Lesbian	2.8	0.03	0.17	0	1
Bisexual	4.2	0.04	0.20	0	1
Unsure	2.2	0.02	0.15	0	1
<b>Race/Ethnicity</b>					
White (reference)	73.7	0.74	0.44	0	1
Black	5.5	0.05	0.23	0	1
Hispanics	7.6	0.08	0.26	0	1
Asian	9.8	0.10	0.30	0	1
Other	3.5	0.03	0.18	0	1
<b>Housing Type</b>					
Off Campus	36.7	0.37	0.48	0	1
On Campus	45.0	0.45	0.50	0	1
Home (reference)	13.3	0.13	0.34	0	1
Other Housing	4.9	0.05	0.22	0	1
Fraternity/sorority	11.4	0.11	0.32	0	1
Varsity Sport	7.8	0.08	0.27	0	1
Campus Town Size+	4.3	4.32	1.30	1	6
Enrollment Size#	3.6	3.60	1.24	1	5

\*: Average; +: Town size 50,000-249,999; #: Enrollment size 5,000-9,999

**Table 3:** The Results of Logit Regression (N=107,085).

Variable	Had Sex With Me Without My Consent			Had Sex With Them Without Their Consent		
	Coef.	OR		Coef.	OR	
Age	-0.05	0.95	*	-0.01	0.99	
Female	0.58	1.79	*	-0.44	0.64	*
<b>Sexual Orientation</b>						
Gay/Lesbian	0.59	1.80	*	0.34	1.41	
Bisexual	0.97	2.64	*	0.59	1.80	**
Unsure	0.94	2.55	*	1.49	4.42	*
<b>Race/Ethnicity</b>						
Black	-0.55	0.57	*	0.09	1.09	
Hispanics	0.03	1.03		0.21	1.24	
Asian	-0.66	0.52	*	-0.26	0.77	
Other	0.05	1.05		0.10	1.10	
<b>Housing Type</b>						
Off Campus	0.61	1.85	*	0.32	1.37	
On Campus	0.57	1.76	*	0.08	1.08	
Other Housing	0.46	1.59	***	0.61	1.83	***
Fraternity/sorority	0.63	1.88	*	0.90	2.46	*
Varsity	0.27	1.31	***	0.47	1.60	**
Campus Town Size	0.02	1.02		-0.11	0.90	***
Enrollment Size	-0.04	0.96		-0.04	0.96	
Constant	-4.22	0.01	*	-5.07	0.01	*
X <sup>2</sup>	521.21	*		127.49	*	
Pseudo R <sup>2</sup>	0.0342			0.0259		

Note: \* <.001; \*\* <.01; \*\*\* <.05

and the lack of the healthcare access available to homosexuals and bisexuals [35-38], this study suggests that more research is needed on sexual violence related to alcohol consumption levels by homosexuals and bisexuals. It is necessary to use such studies to develop programs and policies related to sexual violence and to provide these individuals with institutional support. At the

same time, however, caution must be taken when interpreting the results of this study. First, this survey does not represent all homosexual and bisexual college students, although comparison with other national surveys proved its generalizability, reliability, and validity. Second, as the survey relies on self-reporting and the majority of respondents replied online, data on sexuality and

sexual violence related to alcohol consumption may be inaccurate. Even though the survey was completely anonymous, respondents tend not to report undesirable and/or uncomfortable details [2].

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