

Georgia State University

ScholarWorks @ Georgia State University

Public Health Theses

School of Public Health

5-4-2021

Sexual Behavior after Sexual Assault: Differences Based on Racial Identity, Ethnicity, and Sexual Orientation

Idara Umo
Georgia State University

Follow this and additional works at: https://scholarworks.gsu.edu/iph_theses

Recommended Citation

Umo, Idara, "Sexual Behavior after Sexual Assault: Differences Based on Racial Identity, Ethnicity, and Sexual Orientation." Thesis, Georgia State University, 2021.
doi: <https://doi.org/10.57709/22710009>

This Thesis is brought to you for free and open access by the School of Public Health at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Public Health Theses by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

SEXUAL BEHAVIOR AFTER SEXUAL ASSAULT: DIFFERENCES BASED ON RACIAL
IDENTITY, ETHNICITY, AND SEXUAL ORIENTATION

By

IDARA UMO

ABSTRACT

Sexual assault victimization occurs at high rates among the college population in the United States. Forms of sexual assault can include rape, unwanted touching, or forcing a victim to perform sexual acts. Sexual assault victimization disproportionately impacts sexual and racial/ethnic minority individuals. This study examined potential differences in the association between sexual assault and risky sexual behavior (i.e., alcohol use prior to sex and condom use) based on minority status (i.e., race/ethnicity and sexual orientation). Secondary data were collected from a study conducted at a university in the Southwestern region of the United States. A total of 399 college-aged participants were included in the study. Hierarchical linear regressions were performed separately for alcohol use prior to sex and condom use. Results revealed a significant association between sexual assault victimization and risky sexual behavior. The interaction between sexual assault victimization and minority status on alcohol use prior to sex was significant. This finding indicated that the association between sexual victimization and alcohol use prior to sex was positive and significant among sexual and racial/ethnic minorities. The association between sexual victimization and alcohol use prior to sex was non-significant among White, non-Latinx, cisgender, heterosexual participants. These findings contribute to the literature available addressing sexual assault victimization among minority populations. Future sexual assault prevention programming should be sure to discuss treatment for victims with the inclusion of minority populations.

INDEX WORDS: Sexual assault, sexual risk behavior, sexual minorities, racial minorities, condom use, alcohol use

SEXUAL BEHAVIOR AFTER SEXUAL ASSAULT: DIFFERENCES BASED ON RACIAL
IDENTITY, ETHNICITY, AND SEXUAL ORIENTATION

By

IDARA UMO

B.S., TOWSON UNIVERSITY

A Thesis Submitted to the Graduate Faculty of
Georgia State University in Partial Fulfillment
of the
Requirements for the Degree
MASTER OF PUBLIC HEALTH

Atlanta, Georgia
30303

APPROVAL PAGE

SEXUAL BEHAVIOR AFTER SEXUAL ASSAULT: DIFFERENCES BASED ON RACIAL
IDENTITY, ETHNICITY, AND SEXUAL ORIENTATION

By
IDARA UMO

Electronically Approved:

Committee Chair: Dr. Amanda K. Gilmore, PhD

Committee: Dr. Ruschelle M. Leone, PhD

Dr. Shannon Self-Brown, PhD

April 2021

ACKNOWLEDGMENTS

The completion of my academic achievements at Georgia State University could not have been possible without the support and assistance of many people whose names may not all be enumerated. All their contributions are genuinely appreciated and acknowledged. The people I would like to express my deep appreciation and gratitude are the following:

My family, who supported me throughout each stage and decision in my life. Without them, I would not be where I am today. Thank you for calling me every day and checking in; thank you for staying up late and waking up early to help me through this whole process. Thank you for just being there, whether it was physically, spiritually, and emotionally.

The Alcohol and Sexual Assault Prevention (ASAP) Lab, especially Dr. Amanda Gilmore and Dr. Ruschelle Leone, for their never-ending support, assistance, patience, and understanding. Thank you for all the feedback and guidance you provided to help me achieve.

Thank you all for everything.

Data collection was supported by a grant from the National Institute on Alcohol Abuse and Alcoholism (R34AA025691; PI: Gilmore)

Author's Statement Page

In presenting this thesis as a partial fulfillment of the requirements for an advanced degree from Georgia State University, I agree that the Library of the University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote from, to copy from, or to publish this thesis may be granted by the author or, in his/her absence, by the professor under whose direction it was written, or in his/her absence, by the Associate Dean, School of Public Health. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without written permission of the author.

A handwritten signature in black ink, reading "Idara Umo", is written above a horizontal line.

Idara Umo

TABLE OF CONTENTS

SEXUAL BEHAVIOR AFTER SEXUAL ASSAULT: DIFFERENCES BASED ON RACIAL IDENTITY, ETHNICITY, AND SEXUAL ORIENTATION	1
APPROVAL PAGE.....	3
ACKNOWLEDGMENTS	4
Author’s Statement Page	5
TABLE OF CONTENTS.....	6
LIST OF FIGURES	8
Introduction.....	9
<i>Background</i>	9
<i>Significance and Purpose of Study</i>	11
<i>Research Questions</i>	11
Literature Review	11
<i>Rates of Sexual Assault among College Students</i>	11
<i>Sexual Assault Victimization and Risky Sexual Behaviors</i>	14
<i>Alcohol Use Before Sex</i>	15
<i>Sexual Assault and Alcohol Use</i>	16
<i>Sexual Assault and Minority Identity</i>	18
Hypothesized Model	20
Hypotheses.....	20
Methods	21
<i>Participants</i>	21
<i>Measures</i>	22
<i>Data Analytic Plan</i>	24
Results.....	25
<i>Association between Sexual Assault Victimization and Alcohol Use Prior to Sex</i>	25
<i>Association between Sexual Assault Victimization and Condom Use Prior to Sex</i>	26
Discussion.....	26
<i>Limitations</i>	28
<i>Conclusion</i>	30
REFERENCES	32
TABLES	41
FIGURES.....	45

LIST OF TABLES

Table 1. Descriptive statistics for Demographic Variables, Drinking Related Variable

Table 2. Correlations between Alcohol Use, Alcohol Use Prior to Sex, and Condom Use by Minorities and Non-minorities

Table 3. Hierarchical Linear Regression Models Examining the Moderating Effect of Minority Status on the Association between Sexual Assault Victimization and Alcohol Use Prior to Sex

Table 4. Hierarchical Linear Regression Models Examining the Moderating Effect of Minority Status on the Association between Sexual Assault Victimization and Condom Use

LIST OF FIGURES

Figure 1. Slope for Alcohol Use Prior to Sex

Introduction

Background

Nearly 1 in 5 women in the United States (U.S.) have experienced sexual assault victimization some time in their lives, and 1 in 67 American men have sexual assault victimization (Smith et al., 2017). Sexual assault victimization occurs within 20% of the college population in the United States (Mellins et al., 2017). Forms of sexual assault can include rape, unwanted touching, fondling, or forcing a victim to perform sexual acts (oral sex or penetration) (RAINN, 2020). Although heterosexual men can be survivors of sexual assault, sexual assault disproportionately impacts women and sexual and racial/ethnic minority individuals (Mellins et al., 2017; Breiding et al., 2014; Krahe & Berger, 2013). Sexual minority individuals are more likely to experience sexual assault at a higher rate than their heterosexual peers (Mellins et al., 2017). Further, some racial and ethnic minorities experience sexual assault at higher rates compared to their non-Hispanic/Latinx White peers (Coulter et al., 2017).

According to the National Sexual Violence Resource Center (NSVRC), in 2015, 46.4% lesbian, 74.9% bisexual, and 43.3% heterosexual women reported sexual assault other than rape during their lifetimes, compared to 40.2% gay, 47.4% bisexual, and 20.8% heterosexual men (NSVRC, 2015). Sexual assault is a growing issue in the United States and has been a public health-related problem for over twenty years (Waechter & Ma, 2015). Sexual assault survivors are more likely to experience short-term and long-term effects including, but not limited to: psychological disorders such as anxiety, depression, trauma or stressor-related disorders, and alcohol use and dependence (Dworkin, 2018). Two negative long-term effects impacting survivors of sexual assault are changes in sexual behavior and alcohol use (Dworkin, 2018; Layh, Rudolph, & Littleton, 2020). Studies have shown that survivors of sexual assault report

that these long-term effects occur post-assault (Dworkin, 2018; Layh et al., 2020). Research has shown that due to the decreased satisfaction in sexual activity, survivors are more likely to experience revictimization or sexual dysfunction and may engage in risky sexual behavior (Gilmore et al., 2010).

Despite higher rates of sexual assault victimization among minority populations, less is known about the impact of sexual assault victimization and sexual behavior among individuals who identify as either a racial/ethnic minority or sexual minority (Ahrens et al., 2010; Coulter et al., 2017; Littleton et al., 2013). Furthermore, the lack of data on sexual assault-related outcomes among individuals who identify as a racial minority may be due to most research excluding ethnic minorities and focusing on White, European-American women, but also not having a large sample of ethnic minorities to include in the studies (Littleton et al., 2013). Racial minorities have been excluded from studies due to possible stereotypes and broader societal attitudes toward racial minorities, which may influence how one responds to sexual assault (Littleton et al., 2013; Bryant-Davis, Chung, & Tillman, 2009). Reasons for the challenges in data collection regarding sexual assault and individuals who identify as a sexual minority include the lack of reporting, and the lack of diversity in the locations where studies are conducted that includes individuals from various ethnic backgrounds and individuals in the Lesbian, Gay, Bisexual, and Transgender (LGBT) community (Ahrens et al., 2010; Coulter et al., 2017; Littleton et al., 2013). Risky sexual behaviors stem from sexual assault due to the lack of support provided for sexual assault survivors; some may also partake in risky sexual behaviors as a coping mechanism. The reason for looking at this is to find more ways to support sexual assault survivors and possibly implement more prevention programming. This study aims to determine differences in the

association between sexual assault and risky sexual behavior (i.e., alcohol use prior to sex and condom use) based on minority status.

Significance and Purpose of Study

The purpose of this study is to determine if there are significant differences in the association between sexual assault victimization and risky sexual behavior based on minority status. This study includes secondary data analysis of a survey collected at a large university in the Southwestern United States.

Research Questions

Research Question 1: Is sexual assault victimization associated with risky sexual behavior?

Research Question 2: Does the minority identity (i.e., sexual orientation, race, and ethnicity) moderate the association between sexual assault and sexual risk behavior?

Literature Review

Rates of Sexual Assault among College Students

Previous studies have shown differences in sexual assault rates based on sexual orientation and racial/ethnicity (Johnson et al., 2016). Sexual assault data show that about 63% of individuals who identified as a sexual minority reported some form of sexual assault such as contact or penetrative sexual assault (Heidt, Marx, & Gold, 2005). A college-sample study focusing on sexual orientation and racial identity among college students found that regarding gender identity, sexual assault was more likely to occur among individuals who identify as cisgender women and transgender people (Coulter et al., 2017). Regarding sexual orientation,

sexual assault was highest among bisexual men and women (15.7%), followed by gay men and lesbian women (9.8%). Regarding racial identity, rates of sexual assault were greatest among American Indians/Alaska Natives (Coulter et al., 2017); however, it affects each population in various ways.

According to the Centers for Disease Control and Prevention's National Intimate Partner and Sexual Violence Survey, 26.9% American Indian/Alaska Native, 22% Black, 18.8% White, 14.6% Hispanic, and over 20% of multiracial women have experienced sexual assault in their lifetime (Black et al., 2010). In a college-sample study conducted by Coulter et al. (2017), results found that Black people were more likely to be sexually assaulted (8.7%), followed by White people (7.0%). However, this research may not accurately reflect rates of sexual assaults among racial minorities because of the lack of data, and most studies are usually recruiting White women or individuals from post-secondary institutions (Coulter et al., 2017). Bryant-Davis et al. (2009) found that Latinas are less likely to be sexually assaulted in comparison to White women; however, these rates may be lower due to underreporting. For example, some scholars suggest that Latinas are less likely to report sexual assault victimization due to the possibility of deportation once reported or lower levels of education (Bryant-Davis et al., 2009; Rennison, 2007). Native American women report higher cases of sexual assault victimization than any other race (Bryant-Davis et al., 2009; Coulter et al., 2017). This may be due to the women cohabitating with a significant other or male perpetrator preying on separated, widowed, or divorced women (Bryant-Davis et al., 2009; Rennison and Welchans, 2000; O'Donnell et al., 2002). However, many Native American women are hesitant to seek help due to the distrust in the government resulting from the non-consensual sterilization of Native American women by Indian Health Services from 1970 to 1976, where roughly 25 to 50% of the women were

sterilized (Torpy, 2000; Clement, 2020). Research also found that Asian and Pacific Islander women are least likely to report sexual assault among all cultural groups, which could hinder data collection and possibly presenting inaccurate prevalence rates of sexual assault within Asian American communities (Bryant-Davis et al., 2009). Due to this limitation, there is a lower chance of collecting data that accurately analyzes how sexual identity and race or ethnicity can factor in sexual assault victimization and perpetration (Coulter et al., 2017). This data may not be accurate due to under-reporting and sampling methods.

A cross-sectional study with participants recruited using a community-sampling method found that Black women are at risk for sexual assault victimization in comparison to White women (Sigurvinsdottir & Ullman, 2016). Further, Black women reported greater sexual assault victimization while in an intimate partner relationship (Sigurvinsdottir & Ullman, 2016). The inclusion of racial/ethnic minorities in these studies brings awareness to how sexual assault and the aftermath may vary between individuals from various backgrounds. Societal trauma (race-based trauma, sexism, racism, heterosexism, and more) may influence the mental health of racial/ethnic minority assault survivors and how they process the sexual assault trauma (Bryant-Davis et al., 2009). Acts of societal traumas, such as physical assaults against members of a marginalized group, are usually met with victim-blaming from society or being shunned and ignored (Bryant-Davis et al., 2009). Research found that this could lead to loss of trust, substance use, and physical health disparities (Bryant-Davis et al., 2009; Loo, Fairbank, & Chemtob, 2005). This could impact sexual satisfaction and sexual behaviors due to the traumatization and psychological effects of sexual assault and the societal response to traumatic events (Bryant-Davis et al., 2009; Lee et al., 2005).

Sexual Assault Victimization and Risky Sexual Behaviors

Risky sexual behavior can include, but is not limited to, lack of condom usage during sex, sexual intercourse with multiple partners, or alcohol consumption prior to sex (Halpern-Felsher, Millstein, & Ellen, 1996). Lack of condom use is associated with sexually transmitted infections and unplanned pregnancies (Ali Abdulai et al., 2017). Davis et al. (2008) found that males believe that condom use in the event of sexual assault is uncommon as it may allow the victim to escape.

A study conducted in the Southeast recruited first-year college students (n = 1,534) that were sexually active (Layh et al., 2020). The study examined sexual motives as a mediator regarding the connection between rape history and risky sexual behavior. Risky sexual behaviors were listed as having concurrent sexual partners, having sex with multiple or uncommitted partners, engaging in unprotected sexual activity, or risky sexual acts (e.g., anal sex) (Layh et al., 2020). Sexual risk behavior, rape history, and sexual motives were measured. The results of the study indicated that sexual assault survivors were significantly more likely to engage in risky sexual behavior than college students who did not experience sexual assault (Layh et al., 2020). However, this sample was predominantly White (79.6%) and heterosexual (95.3%); thus, it remains unclear whether these findings are generalized to sexual and other racial populations.

Research has consistently found that sexual assault is associated with risky sexual behavior post-assault (Feldman-Summers et al., 1979; Davis et al., 2008; Layh et al., 2020). However, the results from these studies were from predominantly White, heterosexual women (Feldman-Summers et al., 1979; Layh et al., 2020). There is not enough data to determine whether sexual assault could impact racial/ethnic minorities and sexual minority populations.

Data that has enough racial/ethnic minorities and sexual minority populations could present whether sexual assault may affect risky sexual behavior in a significant amount or not at all.

Alcohol Use Before Sex

Drinking prior to sexual activity has led many to believe that it produces more pleasurable sexual experiences; however, public health warnings regarding drinking and sex could influence more alcohol-induced sexual interactions (Patrick & Maggs, 2009; Goldman & Roehrich, 1991; Coleman & Cater, 2005). The desire to engage in sexual activity may also result in heavier drinking due to the belief that alcohol positively influences sexual behavior (Patrick & Maggs, 2009). Many college students partake in drinking due to the expectation that alcohol influences sex drive while decreasing sexual inhibitions (Patrick & Maggs, 2009; Abbey et al., 1999). Many women also stated that they used alcohol purposely to make sex more likely to occur (Patrick & Maggs, 2009)

Alcohol use prior to sex may also lead to more sexual interactions with casual partners or strangers, a lower chance of risk disclosure, and higher chances of unprotected sex (Lewis et al., 2014; Cooper, 2002; Patrick & Maggs, 2009). The frequency of alcohol prior to sex and condom use is related to sexual risk behaviors due to direct reinforcement and modeling of behaviors leading to an increased likelihood of sexual risk behaviors (Lewis et al., 2014; Bandura, 1986; Cooper, 2002). For example, safe sexual practices may not be initiated if one sees that these practices have negatively affected another's sexual relationships (Lewis et al., 2014). In Morrison et al.'s study, of the participants who reported sexual activity with and without prior alcohol use, 37% had used condoms regardless of alcohol consumption or not, 29% used condoms less frequently when drinking, and 34% used condoms more frequently when drinking (Morrison et al., 2003).

Alcohol use prior to sexual activity greatly increases the likelihood of risky sexual behaviors. Because many college-aged students believe that the use of alcohol increased sexual pleasure, more may consume more alcohol, increasing the likelihood of risky sexual behaviors being practiced (Patrick & Maggs, 2009; Lewis et al., 2014; Bandura, 1986; Cooper, 2002). However, not enough data regarding racial/ethnic minorities and sexual minority populations is available, thus making it hard to determine whether drinking prior to sexual activity may increase alcohol use before sex in minority populations.

Sexual Assault and Alcohol Use

Alcohol use disorder is more common in the college population than same-aged non-college peers (Blanco et al., 2008). Alcohol use disorder is also associated with college sexual assault survivors (Dworkin, 2018; Blanco et al., 2008). Studies show that sexual assault victimization is associated with increased alcohol use (Kelley & Gidycz, 2017; Parks et al., 2009; Champion et al., 2004). Higher levels of alcohol consumption are associated with risky sexual behavior in college women due to alcohol use being associated with increased intentions to participate in sexual activities but also associated with restricting cognitive capacity to engage in protective sexual strategies, including condom use (Kelley & Gidycz, 2020; Rellini, 2008; Kelley & Gidycz, 2017; Scott-Sheldon et al., 2016).

According to Neilson et al. (2018), the severity of a sexual assault has a positive association with how many drinks one may consume in a week and whether one drinks to cope with anxiety. Women with a history of sexual assault are more likely to engage in problem drinking and experience negative drinking-related consequences (Neilson et al., 2018). Women who are sexual assault survivors may drink more post-assault and are roughly five times more

likely to report substance use and abuse in comparison to women who have no history of sexual assault (Neilson et al., 2018). Women who continuously use drinking as a coping strategy are more vulnerable if the coping is stress-induced or the absence of alternative coping methods (Neilson et al., 2018). Alcohol use puts women at a higher risk for sexual assault due to alcohol impacting cognitive abilities and impairing the ability to physically resist potential assault (Neilson et al., 2018).

Drinking motives have been analyzed in a variety of contexts that can conclude that people drink to attain a desired outcome (Fossos et al., 2011). The most common motives behind drinking were social motives, enhancement motives, and coping motives (Kuntsche et al., 2005). Regarding sexual assault survivors, many may consume alcohol to cope with their traumatic experience as they believe alcohol may suppress their emotions in comparison to nonvictimized women (Fossos et al., 2011). Research has found that sexual assault experiences are associated with increased alcohol use along with negative alcohol-related consequences in both college and community samples (Fossos et al., 2011). This finding shows that alcohol may be used as a negative reinforcer in times of mental or emotional distress, eventually resulting in alcohol abuse or heavy drinking practices (Fossos et al., 2011).

Racial and ethnic minority sexual assault survivors may partake in alcohol and substance use in comparison to White sexual assault survivors due to lack of resources available and, in turn, relying on self-medicating practices (Bryant-Davis et al., 2009; Kaukinen & Demaris, 2005). The impact of sexual assault on any person is traumatic and certainly leads to more consequences in the aftermath. Results from numerous studies support the need to evaluate the impact of sexual assault on the sexual health of minorities (Houck et al., 2010; Kerr et al., 2014; Littleton et al., 2013; Sigurvinsdottir et al., 2016). As found in Fossos et al.'s (2011) and Neilson

et al.'s (2018) studies, drinking can be a way to cope with previous trauma, and women who are sexual assault survivors may drink more post-assault. With minimal support available for racial/ethnic and sexual minorities, data portraying how sexual assault and alcohol can affect a minority is important to evaluate.

Sexual Assault and Minority Identity

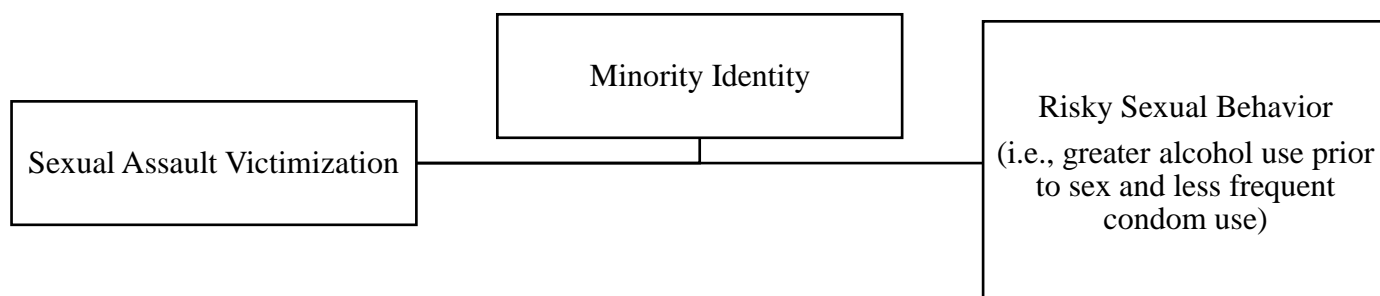
Over the years, research has highlighted the impact of sexual assault on heterosexual women and identified increases in PTSD, risky sexual behaviors, and other psychological disorders that may develop (Layh et al., 2020; Rellini, 2008; Feldman-Summers et al., 1979). However, far less research has examined the impact of sexual assault on racial/ethnic minorities and sexual minority populations. A person's sexual orientation can determine their chances of victimization and revictimization (Sigurvinsdottir et al., 2016). Lesbian and bisexual women have a higher chance of sexual assault victimization in comparison to heterosexuals, and Black bisexual women (13.2%) reported more sexual assault cases than Black heterosexual women (9.5%) (Sigurvinsdottir et al., 2016). Authors suggest that sexual minorities may be more likely to experience discrimination due to living in a society that is not fully accepting of their sexual identities and preferences (Sigurvinsdottir & Ullman, 2016). Because of this factor, sexual minorities likely experience more distress, making them more vulnerable to sexual assault victimization (Sigurvinsdottir & Ullman, 2016). According to Kerr et al. (2014), sexual minorities are more likely to contend with depression, suicide, issues regarding their safety, and are more likely to participate in unprotected sex compared to the heterosexual population.

Cultural norms and attitudes towards sexual assault and victimization may also impact how sexual assault victims cope post-assault (Littleton et al., 2013). For example, a 2010 study mentions how Latinx and Asian American sexual assault survivors may disclose a sexual assault

to their families due to the belief that their families hold conservative and traditional beliefs in terms of maintaining gender roles and respect for authority (Ahrens et al., 2010; Littleton et al., 2013). Native Americans, who are twice as likely to experience sexual assault victimization than other identity groups, are also less likely to disclose any sexual assault due to community norms and distrust towards the public (Bryant-Davis et al., 2009). Another study that measured ethnicity, drinking before the assault, and sexual behavior examined how sexual assault affects each racial minority population and how their behaviors may change post-assault (Littleton et al., 2013). The study also mentions that Black women are less likely to partake or socialize with heavy or excessive drinkers, concluding that using alcohol to cope with psychological distress post-assault is less likely to occur (Littleton et al., 2013). However, they are more likely to engage in risky sexual behaviors to cope post-assault.

Although there is research on how sexual assault affects women, it is more focused on heterosexual women. There is still a lack of research regarding the effects on racial/ethnic and sexual minority populations. As found in Sigurvinsdottir et al.'s (2006) study, sexual orientation can determine their chances of victimization and revictimization. There are also studies on how cultural norms and race/ethnicity can affect behavior post-sexual assault (Littleton et al., 2013; Ahrens et al., 2010; Bryant-Davis et al., 2009); however, there is a lack in how it may affect racial/ethnic and sexual minority populations in the college-age frame.

Hypothesized Model



The hypothesized model above displays how minority identity might impact the association between sexual assault victimization and sexual behavior. The hypothesized model includes sexual assault as the predictor, minority identity as the moderator, and risky sexual behavior as the outcome. The minority identity of a sexual assault victim can impact a survivor's sexual behavior post-assault. Some survivors may become more sexually active and sleep with multiple partners, consume alcohol or use substances prior to sexual activity, or refrain from using condoms during sexual activity (Schwartz & Galperin, 2002). It is important to bring awareness to post-assault mechanisms and draw attention to further creation of prevention and intervention methods to help sexual assault survivors cope (Schwartz & Galperin, 2002; Wohl & Kirschen, 2018).

Hypotheses

Hypothesis 1: Sexual assault victimization will be associated with risky sexual behavior. Specifically, risky sexual behavior (i.e., greater alcohol use prior to sex and less frequent condom

use) will be greater among individuals who experience sexual assault compared to those who did not experience sexual assault victimization.

Hypothesis 2: The association between sexual assault victimization and risky sexual behavior will be moderated by minority status. Specifically, the association between sexual assault victimization and risky sexual behavior will be stronger among sexual and racial/ethnic minorities relative to the sexual and racial/ethnic majority.

Methods

Secondary data were collected from a study focusing on understanding drinking patterns and sexual assault histories at a large university in the Southwestern hemisphere of the United States. The hypotheses were novel, and the analytic plan was explicitly developed to address these aims. The data were collected from 2018 to 2019.

Participants

The participants of this study were randomly selected to receive an invitation for a study. There were 758 undergraduate students who completed the study across three different identity groups (cisgender, heterosexual, sexual, and gender minorities). Participation rates were capped to ensure a relatively equal number of students who identify as sexual gender minorities or racial minorities. Of the 758 participants, 359 participants were excluded. Specifically, 349 participants reported never having sexual activities, and 10 other participants had unreliable responses in the data and were excluded. With the exclusions, the study consisted of 399 participants in total.

Of the 399 participants, 5.1% identified as Black, 66.8% identified as non-Hispanic/Latinx White, 2.8% identified as Native American, 10.8% identified as Asian or Pacific

Islander, 14.2% identified as multiracial, and 0.3% identified as other (Table 1). Regarding sexual identity, 55.5% identified as heterosexual, 23.7% identified as bisexual, 4.7% are questioning, 3.7% identified as queer, 4.2% identified as gay, 4% identified as lesbian, 0.3% identified as two-spirit, and 2.5% identified as other, whereas 1% chose not to answer (Table 1). Prior to conducting the study, the survey and study procedures had been reviewed and approved by the Institutional Review Board.

Measures

Sociodemographic Characteristics. Demographic characteristics were collected for the study. The race and sexual identity status of each participant were assessed and controlled in this analysis.

Sexual Assault History. The Sexual Experiences Survey (SES) – Short Form Victimization by Koss et al. (2007) was used to assess prior sexual assault victimization. Participants indicated events of unwanted sexual experiences and as well as the sexual assault tactic (i.e., someone told them lies or the sexual assault survivor was drunk) leading to non-consensual sexual contact. Sexual contact can include oral, anal, or vaginal penetration by a penis or another object (Koss et al., 2007). Methods used to acquire these acts varied from incapacitation, physical or threat of force, or verbal coercion (George et al., 2014; Koss et al., 2007). There were two forms of verbal coercion: (1) telling lies, verbal threats, making promises known to be untrue, or using verbal pressure and (2) showing displeasure, criticizing, or getting angry; incapacitation (i.e., taking advantage when the participant was “too drunk or out of it” to stop what was happening); and two forms of physical force: (1) threatening physical force and (2) use of physical force (Davis et al., 2014; Koss et al., 2007). The participants reported the

number of times they experienced each method for each attempted or completed sexual act; the responses range from 0 (“never”) to 3 (“3 or more times”) (George et al., 2014; Davis et al., 2014; Koss et al., 2007). A sample item is, “A man put his penis into my vagina, or someone inserted fingers or objects without my consent by: Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn’t want to” (Koss et al., 2007). If a participant responded one or more to any of the items on the Sexual Experiences Survey since age 14 or in the past year, they were labeled as having a sexual assault history.

Alcohol Use. Alcohol use was measured with the Daily Drinking Questionnaire (DDQ) by Collins, Parks, and Marlatt (1985). The DDQ measures the average weekly quantity and frequency of alcohol consumption over the last three months (Collins, Parks, & Marlatt, 1985). Participants were asked, "Consider a typical week during the last three months. How much alcohol, on average (measured in a number of drinks), do you drink on each day of a typical week?" (Lewis et al., 2014; Collins, Parks, & Marlatt, 1985). The DDQ presents a table in which participants can fill in how many alcoholic drinks they consumed each day of the week. The scores from these responses were computed by summing the number of drinks on each day of the week (Lewis et al., 2014; Collins, Parks, & Marlatt, 1985).

Risky Sexual Behavior. Sexual behavior will be conceptualized as alcohol consumption prior to or during sexual activity and the use of condoms during sexual activity. Data was retrieved by asking: "How often do you consume alcohol prior to or during sexual activity? (This refers to any time you have consumed alcohol, regardless of anything else you might have consumed.)" and, “How often do you use condoms during sexual activity?” The responses to the questions ranged from 0 (almost never) to 4 (almost always).

Data Analytic Plan

Because this research study focused on sexual assault and its effect on sexual behavior within sexual and racial minorities, the variables in the study that were evaluated were sexual orientation (lesbian, gay, bisexual, etc.), demographic variables (race and ethnicity), sexual activity (has had partaken in sexual activity within the past three months), along with alcohol or condom use prior to sexual activity. The independent variable is sexual assault victimization. Alcohol use was included as a control variable. The moderators are defined as race/ethnicity and sexual orientation. The dependent variable is defined as the sexual behavior (i.e., greater alcohol use prior to sex and less frequent condom use) of the participant.

The study used cross-sectional data in order to answer the research questions. Statistical analyses were performed using the 25th edition of Statistical Package for the Social Sciences (SPSS 25) software from IBM programming. A hierarchical linear regression analysis was conducted in SPSS to test hypotheses. The hierarchical linear regression allowed one analysis with main effects to be computed along with another analyzing the interaction between the variables. Hierarchical linear regressions were performed separately for alcohol use prior to sex and condom use during sex among minority and non-minority individuals. For each model, Step 1 included alcohol use, minority status, and sexual assault victimization. Step 2 included the interaction between sexual assault victimization and minority identity. This resulted in two full models, each comprised of three variables.

Prior to computing regression models, alcohol use was standardized. Dummy coding was used to standardize the categorical variables. For the racial/ethnic minority dummy code, 0 represented Non-Hispanic/Latinx White, and 1 represented Racial/Ethnic minority individuals. Two dummy coded variables were created for sexual identity, (1) for dummy code 1,

heterosexual men were coded as 0, and sexual minority individuals were coded as 1, (2) for dummy code 2, heterosexual women were coded as 0, and sexual minority individuals were coded as 1. A final dummy code was created for minority identity. For the minority dummy code, racial/ethnic minorities or sexual minority individuals were coded as 1, and non-minority individuals were coded as 0. All parameter estimates for interaction effects are reported as unstandardized *bs*. Estimates of main effects and simple slopes are reported as standardized β s.

Results

The majority of the participants were Non-Hispanic/Latinx White (58.9%), and the rest of the participants were racial or ethnic minorities (41.1%). Regarding sexual minorities, 55.1% identified as heterosexual male or female, and 44.9% identified as a sexual minority. For a more detailed breakdown of race/ethnicity and sexual orientation, see Table 1.

Association between Sexual Assault Victimization and Alcohol Use Prior to Sex

In Step 1, the regression model was significant $R^2 = .175$, $F(3, 395) = 27.95$, $p = .000$. Results revealed a non-significant main effect of sexual assault victimization and alcohol use prior to sex ($\beta = .06$, $t = 1.28$, $p = .20$, $95\%CI = [-.05, .21]$). This finding indicated that sexual assault victimization was not associated with alcohol use prior to sex. No main effects were detected.

In Step 2 of the model that included the Sexual Assault Victimization x Minority Identity on Alcohol Use Prior to Sex interaction, the model remained significant $\Delta R^2 = .185$, $F(4, 394) = 22.417$, $p = .026$. In Step 2 of the model, there was a significant Sexual Assault Victimization x Minority Identity interaction ($b = .34$, $t = 2.23$, $p = .03$, $95\%CI = [-.04, .63]$). Explication of the

interaction indicated that the association between sexual assault victimization and alcohol use prior to sex was non-significant among non-minority individuals ($\beta = .06, t = 1.28, p = .20, 95\%CI = [-.05, .21]$). Conversely, the association between sexual assault victimization and alcohol use prior to sex was significant and positive among individuals who identified as a minority ($\beta = .12, t = 2.27, p = .02, 95\%CI = [.02, .33]$). Therefore, there is more use of alcohol prior to sex among minority sexual assault survivors, but not in non-minority survivors (see Figure 1).

Association between Sexual Assault Victimization and Condom Use Prior to Sex

In Step 1, the regression model was non-significant, $R^2 = .004, F(3, 395) = .483, p = .694$. Results revealed that the association between sexual assault victimization and condom use prior to sex was not significant ($\beta = -.005, t = -.095, p = .92, 95\%CI = [-.34, .31]$). In Step 2 of the model that included the Sexual Assault Victimization x Minority Identity on Condom Use Prior to Sex interaction, the model was not significant $\Delta R^2 = .011, F(4, 394) = 1.073, p = .093$. The interaction between Sexual Assault Victimization x Minority Identity on Condom Use Prior to Sex was not significant ($b = -.62, t = -1.68, p = .09, 95\%CI = [-1.35, .10]$).

Discussion

This study explored the potential differences in which an association between sexual assault and risky sexual behavior (i.e., condom use and alcohol use prior to sex) may be based on the race/ethnicity or sexual orientation of the sexual assault victim. It was hypothesized that there would be a significant association between sexual assault victimization and risky sexual behavior. More specifically, individuals who experience sexual assault would engage in more risky sexual behavior (i.e., greater alcohol use prior to sex and less frequent condom use)

compared to those who did not experience sexual assault victimization. In addition, it was hypothesized that the association between sexual assault victimization and risky sexual behavior would be moderated by minority status. Meaning, the association between sexual assault victimization and risky sexual behavior would be stronger among sexual and racial/ethnic minorities.

The first hypothesis was not supported as the results indicated that sexual assault victimization was not associated with alcohol use prior to sex or condom use. This finding does not support previous research that found that alcohol use increases after sexual assault victimization (Kelley & Gidycz, 2017; Parks et al., 2009; Champion et al., 2004). This could be due to some sexual assault survivors avoiding alcohol, possibly due to the fear of not being in control. The second hypothesis was partially supported. The results indicated that the association between victimization and alcohol use prior to sex was stronger among sexual assault survivors that identified as sexual and racial/ethnic minorities. This finding contributes to the literature stating that drinking before sex might be a strategy to cope with the sexual assault more so among minorities (Neilson et al., 2018), particularly in instances that may remind individuals of the assault, like sexual encounters. This could potentially be due to the lack of support available towards minority populations (Bryant-Davis et al., 2009; Kaukinen & Demaris, 2005). These findings can be beneficial for future development of more effective, evidence-based sexual assault treatment and programs.

The finding from the interaction between sexual assault victimization and minority identity on condom use did not support the second hypothesis. The results indicated that sexual assault victimization was not significant with condom use among minorities. These effects may not have been found with condom use during sex, possibly due to the measures not being as

inclusive regarding the demographics assessed. Specifically, a little over 20% of the sexual/gender minority population identified as bisexual, meaning some may have been women in relationships with other women where condoms may be irrelevant. Other forms of safe sex practices inclusive of the sexual/gender minority populations were not assessed. Future research must be able to assess alternative safe sex practices as most may not use condoms as a safe sex practice in general. Future research is needed to be able to assess other types of safe sex practices such as testing or other protective devices such as dental dams and female condoms.

Limitations

Some limitations in the study concern the study sample and other risky sexual behaviors that arise post-sexual assault. The study focused on sexual and racial/ethnic minorities; with that being said, the inclusion of transgender individuals would benefit this study; however, there was not enough data to analyze the difference based on gender identity among transgender participants. The sample size of the study had a decent number of participants; however, more sexual minority individuals could have potentially altered the findings. There were also more White participants in the study, which could have affected the findings. Previous research had found that transgender individuals rarely get treatment after experiencing a traumatic event and are more likely than the general population to suffer from mental illnesses such as depression, anxiety, or suicidality (Cornell University, 2021). It is also more challenging to conduct studies with transgender individuals due to the small size of the known transgender population and the unethical treatment or distrust many have dealt with.

Data were collapsed across racial/ethnic and sexual minorities, and research is needed to look in between both; however, the sample size of this study was not enough to show the

differences among the groups. This was also a cross-sectional study; therefore, data were collected all at once. This will make it more difficult to draw causal conclusions from the data as the individuals may have been more likely to use alcohol prior to sex regardless of their sexual assault history. Longitudinal data would be needed to test causal associations in future studies.

Regarding risky sexual behavior, hypersexuality and hyposexuality are two theoretically-based outcomes of sexual assault victimization. Hyposexuality includes avoidance of sexual activity and "inhibited desire, arousal, and orgasm." In contrast, hypersexuality consists of the tendency to engage in sexual activity in high-risk situations, with either a stranger or a known partner, or without protection (Kelley & Gidycz, 2020; Rellini, 2008). Hyposexual individuals tend to guard themselves to lessen the chances of becoming vulnerable enough to allow another individual to get close to them (Schwartz & Galperin, 2002). Hyposexual individuals usually have a "hypoactive sexual desire or sexual aversion" and may avoid sexual activities (Kafka, 2010; Wohl & Kirschen, 2018). Hypersexual individuals may seek sexual intimacy as a means to control their partner or to feel accepted while suppressing possible self-hatred (Schwartz & Galperin, 2002). Hypersexual individuals have the tendency to engage in sexual activity in impulsive or risky situations and may have sex with a regular partner or practice promiscuity (Kafka, 2010).

Literature has shown that hypersexuality and hyposexuality are plausible outcomes of sexual assault victimization (Schwartz & Galperin, 1995; Schwartz & Galperin, 2002; Wohl & Kirschen, 2018). Sexual assault survivors have reported increased hyposexuality, which is caused by feelings of panic, fear, disgust, guilt, and shame following sexual assault (Wohl & Kirschen, 2018). Some may have felt powerless or have occasional flashbacks or an irrational feeling of being in danger, leading to an inhibited desire to participate in any sexual activity or

arousal (Wohl & Kirschen, 2018). Although not assessed in the current study, future research could examine hypersexuality and hyposexuality among minority populations.

It would be beneficial for future studies focusing on sexual assault and risky sexual behaviors among sexual and racial/minorities to evaluate current programming that addresses treatment post-assault but also prevention programming for college students. It is also important to emphasize minority recruitment, such as setting a specific percentage of sexual (with transgender inclusion) and racial/ethnic minorities. Further programs should be implemented for best practices among college-aged students. These programs should include information on safe drinking, safe sex, and information on consent. Neilson et al.'s study addresses potential sexual assault or drinking protective behavioral strategies (PBS) in sexual assault survivors (2015). Drinking PBS consists of approaches such as reduced high-risk alcohol consumption, eating before drinking, avoidance of drinking games, and balancing alcoholic and non-alcoholic drink consumption (Neilson et al., 2015). With drinking PBS in practice, the likelihood of alcohol-related negative consequences such as sexual assault reduces (Neilson et al., 2015). Implementation of the PBS protocol, along with the implementation of the aforementioned programs addressing these issues and topics, could potentially reduce the rates of sexual assault throughout a number of college campuses. Programming efforts are also needed to better address treatment for survivors that identify as a minority because they may have unique risk factors (i.e., family history, socioeconomic development, etc.).

Conclusion

Sexual assault is a significant issue affecting the college-aged population in the United States. This study focused on analyzing the association between sexual assault victimization and risky sexual behavior in college-aged sexual and racial/ethnic minorities. Findings indicated an

association between sexual assault victimization and alcohol use prior to sex, especially among minority populations. Overall, these findings suggest a need for secondary prevention programs to target minority populations after sexual assault victimization.

REFERENCES

- Ahrens, C. E., Rios-Mandel, L. C., Isas, L., & del Carmen Lopez, M. (2010). Talking about interpersonal violence: Cultural influences on Latinas' identification and disclosure of sexual assault and intimate partner violence. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2(4), 284–295. <https://doi.org/10.1037/a0018605>
- Ali Abdulai, M., Baiden, F., Afari-Asiedu, S., Gyabaa-Febir, L., Adjei, K. K., Mahama, E., Tawiah-Agyemang, C., Newton, S. K., Asante, K. P., & Owusu-Agyei, S. (2017). The risk of sexually transmitted infection and its influence on condom use among pregnant women in the Kintampo north municipality of Ghana. *Journal of Sexually Transmitted Diseases*, 2017, 8642685. <https://doi.org/10.1155/2017/8642685>
- Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The national intimate partner and sexual violence survey (NISVS): 2010 summary report. *Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.*
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S. M., Olfson, M. (2008). Mental health of college students and their non-college-attending peers: Results from the national epidemiologic study on alcohol and related conditions. *Archives of General Psychiatry*, 65, 1429–1437.
- Breiding, M. J., Smith, S. G., Basile, K. C., Walters, M. L., Chen, J., & Merrick, M. T. (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization--national intimate partner and sexual violence survey, United States, 2011.

Morbidity and Mortality Weekly Report. Surveillance summaries (Washington, D.C.: 2002), 63(8), 1–18.

Bryant-Davis, T., Chung, H., Tillman, S., & Belcourt, A. (2009). From the margins to the center: ethnic minority women and the mental health effects of sexual assault. *Trauma, Violence & Abuse, 10*(4), 330–357. <https://doi.org/10.1177/1524838009339755>

Champion, H. I. O., Foley, K. L., DuRant, R. H., Hensberry, R., Altman, D., Wolfson, M. (2004). Adolescent sexual victimization, use of alcohol and other substances, and other health risk behaviors. *Journal of Adolescent Health, 35*, 321-328.
[doi:10.1016/j.jadohealth.2003.09.023](https://doi.org/10.1016/j.jadohealth.2003.09.023)

Clement, K.A. (2020). The victimization of Native American women in the United States: the impact and potential underlying factors. *University of South Dakota. Honors Thesis*. 92

Collins, R. L., Parks, G. A., & Marlatt, G. A. (1985). Social determinants of alcohol consumption: the effects of social interaction and model status on the self-administration of alcohol. *Journal of Consulting and Clinical Psychology, 53*(2), 189–200.
<https://doi.org/10.1037//0022-006x.53.2.189>

Cornell University. (2021). What does the scholarly research say about the effect of gender transition on transgender well-being? *What We Know*. Retrieved from
<https://whatweknow.inequality.cornell.edu/topics/lgbt-equality/what-does-the-scholarly-research-say-about-the-well-being-of-transgender-people/>

Coulter, R., Mair, C., Miller, E., Blosnich, J. R., Matthews, D. D., & McCauley, H. L. (2017). Prevalence of past-year sexual assault victimization among undergraduate students: exploring differences by and intersections of gender identity, sexual identity, and

- race/ethnicity. *Prevention Science: The Official Journal of the Society for Prevention Research*, 18(6), 726–736. <https://doi.org/10.1007/s11121-017-0762-8>
- Davis, K. C., Gilmore, A. K., Stappenbeck, C. A., Balsan, M. J., George, W. H., & Norris, J. (2014). How to score the sexual experiences survey? A comparison of nine methods. *Psychology of Violence*, 4(4), 445–461. <https://doi.org/10.1037/a0037494>
- Davis, K. C., Schraufnagel, T. J., George, W. H., & Norris, J. (2008). The use of alcohol and condoms during sexual assault. *American Journal of Men's Health*, 2(3), 281–290. <https://doi.org/10.1177/1557988308320008>
- Dworkin E. R. (2020). Risk for mental disorders associated with sexual assault: A meta-analysis. *Trauma, Violence & Abuse*, 21(5), 1011–1028. <https://doi.org/10.1177/1524838018813198>
- Feldman-Summers, S., Gordon, P. E., & Meagher, J. R. (1979). The impact of rape on sexual satisfaction. *Journal of Abnormal Psychology*, 88(1), 101–105. <https://doi.org/10.1037/0021-843X.88.1.101>
- Fossos, N., Kaysen, D., Neighbors, C., Lindgren, K. P., & Hove, M. C. (2011). Coping motives as a mediator of the relationship between sexual coercion and problem drinking in college students. *Addictive Behaviors*, 36(10), 1001-1007.
- George, W. H., Davis, K. C., Masters, N. T., Jacques-Tiura, A. J., Heiman, J. R., Norris, J., ... & Andrasik, M. P. (2014). Sexual victimization, alcohol intoxication, sexual-emotional responding, and sexual risk in heavy episodic drinking women. *Archives of Sexual Behavior*, 43(4), 645-658.

- Halpern-Felsher, B. L., Millstein, S. G., & Ellen, J. M. (1996). Relationship of alcohol use and risky sexual behavior: a review and analysis of findings. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 19(5), 331–336. [https://doi.org/10.1016/S1054-139X\(96\)00024-9](https://doi.org/10.1016/S1054-139X(96)00024-9)
- Heidt, J. M., Marx, B. P., & Gold, S. D. (2005). Sexual revictimization among sexual minorities: A preliminary study. *Journal of Traumatic Stress*, 18(5), 533-540.
- Houck, C.D., Nugent, N.R., Lescano, C.M., Peters, A., Brown, L.K. (2010). Sexual abuse and sexual risk behavior: Beyond the impact of psychiatric problems. *Journal of Pediatric Psychology*, Volume 35, Issue 5, 473–483. <https://doi.org/10.1093/jpepsy/jsp111>
- Johnson, L. M., Matthews, T. L., & Napper, S. L. (2016). Sexual orientation and sexual assault victimization among US college students. *The Social Science Journal*, 53(2), 174–183. <https://doi.org/10.1016/j.soscij.2016.02.007>
- Kafka, M.P. (2010). Hypersexual disorder: a proposed diagnosis for DSM-V. *Archive Sex Behavior*. 2010; 39(2):377-400. doi:10.1007/s10508-009-9574-7
- Kaukinen, C., & DeMaris, A. (2005). Age at first sexual assault and current substance use and depression. *Journal of Interpersonal Violence*, 20, 1244-1270.
- Kelley, E. L., & Gidycz, C. A. (2020). Mediators of the relationship between sexual assault and sexual behaviors in college women. *Journal of Interpersonal Violence*, 35(21-22), 4863-4886. <https://doi.org/10.1177/0886260517718188>

- Kelley, E. L., & Gidycz, C. A. (2017). Mediators of the relationship between sexual assault and sexual functioning difficulties among college women. *Psychology of Violence, 7*(4), 574–582. <https://doi.org/10.1037/vio0000073>
- Kerr, D. L., Ding, K., & Chaya, J. (2014). Substance use of lesbian, gay, bisexual and heterosexual college students. *American Journal of Health Behavior, 38*(6), 951-962.
- Krahé, B., & Berger, A. (2013). Men and women as perpetrators and victims of sexual aggression in heterosexual and same-sex encounters: a study of first-year college students in Germany. *Aggressive Behavior, 39*(5), 391–404. <https://doi.org/10.1002/ab.21482>
- Koss, M. P., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., & White, J. (2007). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly, 31*(4), 357-370. doi: 10.1111/j.1471-6402.2007.00385.x
- Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A review of drinking motives. *Clinical Psychology Review, 25*(7), 841–861. <https://doi.org/10.1016/j.cpr.2005.06.002>
- Layh, M., Rudolph, K., & Littleton, H. (2020) sexual risk behavior and sexual satisfaction among rape victims: examination of sexual motives as a mediator, *Journal of Trauma & Dissociation, 21:1*, 73-86, DOI: 10.1080/15299732.2019.1675112
- Lee, J., Pomeroy, E., Yoo, S., & Rheinboldt, K. (2005). Attitudes toward rape: A comparison between Asian and Caucasian college students. *Violence Against Women, 11*, 177-196

Lewis, M. A., Litt, D. M., Cronce, J. M., Blayney, J. A., & Gilmore, A. K. (2014).

Underestimating protection and overestimating risk: Examining descriptive normative perceptions and their association with drinking and sexual behaviors. *Journal of Sex Research*, 51(1), 86-96.

Littleton, H. L., Grills-Taquechel, A. E., Buck, K. S., Rosman, L., & Dodd, J. C. (2013). Health risk behavior and sexual assault among ethnically diverse women. *Psychology of Women Quarterly*, 37(1), 7–21. <https://doi.org/10.1177/0361684312451842>

Mellins, C. A., Walsh, K., Sarvet, A. L., Wall, M., Gilbert, L., Santelli, J. S., Thompson, M., Wilson, P. A., Khan, S., Benson, S., Bah, K., Kaufman, K. A., Reardon, L., & Hirsch, J. S. (2017). Sexual assault incidents among college undergraduates: Prevalence and factors associated with risk. *PloS one*, 12(11), e0186471.

<https://doi.org/10.1371/journal.pone.0186471>

Neilson, E. C., Bird, E. R., Metzger, I. W., George, W. H., Norris, J., & Gilmore, A. K. (2018).

Understanding sexual assault risk perception in college: Associations among sexual assault history, drinking to cope, and alcohol use. *Addictive Behaviors*, 78, 178-186.

Neilson, E. C., Gilmore, A. K., Pinsky, H. T., Shepard, M. E., Lewis, M. A., George, W. H.

(2015). The use of drinking and sexual assault protective behavioral strategies:

Associations with sexual victimization and revictimization among college women.

Journal of Interpersonal Violence. Advance Online Publication.

[doi:10.1177/0886260515603977](https://doi.org/10.1177/0886260515603977)

- O'Donnell, C. J., Smith, A., & Madison, J. R. (2002). Using demographic risk factors to explain variations in the incidence of violence against women. *Journal of Interpersonal Violence*, 12, 1239-1262
- Parks, K. A., Hsieh, Y., Collins, R. L., Levonyan-Radloff, K., King, L. P. (2009). Predictors of risky sexual behavior with new and regular partners in a sample of women bar drinkers. *Journal of Studies on Alcohol and Drugs*, 70, 197-205. [doi:10.15288/jsad.2009.70.197](https://doi.org/10.15288/jsad.2009.70.197)
- Patrick, M. E., & Maggs, J. L. (2009). Does drinking lead to sex? Daily alcohol-sex behaviors and expectancies among college students. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, 23(3), 472–481.
<https://doi.org/10.1037/a0016097>
- Perry, S.W. (2004). American Indians and crime. Bureau of Justice Statistics (BJS): U.S. Department of Justice. *Bureau of Justice Statistics*.
- RAINN (2020). Sexual Assault. *RAINN*. Retrieved from <https://www.rainn.org/articles/sexual-assault>
- Rellini, A., 2008. Review of the Empirical Evidence for a Theoretical Model to Understand the Sexual Problems of Women with a History of CSA. *Journal of Sexual Medicine*.
doi:10.1111/j.1743-6109.2007.00652.x
- Rennison, C. M. (2007). Reporting to the police by Hispanic victims of violence. *Violence and Victims*, 22, 754-772.
- Rennison, C. M., & Welchans, S. (2000). Criminal victimization 1999: Changes 1998-99 with trends 1993-99. Washington, DC: U.

- Rivers, J., & Wilson, M. (2020). Cross-sectional study: Definition, advantages, disadvantages & example. *Study*. Retrieved from <https://study.com/academy/lesson/cross-sectional-study-definition-advantages-disadvantages-example.html>
- Schwartz, M.F., & Galperin, L. D., (2002) Hyposexuality and Hypersexuality Secondary to Childhood Trauma and Dissociation, *Journal of Trauma & Dissociation*, 3:4, 107-120, DOI: 10.1300/J229v03n04_06
- Schwartz, M.F., Galperin, L. D., & Masters, W.H. (1995). Post-traumatic stress, sexual trauma and dissociative disorder: Issues related to intimacy and sexuality. *National Criminal Justice Reference Service*
- Scott-Sheldon, L. A., Carey, K. B., Cunningham, K., Johnson, B. T., Carey, M. P., & The MASH Research Team. (2016). Alcohol use predicts sexual decision-making: A systematic review and meta-analysis of the experimental literature. *AIDS and Behavior*, 20, S19-S39. doi:10.1007/s10461-015-1108-9
- Sigurvinsdottir, R., Ullman, S. E. (2016). Sexual orientation, race, and trauma as predictors of sexual assault recovery. *Journal of Family Violence*, 31(7), 913-921
- Torpy, S.J. (2000). Native American women and coerced sterilization: On the trail of tears in the 1970s. *American Indian Culture and Research Journal* 24(2), 1-22
- Waechter, R., & Ma, V. (2015). Sexual Violence in America: Public Funding and Social Priority. *American journal of public health*, 105(12), 2430–2437.
<https://doi.org/10.2105/AJPH.2015.302860>

Wohl, A., & Kirschen, G.W. (2018) Betrayal of the body: Group approaches to hypo-sexuality for adult female sufferers of childhood sexual abuse. *Journal of Child Sexual Abuse*, 27:2, 154-160, DOI: 10.1080/10538712.2018.1435597

TABLES

Table 1.

Descriptive statistics for Demographic Variables, Drinking Related Variable

Variable	N (%)	M
Race/Ethnicity		
Non-Hispanic/Latinx White	235 (66.8%)	0.67
Racial Minority		
<i>Asian/Pacific Islander</i>	38 (10.8%)	0.11
<i>Black/African American</i>	18 (5.1%)	0.05
<i>Multiracial</i>	50 (14.2%)	0.14
<i>Native American</i>	10 (2.8%)	0.03
<i>Other</i>	1 (0.3%)	0.002

Sexual Identity		
Bisexual	94 (23.7%)	0.24
Gay	17 (4.2%)	0.04
Lesbian	16 (4.0%)	0.04
Other	10 (2.5%)	0.03
Prefer not to answer	4 (1.0%)	0.01
Queer	15 (3.7%)	0.04
Questioning	19 (4.7%)	0.05
Straight/Heterosexual	220 (55.5%)	0.56
Two-Spirit	1 (0.3%)	0.002

Table 2

Correlations between Alcohol Use, Alcohol Use Prior to Sex, and Condom Use by Minorities and Non-minorities

Variable	1	2	3
1. Alcohol Use	–	.358**/.438**	–
2. Alcohol Use Prior to Sex	.358**/.438**	–	–
3. Condom Use	–	–	–

Note. Correlation coefficients above and below the diagonal are for participants in the Minority (top) and Non-Minority (bottom) population respectively; for each set of correlations, the first statistic was retrieved from the minority group, whereas the second statistic was retrieved from the non-minority group. * $p < .05$; ** $p < .01$, *** $p < .001$.

Table 3.

Hierarchical Linear Regression Models Examining the Moderating Effect of Minority Status on the Association between Sexual Assault Victimization and Alcohol Use Prior to Sex

	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>95% CI</i>	<i>p</i>	<i>R</i> ²	ΔR^2
<u>Step 1</u>								
Alcohol Use	0.30	0.03	0.41	8.85	[.23, .36]	0.00***	.175	.169
Sexual Assault Victimization	0.09	0.07	0.06	1.28	[-.05, .22]	0.20		
Minority Status	-0.06	0.07	-0.04	-0.85	[-.21, .08]	0.39		
<u>Step 2</u>								
Alcohol Use	0.30	0.03	0.41	8.87	[.23, .36]	0.00***		
Sexual Assault Victimization	-0.16	0.13	-0.11	-1.22	[-.41, .09]	0.22		
Minority Status	-0.21	0.10	-0.13	-2.10	[-.40, -.01]	0.04*		
SA Victimization x Minority Status	0.34	0.15	0.22	2.23	[.04, .63]	0.03*		

Note: SA = Sexual Assault. Minorities and Non-Minorities were dummy coded (minorities/Latinx = 1, non-minorities = 0). * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4.

Hierarchical Linear Regression Models Examining the Moderating Effect of Minority Status on the Association between Sexual Assault Victimization and Condom Use

	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>95% CI</i>	<i>p</i>	<i>R</i> ²	ΔR^2
<u>Step 1</u>								
Condom Use	-0.02	0.08	-0.01	-0.25	[-.18, .14]	0.81	.004	.011
Sexual Assault Victimization	-0.02	0.17	0.00	-0.10	[-.34, .31]	0.92		
Minority Status	-0.22	0.18	-0.06	-1.18	[-.58, .14]	0.24		
<u>Step 2</u>								
Condom Use	-0.02	0.08	-0.01	-0.23	[-.18, .14]	0.82		
Sexual Assault Victimization	0.43	0.31	0.13	1.38	[-.18, 1.05]	0.17		
Minority Status	0.05	0.24	0.01	0.20	[-.43, .52]	0.85		
SA Victimization x Minority Status	-0.62	0.37	-0.18	-1.68	[-1.35, .10]	0.09		

Note: SA = Sexual Assault. Minorities and Non-Minorities were dummy coded (minorities/Latinx = 1, non-minorities = 0). * $p < .05$; ** $p < .01$; *** $p < .001$

FIGURES

Figure 1.

Slope for Alcohol Use Prior to Sex