

EXAMINING ALCOHOL RELATED CONSEQUENCES IN UNDERGRADUATE SORORITY WOMEN

Veronica L. Cortez

Thesis Prepared for the Degree of

MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

December 2020

APPROVED:

Justin Watts, Committee Chair

Bradley McDaniels, Committee Member

Dalia Chowdhury, Committee Member

Denise Catalano, Chair of the Department of  
Rehabilitation and Health Services

Nichole Dash, Dean of the College of Health  
and Public Service

Victor Prybutok, Dean of the Toulouse  
Graduate School

Cortez, Veronica L. *Examining Alcohol Related Consequences in Undergraduate Sorority Women*. Master of Science (Rehabilitation Counseling), December 2020, 90 pp., references, 242 titles.

Members of Greek Life organizations consume more alcohol and participate in risky drinking behaviors at higher rate than their non-Greek counterparts due to deep rooted social norms within this population. Undergraduate sorority women at college and universities are often overlooked in research regarding trends in alcohol use in Greek Life organizations. However, women between the ages of 18 and 24 are more vulnerable to the consequences of heavy alcohol use compared to men, including liver disease, sexual assault, poor academic outcomes and post-collegiate alcohol use disorders (AUDs). Although higher education institutions are tasked with educating their students about safe alcohol use and protecting students from harm, these interventions are often inadequate in decreasing alcohol related consequences. Among students, sorority women consistently consume higher amounts of alcohol and exhibit higher rates of risky drinking behavior. This thesis aims to examine the unique alcohol-related consequences and risk factors sorority women face. Implications are discussed to guide college administrators, counselors and other supports that are likely to encounter issues associated with alcohol use within this population.

Copyright 2020

by

Veronica L. Cortez

## ACKNOWLEDGEMENTS

I would first like to thank my wonderful parents, Albert and Kim, and my brother, Clay, for their constant love and support. I wouldn't be the woman I am today without you. From countless phone calls, to surprise visits, to traveling the world, you have been my rock through it all. Secondly, I would like to thank my best friend, Kieran, for our late-night talks and for helping me unwind after a long day of writing. I will cherish the memories we created forever. Thank you, Norberto, for being my confidant and cheerleader through it all. I wouldn't have made it through this process without you.

My sincerest thank you to my committee chair and members. Dr. Justin Watts, you have taught me the value of higher education and provided me with countless opportunities to excel, both inside and outside the classroom. Dr. Bradley McDaniels, you have been willing to help me along this journey. Dr. Dalia Chowdhury, you have reaffirmed me when in doubt and provided a wealth of knowledge. Thank you to Dr. Chandra Carey and Dr. Denise Catalano for being my mentors and supporting me through my masters.

I would also like to thank my grandparents, Claude and Angie Ramos and Dr. Jerry and Carolyn Henson, for inspiring me to reach for the stars and continue my education through graduate school. A special thanks to all of my friends who have encouraged me to be my best and who remind me to have fun every once in a while.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	iii
CHAPTER 1. INTRODUCTION.....	1
1.1 Statement of Problem.....	2
1.2 Scope of Issue .....	3
CHAPTER 2. ALCOHOL USE IN YOUNG ADULTS .....	5
2.1 Non-College Attending Young Adults .....	5
2.2 College Attending Young Adults .....	6
2.3 Conclusion.....	7
CHAPTER 3. PROBLEMATIC ALCOHOL USE .....	8
3.1 Use, Problematic Use, and Alcohol Use Disorder.....	8
3.2 When to Diagnose AUD .....	9
3.3 Common Assessments.....	11
3.4 Diagnostic Challenges .....	11
3.5 Conclusion.....	13
CHAPTER 4. COLLEGE DRINKING BEHAVIORS.....	14
4.1 The College Environment.....	14
4.2 Common Drinking Behaviors .....	15
4.3 Consequences of Alcohol Use.....	16
4.3.1 Academic.....	16
4.3.2 Legal .....	17
4.3.3 Health.....	17
4.4 Age as a Factor .....	18
4.4.1 Freshman Status .....	19
4.4.2 Turning 21 .....	19
4.5 Student Organizations .....	20
4.6 Conclusion.....	21

CHAPTER 5. ALCOHOL USE EDUCATION .....	22
5.1 Education Prior to College .....	22
5.2 Education Provided by Colleges and Universities.....	23
5.3 Conclusion.....	25
CHAPTER 6. GREEK LIFE AND ALCOHOL USE.....	27
6.1 Greek Life Organizations.....	27
6.1.1 National American Interfraternity Council .....	28
6.1.2 National Panhellenic Council .....	28
6.2 Alcohol Use .....	29
6.2.1 Risk Factors .....	29
6.3 Conclusion.....	31
CHAPTER 7. SORORITY WOMEN AND ALCOHOL USE .....	32
7.1 Overview .....	32
7.1.1 Benefits of Membership .....	32
7.1.2 Contested Value.....	33
7.2 Unique Stressors .....	33
7.2.1 Media Representation .....	33
7.2.2 Social Identity.....	34
7.2.3 Body Image .....	35
7.3 Consequences of Membership .....	38
7.3.1 Sexual Assault .....	38
7.4 Substance Use.....	40
7.4.1 Alcohol Use .....	40
7.4.2 Other Substance Use .....	42
7.5 Conclusion.....	45
CHAPTER 8. WOMEN AND ALCOHOL USE .....	46
8.1 Overview .....	46
8.2 Unique Stressors .....	47
8.2.1 Feminine Norms.....	47
8.2.2 Trauma .....	48

8.3	Consequences of Use .....	49
8.3.1	Sexual Assault .....	49
8.3.2	Health Outcomes .....	50
8.4	Polysubstance Use .....	52
8.5	Conclusion.....	53
CHAPTER 9. THEORY AND COLLEGIATE ALCOHOL USE.....		54
9.1	Important Concepts .....	54
9.1.1	Social Norms .....	54
9.1.2	Social Modeling.....	54
9.1.3	Selection and Socialization .....	55
9.1.4	Active and Passive Influences .....	55
9.2	Social Learning Theory .....	55
9.3	Social Control Theory.....	56
9.4	Differential Association Theory .....	56
9.5	Lifestyle Exposure Theory .....	57
9.6	Self-Medication Hypothesis .....	57
9.7	Conclusion.....	58
CHAPTER 10. PREVENTION AND INTERVENTION.....		59
10.1	Prevention.....	59
10.2	Intervention .....	61
10.2.1	Group Counseling.....	63
10.2.2	Collegiate Recovery Programs .....	64
10.3	Conclusion.....	65
CHAPTER 11. IMPLICATIONS AND CONCLUSIONS .....		66
REFERENCES .....		68

## CHAPTER 1

### INTRODUCTION

Enrollment in post-secondary education has steadily increased in the U.S. over the past several decades and is predicted to continue to increase (U.S. Department of Education, 2019b). College students between the ages of 18 and 24 have historically consumed more alcohol than individuals of the same age who are not attending college (Linden-Carmichael & Lanza, 2018). This consumption of alcohol is a serious and consistent issue on college campuses that often extends past graduation. Alcohol use contributes to between 1,500 and 1,800 deaths of college students each year (Hingson et al., 2017; Luk et al., 2018). Colleges and universities are tasked with addressing problematic alcohol use on campuses and often see few lasting results from various intervention methods (Croom et al., 2009). Alcohol use among individuals attending college results in more severe consequences than their non-college attending counterparts, including health, social, and academic consequences (Brown-Rice et al., 2015; Trolan et al., 2016).

In 2017 there were 16.9 million students enrolled in colleges and universities and 56% were women (U.S. Department of Education, 2019b). These young women often join university sponsored organization, including academic, social and service organizations. Among popular social organization on campuses are sororities. Sororities have been hosted by higher education institutions since the mid 1800's and function as social clubs for women (Alpha Delta Pi, n.d.). Current membership in National Panhellenic Conference (NPC, n.d.c) sponsored sororities is over 400,000 undergraduate women across 670 campuses. Sororities promote leadership, service, scholarship and friendship among young women, thus attracting a wide range of



women to join (NPC, n.d.c). These organizations have created a unique culture on college and university campuses that host a variety of social norms.

The majority of current research focuses on collective alcohol use among college students and among all Greek-involved students but fails to examine the environmental factors that contribute to greater risk of negative consequences that women in sororities face (Franklin & Menaker, 2018). Risky drinking behaviors, including binge drinking and heavy drinking, are often considered to be normal or even desirable behaviors within sororities (Brown-Rice et al., 2017; Brown-Rice et al., 2015; Iwamoto et al., 2018). However, sorority women encounter a unique environment that results in unique stressors and an increased risk for negative consequences than non-Greek affiliated undergraduate women, including more extracurricular activities and volunteering, and are at an increased risk for sexual assault (Iwamoto et al., 2018; Kingree & Thompson, 2017; Luk et al., 2018; Martinez et al., 2018). Due to the exclusive experiences of sorority women, increased attention from administrators, practitioners, and Greek Life coordinators is due.

## 1.1 Statement of Problem

Undergraduate women who are members of sororities are at an increased risk for drinking related consequences due to the environmental factors that create unique stressors and social norms related to drinking in Greek Life organizations (Brown-Rice et al., 2017), though this group is particularly vulnerable to health and social consequences related to alcohol use (Brown-Rice et al., 2015). Administrators and practitioners often overlook this population in crafting unique and effective prevention and intervention techniques aimed at reducing problem drinking behaviors on college campuses. Risky drinking behaviors, including binge

drinking and heavy drinking, are often exhibited by sorority women (Brown-Rice et al., 2017), and these behaviors can lead to cognitive and memory deficits, a decrease in critical thinking skills, an increased risk for experiencing sexual assault and later life alcohol use disorders (AUD), and liver disease (Jozkowski & Wiersma-Mosley, 2017; McCabe et al., 2018; Prince et al., 2019; Routon & Walker, 2019; Scott-Sheldon et al., 2008; Trolan et al., 2016).

## 1.2 Scope of Issue

There are roughly 16.9 million students enrolled in undergraduate higher education, of which 56% are women (U.S. Department of Education, 2019b). These young women are often offered membership into social organizations, including sororities. The National Panhellenic Conference (NPC) is an organization that hosts 26 different women's sororities. There are over 400,000 active undergraduate sorority women on over 670 college campuses (NPC, n.d.c).

Alcohol use is typical and is a social norm on college campuses and sorority women are particularly vulnerable to experiencing alcohol-related consequences (Brown-Rice et al., 2015; Kingree & Thompson, 2017). Sorority women have consistently been understudied by substance use researchers, leaving significant gaps in the literature related to this population's issues and needs associated with alcohol use (Franklin & Menaker, 2018). One reason for this lack of attention is due to restricted alcohol use among sorority groups, limiting researchers from understanding the full scope of the issue (Franklin & Menaker, 2018). Nevertheless, studies have estimated that between 45-65% of sorority women consume alcohol regularly (McCabe et al., 2018), which can increase the risk for various health issues and unique consequences (Iwamoto et al., 2018; Kingree & Thompson, 2017). However, the exact rate at which sorority women are experiencing these consequences remains under examined (Franklin

& Menaker, 2018). College students between the ages of 18 and 25 historically have consumed more alcohol than individuals who do not attend college (Linden-Carmichael & Lanza, 2018). Of college attending individuals, students who are members of Greek Life organizations consume larger quantities of alcohol and encounter more alcohol related consequences compared to non-Greek students (Franklin & Menaker, 2018). These factors emphasize the importance of fully understanding the full scope of alcohol use and factors that contribute to alcohol related consequences for individuals in this critical stage of development.

## CHAPTER 2

### ALCOHOL USE IN YOUNG ADULTS

Young adults (18 to 25) consistently consume larger quantities alcohol than any other age group and are at a high risk for alcohol-related consequences (Linden-Carmichael & Lanza, 2018). It is estimated that within the past year 2.4 million young adults tried alcohol for the first time, and frequently participated in high-risk drinking behaviors, including binge drinking, more than any other age group (Linden-Carmichael & Lanza, 2018; Substance Abuse and Mental Health Services Administration [SAMHSA], 2019).

SAMHSA (2019) reported that in the past year over 55% of young adults have consumed alcohol on at least one occasion, and within the past month 34.9% participated in binge drinking. Binge drinking is defined as consuming 5 or more standard alcoholic drinks (12 ounces of beer, 5 ounces of wine or 1.5 ounces of liquor) for males or 4 or more drinks for females in a two hour period (or reaching a blood alcohol concentration of .08; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2017) and heavy drinking as “binge drinking on four or more days in the past month” (NIAAA, 2017). Nearly one in ten young adults (9%) are considered heavy drinkers, while college students consistently consume larger quantities of alcohol compared to young adults not attending college.

#### 2.1 Non-College Attending Young Adults

The majority of research regarding alcohol use in young adults focuses on individuals attending college (Cleveland et al., 2013). However, a substantial portion of young adults choose not to attend college, but still consume alcohol (Merrill & Carey, 2016). Non-college attending young adults typically do not participate in binge drinking as frequently as their

college peers, and do not consume as much alcohol as peers who attend college (Quinn & Fromme, 2011). This could be due to the differing cultural norms and expectations in these two groups. Non-college young adults attend parties less frequently and spend less time with their peers compared to college attending young adults (Quinn & Fromme, 2011). However, non-college young adults tend to continue to increase their alcohol use over time and have an increased risk of developing an alcohol use disorders post-college (Carter et al., 2010; Linden-Carmichael & Lanza, 2018).

## 2.2 College Attending Young Adults

While non-college young adults typically consume larger amounts of alcohol, college attending young adults more frequently participate in binge drinking and heavy drinking (Merrill & Carey, 2016; Quinn & Fromme, 2011). There are many factors that contribute to the high rates of risky drinking behaviors exhibited by college students. These factors include communal living, the transition into college, campus events, perceived positive outcomes and widely accepted drinking norms (Merrill & Carey, 2016).

Approximately 60% of college students report consuming alcohol within the past month, and one-third of these individuals participate in binge drinking (Merrill & Carey, 2016). Students who participate in high risk drinking behaviors are more likely to experience drinking related negative consequences including physical and sexual assault, unintentional injuries, memory loss, unplanned sexual activity, social or interpersonal issues, poor self-care, diminished self-regard, and poor academic performance (Merrill & Carey, 2016). Despite these negative consequences, alcohol use is considered by many young adults to be an integral part of the college experience, and many students actively seek opportunities to consume alcohol (Lui,

2019). Many young adults attending college choose to join a variety of organizations, including educational, service and social-based organizations. Alcohol use may be exacerbated within these organizations due to accepted organizational norms and group-think mentality (Brown-Rice et al., 2017). Social organizations, such as Greek Life organizations, are known for encouraging alcohol use among members and rates of consumption are typically higher in these groups (Brown-Rice et al., 2015).

### 2.3 Conclusion

Alcohol use among young adults is consistently higher than other age groups. Young adults attending college participate in high risk drinking behaviors frequently and thus, experience an increased risk for alcohol-related consequences. Special attention from college administrators and counseling practitioners must be paid to this subgroup of young adults to prevent later life Substance Use Disorders (SUD) and other negative consequences of heavy alcohol use.

## CHAPTER 3

### PROBLEMATIC ALCOHOL USE

Differences in amount of alcohol consumed, rate of consumption and frequency of consumption all differentiate non-problematic alcohol use, problematic alcohol use, and Alcohol Use Disorders (AUDs). These different categories of alcohol use are used by practitioners to guide treatment and provide services to individuals who consume alcohol. It is important to define the differences between these categories to gain an understanding of the scope of problematic alcohol use.

#### 3.1 Use, Problematic Use, and Alcohol Use Disorder

The differences between nonpathological alcohol use, problematic alcohol use and AUD provide both practitioners and administrators a framework for understanding how to address issues related to alcohol on college campuses. Alcohol is a commonly used substance among young adults, as most young adults who consume alcohol do so without significant health, social, educational or career consequences (Linden-Carmichael & Lanza, 2018). While over 70% of college students report being intoxicated within the past year (American Psychiatric Association [APA], 2013), most (80%) participate only in occasional use or non-problematic use (NIAAA, 2020b). Problematic use typically involves engaging in high-risk drinking behaviors, including binge drinking (defined as 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion on at least 1 day in the past month; NIAAA, 2017) and frequent heavy drinking (defined as binge drinking on 5 or more days in the past month; NIAAA, 2017). In some cases, casual alcohol use can escalate and become problematic when individuals consume larger quantities of alcohol more frequently, ultimately increasing the risk

for alcohol-related consequences (Gilbert & Marzell, 2018). These individuals are often referred to as “diagnostic orphans” (DO) because they only meet one criterion for AUD (Gilbert & Marzell, 2018), which represents close to one-fifth (19.6%) of college students who consume alcohol (Hagman et al., 2014). These individuals most often report having a higher tolerance, defined as “a need for markedly increased amounts of alcohol to achieve intoxication or a desired effect or a markedly diminished effect with continued use of the same amount of alcohol” (APA, 2013), and consuming alcohol in hazardous situations (Hagman et al., 2014). Individuals who participate in problematic alcohol use are more likely to escalate and develop AUDs, thus warranting increased attention from practitioners (Gilbert & Marzell, 2018). AUD is a chronic, relapsing disease that includes having an increased tolerance, an inability to control alcohol intake, and a significant impairment in social, educational, vocational, and personal functioning (APA, 2013). Between 20-30% of college students meet the criteria to be diagnosed with an AUD at some point in their college career, however many students remain undiagnosed and untreated (Hagman, 2017; NIAAA, 2020b). Undiagnosed AUDs that develop during college have the potential to increase in severity and cause more negative consequences in later life (Hagman, 2017).

### 3.2 When to Diagnose AUD

Diagnosing AUDs quickly allows individuals to seek treatment and lessen negative consequences associated with AUDs (Hagman, 2017). To diagnose AUDs, practitioners use criteria outlined by both the *Diagnostic and Statistical Manual of Mental Disorders* (5<sup>th</sup> ed.; DSM-5; APA, 2013), and the *International Statistical Classification of Diseases and Related Health Problems* (10<sup>th</sup> ed.; ICD-10; World Health Organization [WHO], 1992).



The *DSM-5* is the accepted guide to diagnosing mental disorders published by the APA. It outlines the diagnostic criteria for alcohol use disorder and is used by practitioners to make such diagnoses. The *DSM-5* outlines a total of eleven criteria outlining symptoms that are indicative of the presence of an AUD (APA, 2013). These criteria focus on the amount of alcohol consumed, desire to consume alcohol, failure to meet major obligations due to consumption, problems in major areas of functioning, tolerance and withdrawal. The *DSM-5* also includes severity specifiers based on the number of symptoms (e.g. evidence of tolerance, social consequences, health related consequences etc.) exhibited by the individual. The presence of 2-3 symptoms indicates mild AUD, 4-5 symptoms indicates moderate AUD, and 6 or more symptoms indicates severe AUD (APA, 2013). In addition, the *DSM-5* includes information about diagnostic features of AUD, associated features supporting an AUD diagnosis, prevalence, development and course, risk and prognostic factors, functional consequences, and co-morbidity (APA, 2013).

The *ICD-10* is the internationally accepted guide to diagnosing mental and physical disorders published by the WHO. *ICD-10* is primarily used by clinicians to code diagnoses for documentation and reporting, and insurance claims. Instead of classifying alcohol use by severity, the *ICD-10* uses two categories for problematic alcohol use; dependence and abuse (WHO, 1992). Some of the symptoms used in these categories are similar to those used in the *DSM-5*, including tolerance, withdrawal and cravings (Lundin et al., 2015). Both alcohol withdrawal and cravings are considered to be necessary symptoms in an alcohol dependence diagnosis according to the *ICD-01* but are not considered to be necessary for an AUD diagnosis in the *DSM-5* (APA, 2013; Lundin et al., 2015; WHO, 1992).

### 3.3 Common Assessments

Practitioners often use assessments to aid in the diagnosis of AUDs. Screening instruments used to detect AUDs often ask respondents about their symptoms due to excessive drinking, various problems they may experience, concerns other may have regarding their drinking habits, and efforts that individuals have made to control or cut down on their alcohol consumption (Hays, 2017). There are many AUD assessments available to practitioners, however some have higher validity and reliability and thus, are used more frequently.

The CAGE Questionnaire is a brief, four item assessment that is particularly useful in settings where practitioners spend little time with clients (Taylor Jr. et al., 2016). The Michigan Alcoholism Screening Test (MAST) is a 24-item instrument that is useful in tandem with other screening instruments (Minnich et al., 2018). The Alcohol Use Disorders Identification Test (AUDIT) is a 10-item screen, developed by the WHO, and follows *ICD* criteria for alcohol abuse and dependence (Blank et al., 2015). Perhaps the most popular screening instrument is the Substance Abuse Subtle Screening Inventory-4<sup>th</sup> edition (SASSI-4). The SASSI-4 is a brief instrument that is designed to detect AUD in individuals who may be in denial or individuals who are defensive about their alcohol use (Lazowski & Geary, 2019).

### 3.4 Diagnostic Challenges

There are a variety of challenges in diagnosing young adults attending college with AUDs. A high percentage of college students who consume alcohol are considered to be DOs, as they do not meet full criteria for an AUD diagnosis (Hagman et al., 2014). Consuming alcohol, binge-drinking, and heavy frequent drinking are considered to be norms within this population,

and are often desirable behaviors (Lui, 2019). These attitudes and beliefs surrounding alcohol consumption blur the line between casual alcohol consumption and AUD.

In addition to drinking norms on college campuses, time constraints also play a role in diagnostic challenges practitioners face. The average time for graduating a four-year university is 4.5 years (U.S. Department of Education, 2019a). This short time frame does not allow practitioners to track alcohol use behaviors longitudinally, thus making diagnosis more difficult and most students fail to receive individualized services (Wu et al., 2007). However, some students are mandated to attend alcohol education courses as a consequence for drinking-related incidence (Carey et al., 2011). After the completion of their required attendance, many students choose not to continue receiving services, and may remain in the problematic alcohol use category (Carey et al., 2011).

Finally, there is a great deal of stigma that exists surrounding addiction and AUDs (O'Sullivan et al., 2019; Witte et al., 2019). When screening for problematic alcohol use or AUD, practitioners must be aware of such stigma and approach assessment gently and with non-judgment (O'Sullivan et al., 2019). Due to stigma surrounding being diagnosed with an AUD, many individuals underreport their use or downplay the severity of the consequences they are experiencing. Students who have been experiencing negative alcohol-related consequences are more willing to open up and accurately report their use to a practitioner who is non-judgmental and is transparent (O'Sullivan et al., 2019). Sometimes heavy and frequent alcohol use is due to added stress the student is experiencing (Cornelius et al., 2014). With correct identification of problematic consumption or an AUD the practitioner can aid the student in making modifications to their behavior and increase positive coping skills.

### 3.5 Conclusion

Differentiating between nonpathological alcohol use, problematic alcohol use and AUD is essential in providing effective prevention and treatment services to college students. College drinking norms, lack of willingness to receive services, stigma, and a limited time frame all inhibit practitioners and administrators' efforts in preventing alcohol-related negative consequences. Tracking alcohol consumption behaviors over time can help in preventing current drinking related consequences, and AUDs that may surface later in development.

## CHAPTER 4

### COLLEGE DRINKING BEHAVIORS

College drinking behaviors including binge drinking, heavy frequent drinking and other norms are due to the college environment and a variety of other factors including age, and organization membership.

#### 4.1 The College Environment

Experimenting with alcohol is a normal part of development, and many individuals begin to experiment with alcohol consumption when they arrive at college, in part due to increased opportunities to consume alcohol (Willis et al., 2019). Many college students hold the belief that consuming alcohol is part of attending college and drink alcohol when they are socializing (Willis et al., 2019). As alcohol becomes readily available at social events in college, young adults become more willing to consume alcohol and participate in high risk drinking behaviors, including binge drinking. Alcohol use is not only encouraged, but often rewarded in the college setting by perceived peer approval and acceptance (Khurana & Buettner, 2015).

The college experience provides many opportunities and environments that include alcohol consumptions as a norm. Parties hosted by students who live on campus, off-campus, or by organizations provide alcohol to attendees, including students who are underage (Lui, 2019). Many college campuses are near a strip of bars that are geared towards students and often advertise specials to entice students (O'Mara et al., 2009). Another popular event to consume high amounts of alcohol is football gamedays at tailgates (Willis et al., 2019). Tailgates supply superfluous amounts of alcohol that is made widely available to students and attended

by many. Each of these environments included in the college experience perpetuate college drinking beliefs and behaviors.

#### 4.2 Common Drinking Behaviors

College students frequently overestimate the amount of alcohol consumed by their peers, which leads to an increased consumption and intoxication (Khurana & Buettner, 2015). These assumptions held by students regarding their peer's consumption are typically inaccurate and creates drinking behaviors that can become dangerous including frequent heavy drinking and binge drinking (Cox et al., 2019). Many of these individuals hold the belief that they, and other students, will mature out of drinking at high levels, however about half of individuals who qualify for an AUD diagnosis at the age of 19 will still qualify at age 23 (Hultgren et al., 2019). There are various situations college students find themselves in that encourage binge drinking.

Many students who plan to attend parties or other social events choose to "pre-game" the event. "Pre-gaming" involves alcohol consumption prior to attending an event or party (Sheehan et al., 2013). In addition to "pre-gaming", parties often include drinking games for attendees to participate in. These games encourage binge-drinking (Zamboanga et al., 2010). The main goal of participating in drinking games is to reach the point of intoxication as quickly as possible (Sheehan et al., 2013). Many students participate in these activities each weekend during the semesters. These activities and regular attendance at these events become a behavioral routine and social norm within the college environment (Byrd, 2016).

Frequent heavy drinking and binge drinking have been well studied over the last twenty years (Sheehan et al., 2013). Research has shown that between 34-39% of young adults attending college participate in binge drinking (Hingson et al., 2017; SAMHSA, 2019). However,

these numbers could be underestimated due to underreporting on self-report measures. While drinking is a widely accepted behavior among college students there is still a stigma that exists surrounding potential alcohol use disorders and problematic consumption (O'Sullivan et al., 2019; Witte et al., 2019). Most individuals are unaware of how much each standard pour of wine, beer and liquor is, and tend to think that their serving size is standard when in fact it is much larger (White & Hingson, 2013). It is possible that college students are engaging in risky drinking behaviors at much higher rates than reported. This is important to note as frequent binge drinking and frequent heavy drinking can lead to more alcohol-related consequences (White & Hingson, 2013).

#### 4.3 Consequences of Alcohol Use

College students who frequently engage in risky drinking behaviors often experience alcohol-related consequences including academic, legal and health consequences. However, students might not perceive all consequences of use as negative (Rinker et al., 2017).

##### 4.3.1 Academic

Between 20-25% of students that consume alcohol reported academic issues, including getting behind on their coursework, skipping class, and receiving lower overall grades (Mallet et al., 2013; White & Hingson, 2013). Individuals who binge drink frequently in college are less likely to finish their degree, less likely to hold prestigious jobs, and more likely to develop late life AUDs (White & Hingson, 2013). In addition, students who participate in frequent binge drinking have an overall lower grade point average (GPA) than students who do not binge drink frequently (White & Hingson, 2013).

#### 4.3.2 Legal

Many college students face legal consequences as a result of their drinking behaviors. Hingson et al. (2017) reported that 12-24% of college students reported operating a vehicle after consuming alcohol, depending on age group. Approximately 5% of college students have been involved with law enforcement as a result of their drinking and some students may even be ticketed or arrested for public intoxication or driving under the influence (White & Hingson, 2013).

#### 4.3.3 Health

The following section outlines various potential health outcomes resulting from alcohol use including hangovers, cirrhosis and liver issues, hospitalization, and death.

##### 4.3.3.1 Hangovers

Nearly half of college students who consume alcohol reported experiencing hangovers after they drank (Mallett et al., 2013). Hangovers are caused by dehydration following alcohol consumption, poor sleep, gastrointestinal irritation, inflammation, increased acetaldehyde in the blood, and alcohol withdrawal (NIAAA, 2019a). Hangovers typically cause fatigue, weakness, thirst, headache, muscle aches, nausea, stomach pain, vertigo, sensitivity to light and sound, anxiety, irritability, sweating, vomiting and increased blood pressure (NIAAA, 2019a). Hangovers can range in severity and are a common consequence of consuming alcohol.

##### 4.3.3.2 Cirrhosis and Liver Issues

Heavy and frequent alcohol use can cause a variety of liver issues including cirrhosis (NIAAA, 2020a). The twelfth leading cause of death in the United States is cirrhosis (a chronic



and severe inflammation and fibrosis of the liver; Guirguis et al., 2015). Developing liver disease and cirrhosis takes time, and typically does not emerge until individuals have left college (Mellinger et al., 2019). If heavy and frequent drinking behaviors established in college continue into later adulthood, individuals are at an increased risk of developing liver issues (Guirguis et al., 2015).

#### 4.3.3.3 Hospitalizations

Many students are hospitalized due to alcohol poisoning after they participate in binge drinking. Alcohol poisoning, or alcohol overdose, occurs when an individual's Blood Alcohol Concentration (BAC) rises to dangerous levels (NIAAA, 2020c). Individuals experience blackouts, vomiting, and loss of consciousness when their BAC reaches between .16 and .30 and life-threatening overdose, suppression of vital life functions and risk of death occur when BAC is above .30 (NIAAA, 2020c). In addition to alcohol poisoning, many students are injured unintentionally after drinking alcohol (Hingson et al., 2017).

#### 4.3.3.4 Death

There has been an increase in the amount of alcohol-related deaths of college students over the last three decades and between 1,400 and 1,800 students die each year unintentionally as a result from alcohol consumption, including through traffic accidents, alcohol overdose, drowning, falling, and gun violence (Hingson et al., 2017).

#### 4.4 Age as a Factor

Research has shown that aging and progressing through college has an effect on student's alcohol consumption (Hingson et al., 2017; Hultgren et al., 2019). Many individuals

begin consuming alcohol when they arrive at college and typically students turn 21 while they are still attending college.

#### 4.4.1 Freshman Status

Many studies exam the effect of freshman status on alcohol consumption, and longitudinal studies look at drinking throughout the college years beginning during an individual's freshman year (Cox et al., 2019). College freshman tend to participate in risky drinking behaviors, and many begin college holding the belief that alcohol use is an essential component in the college experience (Crawford et al., 2019). There are many factors that contribute to this belief and increased alcohol use including having fewer responsibilities and new freedom, being aware from parental figures and rules, encouragement of alcohol consumption by peers, and perceived significant social benefits (Crawford et al., 2019; Hultgren et al., 2019). With the majority of freshman consuming alcohol, it is important to note that freshman are at a heightened risk for experiencing alcohol-related consequences and are considered to be more vulnerable than sophomores, junior, or seniors (Reavy et al., 2016). This group is especially vulnerable to underage drinking laws and have increased risk of receiving citations for underage use.

#### 4.4.2 Turning 21

College students typically begin consuming alcohol before they turn 21, the age individuals can legally consume alcohol in the United States (Byrd, 2016). Although alcohol consumption is considered to be a social norm within the college environment, individuals turning 21 ushers in a new level of risky consumption. This birthday is often seen as a rite of

passage for young adults (Fromme et al., 2010; Geisner et al., 2017a). One dangerous tradition is to try to consume 21 or more drinks in one night, which poses several dangerous health risks (Geisner et al., 2017a).

Some research has shown that college students between the ages of 21-24 participate in binge drinking more frequently than students ages 18-20 (Hingson et al., 2017), and that alcohol use increases over the years during college, including after the 21<sup>st</sup> birthday (Geisner et al., 2017a, Hultgren et al., 2019); however, other studies indicate that alcohol consumption decreases after turning 21 as the allure of consumption wears off (Fromme et al., 2010). Geisner et al. (2017b) found that when turning 21, students expect to drink more than they typically do and believe they will experience more severe consequences including blackouts, vomiting, increased impairment, and alcohol poisoning.

#### 4.5 Student Organizations

While college in general provides drinking norms, student organizations provide more specific norms and create other opportunities for alcohol consumption. Students are given the opportunity to join many organizations including sports teams, and social, service or professional organizations (Byrd, 2016; Chauvin, 2012; Crawford et al., 2019; Lui, 2019). Although these organization provide many benefits to students, including social connection, social organization and sports teams in particular provide students increased opportunity to consume alcohol and often encourage risky drinking behaviors (Chauvin, 2012; Lui, 2019; White & Hingson, 2013).

#### 4.6 Conclusion

There are many factors that contribute to and reinforce drinking norms on college campuses. The general college environment widely accepts risky drinking behaviors, and student organizations perpetuate the high rates of alcohol consumption. Although students face a variety of consequences, this does not deter participation in high risk drinking behaviors and this issue continues to be a prevalent issue on college campuses.

## CHAPTER 5

### ALCOHOL USE EDUCATION

Young adults often receive messaging about alcohol use beginning in childhood or early adolescence. In many cases, education is provided by both parents prior to college, and through the use of educational programs sponsored or required by colleges and universities.

Differentiating between the different types of education and messaging young adults receive about alcohol consumption, or lack thereof, helps researchers better understand college student's participation in alcohol use.

#### 5.1 Education Prior to College

Parents begin sending their children messages about appropriate alcohol use throughout the child's lifetime in the form of modeling behavior (Calhoun et al., 2018). When children see their parents consuming alcohol, it becomes a norm for them and the more parents drink, the more likely their children will excessively drink alcohol and experience negative consequences in adolescence (Mares et al., 2011). Many parents begin verbally communicating about alcohol use when their children become teenagers and during this time some parents even provide small amounts of alcohol under supervision to their teenagers (Calhoun et al., 2018; Jongenelis et al., 2018). By doing this, parents aim to teach their children how to engage in responsible drinking and reduce harm, however allowing alcohol use in high school has been shown to increase risky drinking behaviors, frequency and negative consequences (Jongenelis et al., 2018).

When teenagers leave home for college, some parents continue to provide alcohol to their children, though they are underage (Jongenelis et al., 2018). Students who believe that

their parents are accepting, and even supportive, of their alcohol consumption are more likely to consume more alcohol, engage in binge drinking and experience negative consequences (Calhoun et al., 2018). After transitioning to college, young adults believe that their parents progressively become more permissive of alcohol use, however this belief leads to more frequent binge drinking and more drinks consumed on a given occasion (Calhoun et al., 2018). If young adults believe their parents are less accepting of alcohol use or have more strict rules regarding the consumption of alcohol, they are less likely to begin consuming alcohol in the first month of college and less likely to participate in risky drinking behaviors (Calhoun et al., 2018; Mares et al., 2012). In addition, students drank less if their parents had a zero-tolerance policy for underage drinking compared to students whose parents allowed underage alcohol consumption (Abar et al., 2012). Although these students had a lower initial level of alcohol consumption, over time there was an increase in use and intensity of use (Mares et al., 2012). While their children are in college, parents tend to underestimate their children's alcohol use but perceive the risks of use to be greater than their children do (Napper et al., 2015). Thus, parental messaging, modeling and monitoring of their children's alcohol use during adolescents, the transition to college and throughout college is essential in reducing risky drinking behaviors and the associated consequences.

## 5.2 Education Provided by Colleges and Universities

Higher education institutions typically provide alcohol education programming to their students through programming, many of which are given to students online (Abrams et al., 2011; Barry et al., 2016; Hustad et al., 2010; Lovecchino et al., 2010; Nguyen et al., 2011; Paschall et al., 2011). E-Learning programs like Alcohol e-CHECKUP TO GO (eCHUG), and College

Alcohol have gained popularity among institutions as brief online interventions (Abrams et al., 2011). However, AlcoholEdu is the most popular program given to incoming freshman.

AlcoholEdu provides information about blood alcohol concentration (BAC), negative consequences of alcohol use, advantages of abstaining from use and practicing safer drinking practices and challenging beliefs and norms about alcohol use (Abrams et al., 2011). The program contains a pre-test, modules with videos, and a posttest (Everfi, 2020a). AlcoholEdu is currently used on over 500 campuses in the United States (Everfi, 2020a) and has shown to be effective in reducing the likelihood of participants needing medical care for alcohol related incidents, reducing high risk drinking behaviors, and reducing overall alcohol consumption during the first few weeks of college, which is considered to be critical time in developing behavioral patterns of use (Abrams et al., 2011; Hustad et al., 2010). Freshmen tend to experience a spike in alcohol consumption during the first few weeks of college and with BAC levels also peaking during this time (Nguyen et al., 2011).

However, not all studies have found AlcoholEdu to be completely effective in lowering all risks associated with alcohol use (Barry et al., 2016; Lovecchino et al., 2010; Paschall et al., 2011). Although students found AlcoholEdu to be informative, many did not change their consumption behaviors and still participated in risky drinking behaviors or did not demonstrate protective behaviors, like eating before drinking or pacing drinking over a longer time frame (Barry et al., 2016; Lovecchino et al., 2010). As the semester progresses, students are likely to become less concerned with alcohol related consequences and protective behaviors gradually decrease (Nguyen et al., 2011). Beyond the first semester, AlcoholEdu has not shown long-term effectiveness and many students still rely on a trial and error method to

learn appropriate consumption behaviors (Barry et al., 2016; Paschall et al., 2011). Although AlcoholEdu provides short-term positive impact on students' attitudes and behaviors and a reduction in negative consequences, long-term results are lacking (Lovecchino et al., 2010).

In addition to generalized alcohol education and awareness programs, many institutions also provide programs to students who have campus alcohol policy violations (DiFulvio et al., 2012). The most widely used program is the Brief Alcohol Screening and Intervention for College Students (BASICS). Through the use of motivational interviewing techniques, BASICS aims to reduce harmful alcohol use and negative alcohol related consequences (DiFulvio et al., 2012). The BASICS program consists of two sessions, each lasting one hour, with a counseling professional (DiFulvio et al., 2012). Although many students who complete this program are mandated due to campus substance policy violations, BASICS exhibits a long-term impact on participants including a reduction in frequency of drinking, amount of alcohol consumed per occasion, binge drinking and peak BAC levels (DiFulvio et al., 2012; Terlecki et al., 2015). The long-term effectiveness of BASICS could be explained by the motivational interviewing technique use (Terlecki et al., 2015). People are more likely to experience sustained results when they are able to choose their own behavior, rather than forced change (Terlecki et al., 2015). The BASICS program provides great promise in providing lasting behavioral change among college students.

### 5.3 Conclusion

Learned behaviors, explicit communication from parents and education provided by institutions all contribute to student's alcohol consumption patterns. Parents set the stage for their children's drinking behaviors and have a large influence on their use during and after the



transition from high school to college. Although institutions typically provide alcohol education and prevention, the effectiveness of most alcohol education programs is mixed. There are currently no intervention given to all students that has resulted in long-term behavior change.

## CHAPTER 6

### GREEK LIFE AND ALCOHOL USE

Greek life organizations can trace their roots back to the early 1800s beginning with fraternities (men's only organizations; North American Interfraternity Conference [NIC], 2020) and then followed by sororities (women's only organizations; National Panhellenic Conference [NPC], n.d.a). Although there are other governing councils for Greek life organizations, the NIC for men's fraternities and the NPC for women's sororities have the most member organizations (NIC, 2020; NPC, n.d.a). Though these organizations provide many benefits to members, they consistently consume more alcohol than their non-Greek counterparts (Brown-Rice et al., 2015). Greek organizations hold unique drinking norms and features that contribute to the increased rates of consumption.

#### 6.1 Greek Life Organizations

Same sex organizations began to emerge on college campuses in the early 1800s and quickly flourished (NIC, 2020). Greek life organizations foster an intimate community that develops interpersonal relationships between members (Long, 2012). Fraternities and sororities are social organizations that promote leadership, friendship, service, and education (Long, 2012; NIC, 2020; NPC, n.d.a). Members of Greek life organizations share these values, though individual chapters and campuses hold different cultures and climates differ (Barnhardt, 2014). Individuals often choose to join these organizations because members with an increased sense of belonging and support peer interaction (Long, 2012). They also aid in developing individuals' study, critical thinking, management and career skills (Long, 2012).

However, Greek life is not supported by all individuals or campus administrations (Bowman & Holmes, 2017). Though these organizations may help foster key educational skills, there are not significant differences in member and non-member students' development of critical thinking or moral reasoning skills, intercultural competence, or lifelong learning (Martin et al., 2011). Despite these insignificant differences, fraternity and sorority members are more likely to graduate college (Routon & Walker, 2019) and 20% of graduating seniors are members of Greek life organizations (Franke et al., 2010).

#### 6.1.1 National American Interfraternity Council

The NIC is the governing body of men's fraternities and currently has 61 member organizations (NIC, 2020). The NIC tend to have more relaxed guidelines for its members than the NPC (Bowman & Holmes, 2017). The breadth of research on Greek life organizations focuses on NIC fraternities (Scott-Sheldon et al., 2016). Men in NIC member organizations reported higher college satisfaction in only their freshman year and lower freshman year grades than non-members (Bowman & Holmes, 2017).

#### 6.1.2 National Panhellenic Council

The NPC is the governing body of women's sororities and has 26 member organizations (NPC, n.d.a). There are currently more than 670 college campuses that are home to NPC sororities and over 400,000 current undergraduate members (NPC, n.d.a). The NPC places a heavy emphasis on the importance of striving for academic achievement and reducing high levels of alcohol consumption among its members (Bowman & Holmes, 2017). Women in NPC member organizations reported high college satisfaction, higher overall GPA, and four-year

graduation than non-members (Bowman & Holmes, 2017).

## 6.2 Alcohol Use

Drinking behaviors and alcohol consumption within Greek organizations differs from non-members (Brown-Rice et al., 2015). This could be due to an emphasis on drinking within the Greek life community, an overall party atmosphere, and more opportunities to consume alcohol (Cheney et al., 2017b). Compared to non-members, fraternity members experience more alcohol-related injuries, engage in more fights, engage in more frequent unwanted sex, and have unprotected sex more frequently (Ragsdale et al., 2012) and sorority women experience alcohol related injury, are sexually victimized, have unwanted sex, and have unprotected sex more often than non-members (Ragsdale et al., 2012).

### 6.2.1 Risk Factors

The overall culture of Greek life organizations provides unique drinking and social norms that contribute to increased alcohol consumption and more frequent participation in risky drinking behaviors.

#### 6.2.1.1 Pledging

Pledging is the process of becoming an active, or initiated, member of a fraternity or sorority and often involves hazing, the abuse of pledges (Cimino, 2018). When joining a fraternity or sorority, pledges are immersed in the unique social culture of these organizations including drinking norms (Scott-Sheldon et al., 2016). During hazing, pledges are often encouraged to binge drink on many occasions and these risky behaviors are often rewarded, thus leading to the adoption of these behaviors to gain approval from the active members in

hopes of being initiated into the organization (Capone et al., 2007; Cashin et al., 1998; Scott-Sheldon et al., 2016).

#### 6.2.1.2 Misperceptions of Norms

College students, regardless of organization affiliation, often overestimate the consumption behaviors and patterns of their peers (Khurana & Buettner, 2015). Students learn these norms from a reference group, in this case their fraternity or sorority (Borsari & Carey, 2003). When members of fraternities and sororities believe that their reference groups (their chapters and the Greek life community as a whole) are consuming more alcohol, they engage in more frequent consumption as this is the perceived norm (Lewis & Neighbors, 2006; Scott-Sheldon et al., 2016).

#### 6.2.1.3 Live-In Members

Another risk factor for increased consumption among members of fraternities and sororities is living in their organization sponsored housing. Both fraternity men and sorority women binge drink more frequently if they live in the fraternity or sorority houses instead of living off-campus (McCabe et al., 2018). McCabe et al. (2018) found that members who lived in their fraternity houses were at an increased likelihood of developing AUD symptoms around the age of 35 (45%) and similar rates were found among sorority women who lived in their sorority houses.

#### 6.2.1.4 Protective Behavioral Strategies

Greek life members are at an increased likelihood to experience negative consequences and members typically exhibit fewer protective behavioral strategies (PBS), including eating

before drinking and pacing consumption compared to non-members (Barry et al., 2016). The fewer PBS's an individual possesses the more likely they are to encounter severe negative consequences (Barry et al., 2016).

#### 6.2.1.5 Interventions

In a meta-analysis of the efficacy of various alcohol interventions specifically for Greek life organizations, Scott-Sheldon et al. (2016) discovered that interventions that targeted alcohol expectancies (i.e. increasing sociability) were the most effective for reducing the amount of alcohol individuals consumed on each occasion. In addition, there was a reduced efficacy when interventions were hyper focused on situational risk factors (i.e. moderating drinking) and brief interventions were the most effective (Scott-Sheldon et al., 2016). However, it should be noted that most of the studies included in this meta-analysis sampled fraternity men, only 18% of total participants were women, and none specifically targeted sorority women (Scott-Sheldon et al., 2016).

### 6.3 Conclusion

Alcohol consumption by members of Greek Life organizations differs from non-members drinking for a variety of reasons. The unique social norms provided by Greek life organizations offers students an opportunity to consume more alcohol and participate in risky drinking behaviors more frequently. While some interventions have been found to be effective, there are no current interventions that specifically target sorority women.

## CHAPTER 7

### SORORITY WOMEN AND ALCOHOL USE

Sorority women experience and elevated risk for negative alcohol-related consequences (Brown-Rice et al., 2017), including health and social consequences (Brown-Rice et al., 2015) compared to non-members due to the environmental factors that incite higher rates of alcohol consumption. Sororities create a unique environment that fosters both positive and negative effects on its members.

#### 7.1 Overview

Women's social organizations, or sororities can trace its roots back to 1851, with the founding of Alpha Delta Pi (Alpha Delta Pi, n.d.). By 1900, there were 18 sororities at colleges across the United States (NPC, n.d.c). In 1902, the National Panhellenic Conference (NPC) was formed by nine existing sororities (NPC, n.d.d) as an "umbrella organization" (NPC, n.d.a). The NPC aims to advance sorority life on college campuses and support alumnae chapters (NPC, n.d.b), help preserve the sorority experience, advocate for college affordability, and promote student and campus safety (NPC, 2018). However, studies are mixed regarding the value and benefits of membership (Hevel et al., 2015; Pascarella & Terenzini, 2005).

##### 7.1.1 Benefits of Membership

Sororities provide social capital to its members through existing social networks and connections throughout campus (Hu & Wolniak, 2010). New members have the opportunity to engage in philanthropic activities, are offered leadership positions, and join a community of like-minded peers (Walker et al., 2015). Sorority members have a deep-rooted sense of pride

for their organizations and experience a sense of belonging upon joining (Ortiz & Thompson, 2019). Pascarella & Terenzini (2005) found that sororities women have higher grades and members have a higher satisfaction with their overall college experience. In addition, members of sororities are more likely to graduate within four years and are more involved on campus compared to non-members (Bowman & Holmes, 2017; Walker et al., 2015). Sororities can also serve safe space for members to experience interpersonal growth and practice social relationships while creating close bonds between sisters (Hernandez, 2018; Lewis et al., 2015).

### 7.1.2 Contested Value

Though sororities provide members with some benefits, their place on college campuses can be highly contested (Hevel et al., 2015). Being a member of a sorority requires frequent attendance at various activities and a major time commitment (Walker et al., 2015). Hevel et al. (2015) determined that sorority membership did not determine individuals critical thinking skills, moral reasoning, inclination to inquire, lifelong learning, and psychological well-being. In addition, membership was found to neither enhance or negatively affect educational outcomes, like GPA and graduation (Hevel et al., 2015).

## 7.2 Unique Stressors

Although sorority membership may or may not provide substantial benefits to members, there are a variety of unique stressors that sorority women face on campus, including maintaining social identity and stereotypical body types.

### 7.2.1 Media Representation

#### 7.2.1.1 Movies



The reputation of American sororities is rooted in stereotypical media representations throughout history with movies like *The House Bunny* (2008), *Sydney White* (2007), and *Legally Blonde* (2001). These movies, among others, portray sorority members as entitled, unintelligent, and narcissistic women who enjoy partying and haze members (Ortiz & Thompson, 2019; Wasylkiw & Currie, 2012). The stereotypes portrayed in these films is often internalized by members, furthering internalized misogynistic messages (Ortiz & Thompson, 2019).

#### 7.2.1.2 Social Media

Social media is widely used within sororities including, individual member, national chapter, college-level Panhellenic council, and other Greek affiliated accounts followed by sorority women (Ortiz & Thompson, 2019). Social media accounts like Greek Rank, Total Sorority Move, and Old Row all serve in maintaining stereotypes about sorority women by objectifying women's bodies and placing emphasis on the need to conform to misogynistic standards (Ortiz & Thompson, 2019). These factors add to the stressors that sorority women face on college campuses.

#### 7.2.2 Social Identity

Sorority women often adhere to stereotypical standards and social constructs of womanhood that are internalized due to historical female submissiveness within Greek Life organizations (Davis, 2018). Sorority members are expected to be similar in the way they think, dress, act, and look, with many coming from similar socioeconomic backgrounds (Ortiz & Thompson, 2019). The social constructs within sororities create the requirement to adhere to such standards and norms and have the potential to negatively impact members sense of self

and physical and mental health (Ortiz & Thompson, 2019). These factors may drive sorority women's engagement in risky drinking behaviors to "fit in", though research in this area is lacking.

### 7.2.3 Body Image

Society as a whole, popular media, and college men (members of fraternities and non-members) often hyper sexualize sorority women's bodies (Adams et al., 2017; Davis, 2018) leading to strict standards members must follow (Ortiz & Thompson, 2019). Sorority women are more likely to focus on their physical appearance, participate in body surveillance, self-objectification and disordered eating (Adams et al., 2017; Basow et al., 2007; Rolnik et al., 2010). These factors may diminish the chances of sorority women utilizing protective drinking strategies, like eating before consuming alcohol in order to reduce the number of calories consumed in a drinking session.

#### 7.2.3.1 Health

Sorority members are more likely than non-members to be in good health and typically meet exercise recommendations for women aged 18-25 (Averett et al., 2017). However, these women also tend to view themselves as either underweight or overweight (Averett et al., 2017). Thus, sorority women display more disordered eating behaviors like dieting, attempting to lose weight, and using pills to reduce weight (Averett et al., 2017). These behaviors can cause serious health and social consequences when coupled with alcohol use.

#### 7.2.3.2 Disordered Eating

Sorority women are more likely participate in disordered eating behaviors than non-

members (Averett et al., 2017; Rolnik et al., 2010). Although, sorority women tend to engage in dieting, working to lose weight through exercising or manipulating food intake, and using pills to lose weight, there is not a significant difference between members and non-members in being underweight, vomiting to control weight, taking laxatives to lose weight, or being diagnosed with Anorexia Nervosa or Bulimia Nervosa (Averett et al., 2017). Anorexia Nervosa (AN) is a diagnosis given to individuals who think they are overweight and participate in food restriction to the point of starvation (APA, 2013) and Bulimia Nervosa (BN) is a diagnosis given to individuals who eat excessive amounts of food followed by purging their food via vomiting or using laxatives (APA, 2013). Although some individuals may display certain disordered eating behaviors, they may not meet all necessary criteria for an AN or BN diagnosis (APA, 2013).

In a study comparing sorority women and non-members eating behaviors when consuming alcohol, Rancourt et al. (2020) found that there was no significant difference in eating disorder symptoms within these two groups, however there were differences in some Food and Alcohol Disturbance (FAD) behavior categories. FAD is the display of disordered eating behaviors (e.g., food restriction, purging, excessive exercise) while consuming alcohol in the hopes to become drunker faster or compensate for calories consumed via alcohol (Choquette et al., 2018). Sorority women were found to be more likely to display significantly more FAD Alcohol Effects (AE) behaviors, including getting drunker or getting drunker faster, and FAD Diet and Exercise (DE) behaviors, including consuming low-calorie foods or excessive exercise (Rancourt et al., 2020). However, there was no difference between members and non-members who displayed FAD Extreme Weight Control Behaviors (EWCB) including purging, using laxatives, or skipping meals. The three subscales (AE, DE, and EWCB) used in this study show

that sorority women tend to engage in some disordered eating behaviors in the context of alcohol consumption than non-members (Rancourt et al., 2020).

#### 7.2.3.3 Messages about Body Image

Undergraduate women are often concerned about their appearance and dissatisfied with certain parts of their bodies (Gillen & Lefkowitz, 2006) and sorority women are a more vulnerable subgroup due to various messages about expectations for their appearance (Averett et al., 2017). Undergraduate women who choose to join sororities exhibit more self-objectification, however joining a sorority does not guarantee an increase in self-objectification beliefs or negative body image (Rolnik et al., 2010). This indicates that women who choose to join sororities already hold these beliefs and behaviors prior to joining. In addition, women who did not complete the recruitment process had higher Body Mass Index's (BMIs) than women who did. It should be noted that Rolnik et al. (2010) also found that one month after joining a sorority, new members experience an increase in body shame, but not disordered eating behaviors.

In a qualitative study, Reno & McNamee (2015) examined the messages that sorority women have received regarding body image, weight, and physical appearance. The majority of respondents indicated that messages from their sisters about body weight and physical appearance were positive and confirming. This indicates that sorority women are supportive of their sisters and help members build confidence and self-esteem (Reno & McNamee, 2015). Less than 7% of respondents in this study expressed that the messages from their sisters regarding physical appearance were negative and contained messages of criticism and judgement. However, it should be noted that Reno & McNamee (2015) found that sorority

women praise other members for thinness and other physical aspects of appearance, thereby subconsciously reinforcing the emphasis on the importance of being thin.

### 7.3 Consequences of Membership

Although sororities provide various benefits to their members, sorority membership also holds consequences like an increased risk for sexual assault (Franklin & Menaker, 2018; Radina, 2017) and alcohol-involved sexual violence (Kingree & Thompson, 2017; Moynihan et al., 2011).

#### 7.3.1 Sexual Assault

Sorority women experience higher risk of sexual assault victimization and are five times more likely to experience completed rape when compared to non-members, possibly because these women exhibit behavioral patterns that increase risk (Franklin, 2010; Franklin & Menaker, 2018; Kingree & Thompson, 2017). Behaviors that increase risk include alcohol consumption (Minow & Einolf, 2009), participation in Greek sponsored events that included alcohol consumption (Ragsdale et al., 2012), number of sexual partners (Franklin & Menaker, 2018; Kingree & Thompson, 2017) and proximity to fraternity men (Krebs et al., 2009).

##### 7.3.1.1 Alcohol Consumption

Alcohol misuse is more common among sorority members than non-members and alcohol misuse has been correlated with sexual violence (Kingree & Thompson, 2017). While alcohol use, or misuse, is not the only catalyst in sexual assault, sorority women have been found to experience more attempted and completed rape when alcohol consumption was involved (Minow & Einolf, 2009). In addition, live-in members have an even higher risk of

experiencing sexual assault with alcohol involved than live-out members (Mohler-Kou et al., 2004; Moynihan et al., 2011). However, Franklin & Menaker (2018) found that “intoxicated sexual assault” rates were not significantly different between members and non-members.

#### 7.3.1.2 Greek Events

Attendance at Greek sponsored events that include alcohol has been shown to increase the likelihood of sexual assault victimization among all undergraduate women (Minow & Einolf, 2009). Sorority women tend to frequent these events, especially events hosted by fraternities, thus increasing their risk of experiencing sexual assault (Franklin & Menaker, 2018).

#### 7.3.1.3 Sexual Partners

Women who have more lifetime sexual partners are more likely to experience alcohol-involved sexual assault, completed rape, and unwanted sex following verbal coercion (Franklin & Menaker, 2018). Kingree & Thompson (2017) identified that sorority women tend to have more sexual partners compared to non-members. Although sorority membership and more sexual partners are correlated, literature is mixed regarding how significant of a risk factor this is in sexual violence among sorority women (Franklin & Menaker, 2018; Kingree & Thompson, 2017).

#### 7.3.1.4 Fraternity Men

Greek life is a college campus subculture that creates an environment where both rape and sexual assault is widely accepted, and sometimes encouraged (Bannon et al., 2013; Radina, 2017). Sorority women are 1.5 times more likely to be sexually assaulted when consuming alcohol at a fraternity house (Ragsdale et al., 2012) and more sexual assault occurs at fraternity

houses or fraternity sponsored events even when alcohol is not present (Boyle, 2015; Radina, 2017). Fraternity men experience peer pressure from other members to engage in sexual activities with women, thus potentially leading to non-consensual sex (Franklin et al., 2012).

#### 7.4 Substance Use

Sorority women use alcohol and other substances at higher rates and more frequently than non-Greek students (Brown-Rice et al., 2017; Brown-Rice et al., 2015; McCabe et al., 2018; Soule et al., 2015). Intervention efforts by universities have been found to be overall ineffective at reducing risky consumption behaviors during college and post-collegiate SUDs (Brown-Rice et al., 2017; Brown-Rice et al., 2015). This is a significant issue as mixing substance (e.g. alcohol and stimulant use) increases the risk for social and health consequences, including death.

##### 7.4.1 Alcohol Use

Between 45-65% of sorority women consume alcohol on a regular basis (McCabe et al., 2018). In a study done by Brown-Rice et al. (2015) using the Alcohol Use Disorders Identification Test-Concise (AUDIT-C), 57% of sorority women were above the cutoff score for risky drinking with heavy drinking persisting throughout individuals 4 years at college. Although many campuses host and require alcohol education and intervention programs, sorority members continued to participate, and some individuals increased their participation in heavy drinking and risky drinking behaviors (Brown-Rice et al., 2017). In addition, sorority women tend to binge drink and drive more frequently after consuming alcohol than non-members (Soule et al., 2015), thus increasing the likelihood of alcohol-related consequences including sexual assault, engaging in sex without consent, blacking out, and unprotected sex (Kingree & Thompson,

2017; Soule et al., 2015).

Although sorority women participate in more frequent high-risk drinking behaviors, they also possess more protective behavioral strategies (PBS) than non-members, including pacing drinking and eating prior to drinking (Soule et al., 2015). Even with the use of these PBS, sorority women still encounter more negative consequences than students who are not members (Soule et al., 2015). Following graduation, sorority women have a greater likelihood of developing AUDs (McCabe et al., 2018; Prince et al., 2019; Scott-Sheldon et al., 2008). McCabe et al. (2018) found that following college sorority women displayed at least 2 AUD symptoms at age 35. This indicates that behaviors developed during membership carry into later adulthood. The heightened risk of developing later life AUDs could be explained by routine behaviors of consumption that are formed during membership, like frequent binge drinking (Prince et al., 2019; Scott-Sheldon et al., 2008).

Members who live-in their sorority houses for at least one semester participated in binge drinking more frequently than members who did not live in their houses (McCabe et al., 2018). However, alcohol use within sorority housing and by sorority members is typically restricted by individual chapter or national bylaws (Franklin & Menaker, 2018). The NPC standards require member organizations to educate members at least once per semester on alcohol and other drugs, encourages chapters to hold alcohol-free events, and prohibits alcohol and other illicit substances from being kept at chapter houses (NPC, 2014b). These strict policies are aimed at ensuring the safety and wellbeing of all members (NPC, 2014b). In addition, NPC has taken a strong stance against hazing (NPC, 2014a), sexual assault (NPC, 2019), and discrimination (NPC, 2015).



## 7.4.2 Other Substance Use

In addition to consuming alcohol, sorority women also use other substances like nicotine and tobacco (Cheney et al., 2014; Cheney et al., 2017a), prescription medications (Benson et al., 2015; Garnier et al., 2010), marijuana (Collins & Liu, 2014; Keith et al., 2015) and cocaine (Arria et al., 2017; Kasperski et al., 2011).

### 7.4.2.1 Nicotine and Tobacco

Literature is mixed whether sorority membership is correlated with higher rates of cigarette use, with some studies finding that membership is not correlated with greater or more frequent use (Hahn et al., 2010; Jarrett et al., 2012; Ridner et al., 2010), some studies found members less likely to smoke (Costa et al., 2007; Scott-Sheldon et al., 2008), and others found that sorority women smoked socially when consuming alcohol at parties or bars (Cheney et al., 2017a; Cronk et al., 2011; Nichter et al., 2010; Sutfin et al., 2009). In addition, three studies found that live-in members were more likely to smoke cigarettes (Primack et al., 2012; Sidani et al., 2013; Thompson et al., 2007), but one study found no difference in use between live-in and live-out members (Scott-Sheldon et al., 2008).

### 7.4.2.2 E-Cigarettes

The recent emergence of e-cigarettes has gain popularity among college students, including members of sororities, however research on the long-term health effects of e-cigarettes is lacking (Sutfin et al., 2013). Sutfin et al. (2013) found that Greek life membership is a significant predictor of e-cigarette use, and 12% of individuals who used e-cigarettes had never smoked a cigarette. In addition, individuals who consumed alcohol, particularly

participated in binge drinking, more frequently use e-cigarettes (Saddleson et al., 2015; Sutfin et al., 2013).

#### 7.4.2.3 Prescription Medications

The misuse of prescription stimulant medication on college campuses is a growing public health issue. The most common stimulant medications used by college students are Adderall, Vyvanse, and Ritalin and are prescribed to students diagnosed with attention deficit hyperactive disorder (ADHD; Benson et al., 2015). Although some students might be prescribed this medication to help manage their ADHD symptoms, Garnier et al. (2010) found that 62% of students with prescriptions had sold or shared their medication at least once. Students use these medications to help study and perform on exams and many students do not believe that using prescription stimulant medication is an issue, and some don't even consider it a drug (DeSantis & Hane, 2010). Multiple studies have found that members of Greek organizations misused prescription stimulants significantly more than their non-Greek counterparts (DeSantis et al., 2008; Dussault & Weyandt, 2013; McCabe, 2008; McCabe et al., 2006; Rabiner et al., 2009; Rabiner et al., 2010; Weyandt et al., 2009). A study done by Egan et al. (2013) found that 46.4% of college students used prescription stimulants and alcohol simultaneously and 53.6% concurrently and more frequently experienced moderate to severe alcohol related consequences. However, combining alcohol with prescription stimulants can be life-threatening. Prescription stimulants can seem to counteract the effects of alcohol causing individuals to drink more, eventually leading to alcohol poisoning (SAMHSA, 2016) and can also cause heart attacks and strokes (Lakhan & Kirchgessner, 2012).

#### 7.4.2.4 Cannabis

Sorority membership has been found to have a significant correlation to cannabis use (Collins & Liu, 2014; Keith et al., 2015) and more frequent use (Keith et al., 2015). In addition, live-in members are more likely to use cannabis compared to live-out members (Collins & Liu, 2014). However, in a longitudinal study McCabe et al. (2018) found that members who lived in had no difference in collegiate cannabis use when compared to live out members and non-members and no difference in later life cannabis use disorder (CUD) at age 35. Keith et al. (2015) found that students who reported using cannabis also use alcohol (98.9%), cigarettes (83.3%), and cocaine (46.7%). When combining binge drinking and cannabis use students reported “regretting something they did while intoxicated, forgetting what they did, and having unprotected sex” (Keith et al., 2015). Though literature is mixed, sorority women who use both cannabis and alcohol simultaneously are at a greater risk for encountering negative consequences (Keith et al., 2015).

#### 7.4.2.5 Cocaine

Cocaine use also appears to peak in individuals fourth year of college (Arria et al., 2017) and tripling from year one to four (Kasperski et al., 2011). In addition, approximately one third of students being exposed to cocaine and one seventh having tried cocaine at least once (Kasperski et al., 2011). Although males have been found more likely to use cocaine, females who use cocaine typically display heavier patterns of use and used cocaine more frequently than males (Kasperski et al., 2011). There are no current studies that look at cocaine use in sorority women or use Greek-affiliation as a demographic variable. Many individuals who use cocaine often use alcohol simultaneously (APA, 2013). Mixing cocaine with alcohol can be

dangerous and can increase risk of overdose, sudden death, stroke, intracranial hemorrhage, and heart attack (Arias et al., 2016; Farooq et al., 2009; SAMHSA, 2016).

## 7.5 Conclusion

Sororities provide members with extensive social networks, leadership opportunities, and increased positive academic outcomes, however their place on college campuses is not without debate. Sorority women face unique stressors including media representation and social media, social identity, and maintaining a stereotypical body image. Sorority women also face a variety of consequences like sexual assault and greater rates of substance use than non-Greek students. In addition to this, sorority women also use other substances at higher rates, when mixed with alcohol increases the risk of severe health consequences, including death. Although sororities have many benefits, these women also must navigate an intricate social web full of stereotypes, misogyny and substance use.

## CHAPTER 8

### WOMEN AND ALCOHOL USE

#### 8.1 Overview

While both women and men consume alcohol, women's bodies process alcohol differently and women experience unique stressors and health outcomes. Alcohol use patterns among women have shifted over the last few decades, perhaps with this change of feminine norms (Hughes et al., 2016). Although feminine and masculine roles still differ in American society, drinking is now more commonly accepted as a behavior that women can participate in. With this, alcohol use and misuse has also increased (Slade et al., 2016; White et al., 2015). According to the U.S. Department of Health and Human Services (2015), women should not consume more than one beverage containing alcohol per day, or seven drinks per week, while men should not consume more than two alcohol containing beverages per day, or fourteen per week. However, alcohol consumption guidelines in the United Kingdom recommend no more fourteen beverages containing alcohol per week, for both men and women (National Health Service [NHS], 2018). Even at lower levels of consumption, women are experience more alcohol-related problems (including AUD, sexual assault, and various other health issues) sooner than men (Erol & Karpyak, 2015).

This is in part due to the way women's bodies process alcohol. Alcohol is processed through the liver and resides in body water. On average, women's bodies contain less water and more fat, meaning that when women consume the same amount of alcohol as a male her same weight, she will typically have a higher BAC because the alcohol is being absorbed slower through the woman's body (NIAAA, 2019b). The difference in alcohol processing can lead to an

increased risk for liver issues, heart disease, brain damage, breast cancer, and pregnancy complications depending on how much alcohol is consumed regularly (NIAAA, 2019b).

## 8.2 Unique Stressors

College-aged women who consume alcohol are concerned with the potential of being sexually assaulted, pressure to drink from men, and getting home safely. In addition, shifting feminine norms and past traumatic experiences can lead to alcohol misuse and the potential for a later-life AUD.

### 8.2.1 Feminine Norms

Over the past few decades, drinking rates among women are becoming increasingly similar to male rates (Iwamoto et al., 2018). This could be explained by the gradual shift in feminine norms where heavy alcohol use is becoming more accepted on a societal level (Iwamoto et al., 2018) however, there still remain differences in drinking patterns on an individual level (Brady et al., 2016). Many women tend to focus on their outward appearance to others, fitting in, and social attendance which may prevent some women from engaging in heavy, frequent, or binge drinking (Iwamoto et al., 2018). However, it appears there is a split in accepted alcohol use behaviors among women with some adhering to more traditional norms and others gravitating towards traditionally male norms. A study done by Iwamoto et al. (2018) found that the group of women who adhered to more traditional feminine norms were less likely to participate in binge drinking and incurred fewer alcohol-related consequences, while the other group of women found it empowering to consume alcohol in ways similar to men (i.e. binge drinking). Although men consume more alcohol than women, the difference in rates of

drinking, days consuming alcohol, AUD criteria met, and drinking and driving have all diminished over the past two decades (White et al., 2015). Between 2002 and 2012, White et al. (2015) found that past month drinking in women increased from 44.9% to 48.3% and for males decreased from 57.4% to 56.1%. The gap in consumption between men and women's past month alcohol consumption has decreased from 12.5% to 7.8%, a significant decrease (White et al., 2015).

### 8.2.2 Trauma

Individuals who experience trauma are more likely to develop SUDs (O'Sullivan et al., 2019). Women are at an increased likelihood to experience more traumatic events across their lifetimes and exhibit more symptoms of posttraumatic stress disorder (PTSD; Berenz et al., 2016). Individuals who experience traumatic events often experience high levels of anxiety as a result of the event (Howell et al., 2010). Individuals who are more anxiety sensitive and lack skills to effectively manage distress are typically less likely to be able to tolerate distress and often turn to alcohol to cope (Berenz et al., 2016; Howell et al., 2010). Because women tend to experience traumatic events than men, there is a greater chance of women using alcohol to cope with unwanted or negative emotions (Berenz et al., 2016; Metzger et al., 2017).

Some women who experience trauma may develop PTSD. A study done by Stappenbeck et al. (2013) found that women with PTSD diagnoses consumed more alcohol and were twice as likely to encounter related consequences compared to women who had experienced trauma but did not meet diagnostic criteria for PTSD. These negative consequences of alcohol use were increased if the women had also experienced sexual assault. In addition, women with PTSD reported that they used alcohol to cope with depression, anxiety, and to adhere to social norms

compared to women without PTSD diagnoses (Stappenbeck et al., 2013). Women with trauma but not PTSD diagnosis also reported consuming alcohol to cope with anxiety and depression more frequently than women who had not experienced trauma. Although it should be noted that this study found that trauma and PTSD does not necessarily guarantee greater alcohol consumption among women, it does contribute to a greater frequency of alcohol-related consequences (Stappenbeck et al., 2013).

### 8.3 Consequences of Use

Women experience a variety of consequences of alcohol use that differ from men. Women have a greater likelihood of acquiring injuries resulting from violence as a result of consumptions (Chavez et al., 2012; Graham et al., 2011; Korcha et al., 2014; Williams et al., 2011) and women who have experienced interpersonal violence (IPV) are more likely to meet AUD criteria (Abramsky et al., 2011; La Flair et al., 2012). In addition, women experience more mental health disorders (Adam et al., 2016), and many women's health issues can be tied back to alcohol consumption. Following alcohol consumption, many women impose dietary restrictions, skip meals, or purge after eating in the hopes of offsetting calories consumed while drinking (Barry et al., 2013), however this can be dangerous and cause other health related issues.

#### 8.3.1 Sexual Assault

College aged women (18-24) are more likely being sexually assaulted than women in any other age group (Sinozich & Langton, 2014). Though estimates vary, approximately 20-25% of women attending college will be sexually assaulted during their undergraduate career (Franklin



2010; Krebs et al., 2009). Reed et al. (2009) found that alcohol use by the victim, perpetrator, or both parties was involved in most campus sexual assaults. Alcohol consumption, including drinking to cope with anxiety and number of weekly drinks are predictors of sexual assault among college women (Neilson et al., 2018). In addition, women who have a sexual assault history drink more than women who have not, further increasing their likelihood of revictimization (Neilson et al., 2018).

### 8.3.2 Health Outcomes

Health outcomes, including severity and mortality, and alcohol-related consequences differ between men and women (NIAAA, 2019b). These specific health outcomes aside from AUD include liver disease, heart disease, brain damage, breast cancer, pregnancy related issues, and other mental health disorder (NIAAA, 2019b). Results from the Global Burden of Disease Study (2018) found that 2.2% of deaths in women are alcohol related.

#### 8.3.2.1 Liver Disease

Alcohol induced hepatitis as a result of frequent alcohol consumption is more common among women than men (Guy & Peters, 2013). In addition, frequent heavy drinking can lead to cirrhosis of the liver (Liu et al., 2010; NIAAA, 2019b). It is unclear why women are more at risk for developing liver issues resulting from alcohol use, but it is believed that estrogen may play a part in this (Eagon, 2010). In addition to this, women's body compositions (i.e. often including less overall muscle mass, and higher fat distribution) are different from men, which can have a significant impact on BAC levels.

#### 8.3.2.2 Heart Disease

One of the most common causes of heart disease among adults is long-term heavy alcohol use (NIAAA, 2019b). Women tend to develop heart disease as a result of alcohol consumption more easily than men even if they don't consume as much alcohol as their male counterparts (Erol & Karpyak, 2015). However, it should be noted that some studies have found that women who are light or moderate drinkers are at a lower risk of experiencing cardiovascular related issues than women who do not drink at all (Chiuve et al., 2010; Mukamal et al., 2010).

#### 8.3.2.3 Brain Damage

Alcohol misuse can cause brain damage in both men and women, but Hommer (2004) found that this damage occurs quicker in women than in men. In addition, alcohol-related blackouts and memory issues are more common among women than men due to brain damage in the hippocampus (Hingson et al., 2016).

#### 8.3.2.4 Breast Cancer

Various studies have found that women who consume one drink per day increase their likelihood of developing breast cancer by 5-9% (Allen et al., 2009; Li et al., 2010; Shield et al., 2016). In addition, breast cancer risk increases for each additional drink per day (Lew et al., 2009; NIAAA, 2019b).

#### 8.3.2.5 Pregnancy Related Issues

Alcohol is not recommended for consumption by pregnant women or women who are trying to become pregnant because it can cause fetal alcohol spectrum disorders (FASD)

including physical, cognitive and behavioral issues in children (NIAAA, 2019b). In addition, alcohol use during pregnancy can increase a women's risk to enter into preterm labor and premature birth (NIAAA, 2019b).

#### 8.3.2.6 Mental Health

Women with AUD are three times more likely to exhibit suicidal behavior (Connor & Bagge, 2019; Hedegaard et al., 2018) than men, possibly as a result of substance induced depressive episodes, disruptions in interpersonal relationships, and repeated intoxication episodes (Connor & Ilgen, 2016). In addition, panic disorder and PTSD were found to be more common among women who participated in binge drinking than women who did not (Chou et al., 2011). Depression (Lynskey & Agrawal, 2008; Strine et al., 2008) and disordered eating (Barry et al., 2013; Gadalla & Piran, 2007) are also more common among women who experience AUD or frequently misuse alcohol. The bi-directional relationship between substance use and mental health, as each issue mutually influences the other, making co-occurring disorders more difficult to address.

#### 8.4 Polysubstance Use

Using another substance in conjunction with alcohol can amplify the negative effects of alcohol, however this differs with each substance. Women have been found to partake in regular drug use more often than men with the most popular substances being benzodiazepines, pain medications, and muscle relaxers (Lewis et al., 2014). In addition, Lewis et al. (2014) found that 67% of these women also reported problems with alcohol (both past and current). Thus, it is essential to consider the negative effects of combining drugs and

alcohol. Combining benzodiazepines, pain medications, and muscle relaxers with alcohol can cause drowsiness, dizziness, slowed respiration, impaired motor control, and increase the risk for overdose (NIAAA, 2014). McCabe et al. (2017) found that women tend to experience multiple SUDs with a co-occurring mood disorders, personality disorders, and PTSD more often than men. These findings are also supported by Grodin & Momenan (2016) who found that women are more likely to be experience a co-morbid SUD and psychiatric disorder. This underscores the importance of clinicians screening their clients with these mental disorders for co-morbid SUDs.

#### 8.5 Conclusion

Due to both the unique stressors and consequences women face when consuming alcohol, clinicians should consider women to be a special population. It is imperative that clinicians be informed on how alcohol affects women differently and the typical antecedents to AUD in women. Understanding these factors can assist practitioners and administrators in providing effective education and intervention efforts, reduce the likelihood of negative consequences, and identify students who may be at higher risk of developing significant issues with alcohol.

## CHAPTER 9

### THEORY AND COLLEGIATE ALCOHOL USE

There are several theories that can be used to explain alcohol use among college-attending young adults. However, no one theory encompasses all factors that influence collegiate alcohol use. Thus, these theories should be used to understand college drinking behaviors, guide practitioners in treating college students who exhibit problem drinking behaviors, and administrators in creating policies that best serve their students.

#### 9.1 Important Concepts

This section outlines several important concepts that will aid in the understanding and explanation of each of the theories presented.

##### 9.1.1 Social Norms

Social norms are acceptable common behaviors belonging to a certain group of people (Farrow et al., 2017). Social norms can be further broken up into descriptive and injunctive norms. Descriptive social norms are typical behaviors and injunctive social norms are accepted behaviors (Cialdini et al., 1990).

##### 9.1.2 Social Modeling

Social modeling occurs when individuals model their behavior after observed behaviors of others (Capone et al., 2007). This concept is similar to social norms as it involves the behavior of others, however social modeling may include replicating behaviors that occur outside of the norm.

### 9.1.3 Selection and Socialization

Selection implies that individuals who participate in certain behaviors seek out other individuals who participate in the same behaviors (Capone et al., 2007). However, socialization posits that individuals who are submersed in an environment will change their behavior to assimilate with the social norms (Capone et al., 2007).

### 9.1.4 Active and Passive Influences

Active and passive influences are social influences that affect individuals' behaviors (Graham et al., 1991). Active influences are overt actions that individuals take to influence others. Passive influences are subtle actions done by individuals that others may or may not pick up on (Graham et al., 1991). Social modeling is an example of a passive influence.

## 9.2 Social Learning Theory

Social learning theory, first developed by Bandura in 1977, posits that learning occurs when individuals observe and model their behaviors from others, including both positive and deviant behaviors (Wardell & Read, 2012; Willis et al., 2019). Many researchers use social learning theory to understand collegiate alcohol use (Wardell & Read, 2012; Willis et al., 2019). Alcohol consumption in college is thought to be a result of social influences and is considered a social behavior (Wardell & Read, 2012). Deviant behaviors, such as binge drinking and other high-risk drinking behaviors, are also learned through active and passive peer influences (Crawford & Novak, 2010; Tyler et al., 2017; Willis et al., 2019).

College students are also likely to have positive alcohol expectancies which are also learned from peers (Wardell & Read, 2012; Willis et al., 2019). Students experience both

differential association (exposure to behaviors which creates values and norms) and differential reinforcements (resulting anticipated and actual consequences) when learning acceptable alcohol use behaviors (Willis et al., 2019). Collegiate alcohol use can be conceptualized through social learning theory by examining the influence of environment, social norms, social modeling, and active and passive influences have on behavior.

### 9.3 Social Control Theory

Social control theory states that all individuals have the potential to exhibit “deviant behavior”, but do not because of social norms (Hirschi, 1969). According to Hirschi (1969), deviant behaviors can include binge drinking and heavy frequent drinking. Similar to social learning theory, social control theory asserts that free time and involvement with social groups can increase participation in deviant behaviors (Hirschi, 1969). While some organizations students are involved in can act as a protection from deviant behaviors (Byrd, 2016), Greek life organization typically encourage risky drinking behaviors and thus members are influenced to participate in these deviant behaviors (Cheney et al., 2017b).

### 9.4 Differential Association Theory

Differential association theory examines the influence peers have on an individual’s participation in deviant behaviors (Sutherland, 1947). The group to which and individual belongs determines the norms for that group. For example, if an individual belongs to a group in which deviant behaviors is favored, the individual will also likely engage in the deviant behavior (Sutherland, 1947). This theory supports the notion that college students will participate in risky alcohol consumption if they see their peers doing the same (Byrd, 2016;

Crawford & Novak, 2010). College administrators can use differential association theory to identify individuals belonging to groups on college campuses that are more likely to participate in deviant behaviors and create interventions targeting these at-risk groups.

#### 9.5 Lifestyle Exposure Theory

Lifestyle exposure theory, developed in 1978, asserts that different lifestyles result in differing levels of risk of victimization (Hindelang et al., 1978). Thus, individuals whose lifestyles involve more risk-taking behaviors are more likely to experience victimization. This theory is often used to identify groups that experience a higher risk of sexual assault victimization, particularly sorority women (Kingree & Thompson, 2017). Sorority women have likelihood of sexual victimization due to increased exposure to potential assailants through routine participation in activities such as fraternity hosted parties where alcohol consumption is the norm (Franklin, 2010; Franklin & Menaker, 2018; Kingree & Thompson, 2017; Krebs et al., 2009; Minow & Einolf, 2009; Ragsdale et al., 2012). Through using Lifestyle Exposure Theory, college administrators can identify at groups at risk for sexual assault, such as sorority women, and craft preventative interventions.

#### 9.6 Self-Medication Hypothesis

The self-medication hypothesis (SMH) posits that individuals use substances to relieve pain and experience or control certain emotions (Khantzian, 1997). For example, individuals experiencing symptoms of depression tend to use substances more frequently and at higher levels than individuals without these symptoms (Wilkinson et al., 2016). In addition, students use alcohol to increase positive moods and decrease negative moods, stress, and anxiety



(Dvorak et al., 2018). Students who lack emotion-regulation skills are using alcohol to manage and cope with emotions and underlying mental health disorders (Berking et al., 2011). By identifying students who lack emotion-regulation skills, experience extreme variability in affect, experience mental health disorders, or have trauma histories, college practitioners can provide these students with positive coping strategies and thus aid in reducing drinking frequency and quantity.

## 9.7 Conclusion

Each concept and theory outlined in this section can be used to explain the motives of alcohol consumption norms for college-attending young adult sorority women. By using these theories as a guide, school administrations can create policies to decrease negative alcohol-related consequences among this population, and practitioners can craft interventions specifically targeting this population.

## CHAPTER 10

### PREVENTION AND INTERVENTION

In light of the aforementioned stressors and consequences associated with alcohol consumption among sorority women, identifying and describing available and potential interventions is warranted. Despite the number of women who are actively involved in sororities in universities across the country, this population is under researched and underserved by college practitioners and administrations (Franklin & Menaker, 2018). Updated research conducted on alcohol use among sorority women is needed because the majority of studies occurred over a decade ago (Capone et al., 2007; Cashin et al., 1998; Larimer et al., 2004; Minow & Einolf, 2009; Park et al., 2008; Scott-Sheldon et al., 2008). Although interventions directed generally at Greek Life organizations exist (Everfi, 2020b), interventions that specifically target sorority women do not. By addressing the unique stressors these women face, practitioners and administrations may prevent or reduce risky alcohol use and subsequent consequences among sorority women.

#### 10.1 Prevention

As discussed in previous chapters, there are a variety of alcohol education courses aimed at preventing risky consumption behaviors and related consequences currently utilized by higher education institutions (Abrams et al., 2011; Barry et al., 2016; Hustad et al., 2010; Lovecchino et al., 2010; Nguyen et al., 2011; Paschall et al., 2011). However, many of these popular courses like AlcoholEdu have not shown long-term effectiveness (Barry et al., 2016; Lovecchino et al., 2010; Paschall et al., 2011). Scott-Sheldon et al. (2012) found that these programs are only effective at reducing risky drinking behaviors for about one-month post

intervention but were no longer sustained at six months post-intervention. Although it is unclear if these programs lack appropriate theoretical guidance or if collegiate drinking behaviors are resilient to these interventions, Barry et al. (2016) found that interventions might not be successful long-term because students have already made up their minds about drinking behaviors that they planned to participate in. Though it might be difficult to find a one-time prevention program that has lasting effects, having students participate in yearly or semesterly prevention refresher course might increase the long-term efficacy of such programs. However, as some students have already made up their minds about their drinking behaviors (Barry et al., 2016), refresher courses might not be effective. Perhaps targeting at risk student groups, like Greek Life organizations, might be more effective in preventing negative consequences and reducing risky drinking behaviors.

A unique study done by Neighbors et al. (2012) measured the effectiveness of event specific prevention programs prior to students' 21<sup>st</sup> birthdays and found that the face-to-face Brief Alcohol Screening and Intervention for College Students (BASICS) program was effective at decreasing alcohol-related negative consequences and binge drinking on participants 21<sup>st</sup> birthdays. BASICS is a harm-reduction based program that uses motivational interviewing techniques to reduce risky alcohol consumption behaviors and negative consequences (DiFulvio et al., 2012). In addition, BASICS has shown long-term effectiveness in reducing frequency and amount of alcohol consumed per occasion, overall binge drinking occasions, and peak BAC levels (DiFulvio et al., 2012; Terlecki et al., 2015). A prevention program similar to the pre-21<sup>st</sup> birthday BASICS program in the Neighbors et al. (2012) student could be administered to sorority women prior to tailgates, events prior to football games in which sorority members

often participate in risky drinking behaviors, to aid in reducing the unique consequences sorority women face.

Suffoletto et al. (2015) conducted a study aimed at increasing students' awareness before weekend alcohol consumption through a two-way text message system. This program is similar to the BASICS program in that it is based on harm-reduction and uses motivational interviewing techniques. Through the use of the Theory of Planned Behavior, students engaged in text messaging to discuss their drinking plans for the weekend and work towards reducing consumption. One group of students received feedback messages based on their reported weekend drinking plans. These individualized feedback messages helped students set goals to consume less alcohol on each occasion (Suffoletto et al., 2015). This student group reported consuming fewer drinks on each occasion and a reduction in alcohol-related injuries. In addition, these results were sustained for nine months post-intervention, as evidenced by follow-ups at three, six, and nine months after program enrollment. (Suffoletto et al., 2015). This program is both efficient and cost-effective as it only utilizes a computer program. A text-message based program might be useful for sorority women due to the long-term effectiveness, efficacy in reducing binge drinking, and universality of mobile phones and text-messaging. This program could be adapted to better fit sorority women by also addressing the unique consequences this population faces including sexual assault prevention.

## 10.2 Intervention

The US Preventative Services Task Force (2018) recommends brief, behavioral-based counseling interventions for reducing risky alcohol consumption. In addition, the task force (2018) emphasizes the importance of screening and early detection aimed at preventing further

alcohol-related consequences and potential later life AUD. Among the most popular behavioral intervention for college students is the BASICS program (Neighbors et al., 2012). Although BASICS is highly effective, the large majority of students do not participate in this intervention because most participants are mandated following a campus substance use violation or referral from other campus services (DiFulvio et al., 2012). Sorority women often consume alcohol at fraternities of Greek sponsored events which increases their risk of being sexually assaulted (Franklin & Menaker, 2018; Minow & Einolf, 2009). Perhaps using the principles of BASICS, a similar intervention could be tailored that can be easily applied to the sorority women population. This intervention would address how to safely consume alcohol in the high-pressure situations these women are often in, like at fraternity houses, how to protect drinks from being tampered with, and helping ensure the safety of other women through buddy programs. In addition, this new intervention would highlight how men's and women's bodies process alcohol differently and the danger of trying to "keep up" with men's consumption (NIAAA, 2019b).

Janssen et al. (2013) conducted a systematic review of studies that measured the effectiveness of alcohol interventions that used principles of social marketing, including customer orientation, insight, segmentation, behavioral goals, exchange, competition, methods mix, and theory based. Janssen et al. (2013) found that there were few studies that used the principles of social marketing in interventions. Social marketing attempts to reach behavioral goals for a social good through the use of marketing and social norms (Janssen et al., 2013). Of the studies included, results were mixed on the efficacy of using social marketing to reduce risky drinking behaviors and negative consequences; however, there were no studies that

included Greek life specific populations (Janssen et al., 2013). Due to the pervasive social norms in sororities, crafting an intervention that uses social marketing principles might be effective.

Most current interventions used for collegiate alcohol use do not put emphasis on the effect of emotion dysregulation, a known determinant in risky consumption behaviors, and alcohol use (Park et al., 2018). Park et al. (2018) proposes a mindfulness-based intervention that focuses on coping skills, distress tolerance, and self-monitoring to reduce alcohol misuse among young adults. Incorporating emotion regulation and mindfulness into current brief motivational interventions and social interventions could help increase long-term efficacy.

#### 10.2.1 Group Counseling

Group counseling is an effective method of treatment for individuals with SUDs and is frequently used in various treatment settings (Center for Substance Abuse Treatment, 2005) and is a potentially effective option for sorority women. The Center for Substance Abuse Treatment (2005) asserts that group counseling for substance use disorders is both effective and cost-efficient. In addition, group counseling helps individuals experience peer-support and operates within a social environment (Center for Substance Abuse Treatment, 2005). Despite the effectiveness of individual counseling in treating individuals with SUDs, group counseling provides several unique benefits. Among these are a group of peers who provide support, feedback, a sense of community, and necessary confrontation; increase in coping skills, reduced isolation; and social skills training and practice (Center for Substance Abuse Treatment, 2005).

Epstein et al. (2018) compared cognitive behavioral therapy (CBT)-based group counseling and CBT-based individual counseling for women with AUDs. This study found that there were no differences in overall satisfaction between both study groups, and both groups

experienced fewer days consuming alcohol, fewer heavy drinking days, and maintained this for twelve months post intervention (Epstein et al., 2018). This study supports results of similar studies (Magill & Ray, 2009; Sobell et al., 2009) and demonstrates that group and individual counseling are similarly effective in treating AUDs. This study highlights the efficacy of group counseling for female clients with AUDs (Epstein et al., 2018). Although there are no studies that look at group counseling outcomes for alcohol use among sorority women, this study provides promising data on the feasibility and potential efficacy of this treatment modality.

#### 10.2.2 Collegiate Recovery Programs

Collegiate recovery programs (CRPs) emerged in the late 1970s beginning at Brown University (Greenagel, 2016). The majority of CRPs are hosted in public institutions and are available to students free of cost (Laudet et al., 2014). CRPs provide students with a variety of services including peer support meetings, academic support, group counseling, recovery activities, sober housing, and advocacy work (Greenagel, 2016; Laudet et al., 2014). Students who are members of CRPs have higher GPAs than non-member undergraduates and better retention and graduation rates (Laudet et al., 2015a; Laudet et al., 2015b; Laudet et al., 2014; Laudet et al., 2016). Laudet et al. (2016) found that most CPR members joined after learning about the organization via word of mouth or referral, and members joined to find a supportive peer network. Although there are no studies that detail sorority women who are members of CPRs, these organizations could be beneficial for sorority women. Increasing CRP marketing to sororities could help recruit new members and support sorority women who may be experiencing alcohol-related consequences.

### 10.3 Conclusion

Undergraduate sorority women are at a heightened risk for alcohol-related consequences due to the unique stressors and social norms surrounding alcohol consumption within Greek Life organization (Brown-Rice et al., 2017). Current prevention efforts by institutions are not effective long-term for sorority women because they fail to address the unique stressors and consequences this population faces. By addressing social identity, body image, fraternity pressure and involvement, safe consumption behaviors, sexual assault, and polysubstance use prevention and intervention efforts could become more effective in reducing sexual assaults, consumption in higher risk environments (e.g. fraternity-hosted events), and other academic, legal, and health-related consequences. Perhaps administrations should require sorority women to participate in a minimum number of prevention programming hours yearly to maintain active status. Universities administrations and practitioners have an obligation to provide more effective prevention and intervention efforts to this population. By increasing access to the various interventions above, the unique consequences faced by sorority women as the result of alcohol use could be greatly reduced.



## CHAPTER 11

### IMPLICATIONS AND CONCLUSIONS

Risky drinking behaviors including frequent heavy drinking and binge drinking can lead to academic (Mallet et al., 2012; White & Hingson, 2013), legal (Hingson et al., 2017; White & Hingson, 2013), cirrhosis and liver issues (Guirguis et al., 2015; Mellinger, 2019), hospitalizations and overdoses (Hingson et al., 2017; NIAAA, 2020c), and death (Hingson et al., 2017). Sorority women are an under-researched population (Franklin & Menaker, 2018) and often experiences unique stressors including pledging (Capone et al., 2007; Cashin et al., 1998; Scott-Sheldon et al., 2016), misperceptions of drinking norms (Lewis & Neighbors, 2006; Scott-Sheldon et al., 2016), living-in their sorority housing, perhaps due to the high-pressure social environment and proximity to fraternity men (McCabe et al., 2018), stereotypical standards and social constructs of womanhood (Davis, 2018), societal pressure to maintain a desirable body image (Ortiz & Thompson, 2019). The environment created by Greek life, coupled with the unique stressors lead to many consequences including sexual assault (Franklin, 2010; Franklin & Menaker, 2018; Kingree & Thompson, 2017) and substance use (Brown-Rice et al., 2017; Brown-Rice et al., 2015; McCabe et al., 2018; Soule et al., 2015).

Research on currently used prevention and intervention techniques and programs for sorority women has been found to be widely ineffective in decreasing risky drinking behaviors and later life SUDs (Brown-Rice et al., 2017; Brown-Rice et al., 2015) because these programs fail to address the environment created by Greek Life, the unique stressors and consequences sorority women face including social norms in Greek Life, pressure from other members and fraternity men, and sexual assault risk. Online-based prevention efforts, like AlcoholEdu, do not

produce long-term results (Lovecchino et al., 2010) and intervention efforts, like BASICS, have long-lasting results but are more difficult to administer to larger populations (DiFulvio et al., 2012; Terlecki et al., 2015). As outlined in the previous chapters, the need for college administrators and practitioners to provide unique and efficacious prevention and intervention techniques and programs to reduce problem drinking behaviors among sorority women is clear. Institutions have an obligation to provide sorority women with efficient and effective prevention and intervention measures that are specifically tailored to this population.

To effectively work with sorority women, it is crucial that practitioners recognize the intersecting identities that these women possess and are able to recognize sorority stereotypes and their own biases towards these women. Many of these women might not see their consumption behaviors as problematic, thus practitioners should be prepared to utilize psychoeducation and motivational interviewing techniques. Recognizing the biopsychosocial aspects of alcohol consumption in sororities will allow practitioners to understand the various contributing factors and help sorority women change their consumption behaviors. In addition, it is imperative for college practitioners to tailor interventions to address the environmental risk factors sorority women might face. Through the use of relevant theory, principles of current efficacious interventions (like BASICS), and knowledge of unique norms, stressors, and consequences university administrations and practitioners could aid in lowering negative consequences sorority women experience due to alcohol consumption and increase positive membership outcomes.

## REFERENCES

- Abar, C., Morgan, N. R., Small, M. L., & Maggs, J. L. (2012). Investigating associations between perceived parental alcohol-related messages and college student drinking. *Journal of Studies on Alcohol and Drugs, 73*(1), 71-79. <https://doi.org/10.15288/jsad.2012.73.71>
- Abrams, G. B., Kolligian Jr., J., Mills, D. L., & DeJong, W. (2011). Failure of college students to complete an online alcohol education course as a predictor of high-risk drinking that requires medical attention. *The American Journal of Drug and Alcohol Abuse, 37*(6), 515-519. <https://doi.org/10.3109/00952990.2011.600383>
- Abramsky, T., Watts, C. H., Garcia-Moreno, C., Devries, K., Kiss, L., Ellsberg, M., Jansen, H. A. F. M., & Heise, L. (2011). What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC Public Health, 11*(109). <https://doi.org/10.1186/1471-2458-11-109>
- Adam, A., Faouzi, M., Yersin, B., Bodenmann, P., Daeppen-J. B., & Bertholet, N. (2016). Women and men admitted for alcohol intoxication at an emergency department: Alcohol use disorders, substance use and health and social status 7 years later. *Alcohol and Alcoholism, 51*(5), 567-575. <https://doi.org/10.1093/alc/c/agw035>
- Adams, D. F., Behrens, E., Gann, L., & Schoen, E. (2017). Gender conformity, self-objectification, and body image for sorority and non-sorority women: A closer look. *Journal of American College Health, 65*(2), 139-147. <https://doi.org/10.1080/07448481/2016.1264406>
- Allen, N. E., Beral, V., Casabonne, D., Kan, S. W., Reeves, G. K., Brown, A., & Green, J. (2009). Moderate alcohol intake and cancer incidence in women. *Journal of the National Cancer Institute, 101*(5), 296-305. <https://doi.org/10.1093/jnci/djn514>
- Alpha Delta Pi. (n.d.). *History*. <https://www.alphadeltapi.org/page/history/>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5<sup>th</sup> ed.). Washington, DC: Author.
- Arias, S. A., Dumans, O., Sullivan, A. F., Boudreaux, E. D., Miller, I., & Camargo, C. A., Jr. (2016). Substance use as a mediator of the association between demographics, suicide attempt history and future suicide attempts in emergency department patients. *Crisis, 37*(5), 385-391. <https://doi.org/10.1027/0227-5910/a000380>
- Arria, A. M., Caldeira, K. M., Allen, H. K., Bugbee, B. A., Vincent, K. B., & O'Grady, K. E. (2017). Prevalence and incidence of drug use among college students: An 8-year longitudinal analysis. *The American Journal of Drug and Alcohol Abuse, 43*(6), 711-718. <https://doi.org/10.1080/00952990.2017.1310219>

- Averett, S., Terrizzi, S., & Wang, Y. (2017). The effect of sorority membership on eating disorders, body weight, and disordered-eating behaviors. *Health Economics*, 26(7), 875-891. <https://doi.org/10.1002/hec.3360>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review*, 84(2), 191-215. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4)
- Bannon, R. S., Brosi, M. W., & Foubert, J. D. (2013). Sorority women's and fraternity men's rape myth acceptance and bystander intervention attitudes. *Journal of Student Affairs Research and Practice*, 50(1), 72-87. <https://doi.org/10.1515/jsarp-2013-0005>
- Barnhardt, C. L. (2014). Fraternities and sororities shaping the campus climate of personal and social responsibility. *Journal of Student Affairs Research and Practice*, 51(2), 128-142. <https://dx.doi.org/10.1515/jsarp-2014-0014>
- Barry, A. E., Hobbs, L. A., Haas, E. J., & Gibson, G. (2016). Qualitatively assessing the experiences of college students completing AlcoholEdu: Do participants report altering behavior after intervention? *Journal of Health Communication*, 21(3), 267-275. <https://doi.org/10.1080/10810730.2015.1018645>
- Barry, A. E., Whiteman, S., Piazza-Gardner, A. K., & Jensen, A. C. (2013). Gender differences in the associations among body mass index, weight loss, exercise, and drinking among college students. *Journal of American College Health*, 61(7), 407-413. <https://doi.org/10.1080/07448481.2013.823973>
- Basow, S. A., Foran, K. A., & Bookwala, J. (2007). Body objectification, social pressure, and disordered eating behavior in college women: The role of sorority women. *Psychology of Women Quarterly*, 31(4), 394-400. <https://doi.org/10.1111/j.1471-6402.2007.00388.x>
- Benson, K., Flory, K., Humphreys, K. L., & Lee, S. S. (2015). Misuse of stimulant medication among college students: A comprehensive review and meta-analysis. *Clinical Child and Family Psychological Review*, 18(1), 50-76. <https://doi.org/10.1007/s10567-014-0177-z>
- Berenz, E. C., Kevorkian, S., Chowdhury, N., Dick, D. M., Kendler, K. S., & Amstadter, A. B. (2016). Posttraumatic stress disorder symptoms, anxiety sensitivity, and alcohol-use motives in college students with a history of interpersonal trauma. *Psychology of Addictive Behaviors*, 30(7), 755-763. <https://doi.org/10.1037/adb0000193>
- Berking, M., Margraf, M., Ebert, D., Wupperman, P., Hofmann, S. G., & Junghanns, K. (2011). Deficits in emotion-regulation skills predict alcohol use during and after cognitive-behavioral therapy for alcohol dependence. *Journal of Consulting and Clinical Psychology*, 79(3), 307-318. <https://doi.org/10.1037/a0023421>
- Blank, M., Connor, J., Gray, A., & Tustin, K. (2015). Screening for hazardous alcohol use among university students using individual questions from the alcohol use disorders

- identification test-consumption. *Drug and Alcohol Review*, 34(5), 540-548.  
<https://doi.org/10.1111/dar.12272>
- Borsari, B., & Carey, K. B. (2003). Descriptive and injunctive norms in college drinking: A meta-analytic integration. *Journal of Studies on Alcohol*, 64(3), 331-341.  
<https://doi.org/10.15288/jsa.2003.63.331>
- Bowman, N. A., & Holmes, J. M. (2017). A quasi-experimental analysis of fraternity or sorority membership and college student success. *Journal of College Student Development*, 58(7), 1018-1034. <https://doi.org/10.1353/csd.2017.0081>
- Boyle, K. M. (2015). Social psychological processes that facilitate sexual assault within the fraternity party subculture. *Sociology Compass*, 9(5), 386-399.  
<https://doi.org/10.1111/soc4.12261>
- Brady, J., Iwamoto, D. K., Grivel, M., Kaya, A., & Clinton, L. (2016). A systematic review of the salient role of feminine norms on substance use among women. *Addictive Behaviors*, 62, 83-90. <https://doi.org/10.1016/j.addbeh.2016.06.005>
- Brown-Rice, K., Furr, S., & Hardy, A. (2017). Determining the effectiveness of an alcohol intervention program with Greek college students. *Journal of Addictions & Offender Counseling*, 38(2), 68-83. <https://doi.org/10.1002/jaco.12031>
- Brown-Rice, K. A., Furr, S., & Jorgensen, M. (2015). Analyzing Greek members alcohol consumption by gender and the impact of alcohol education interventions. *Journal of Alcohol & Drug Education*, 59(1), 19-38.
- Byrd, K. M. (2016). Binge drinking in and out of college: An examination of social control and differential association on binge drinking behaviors between college students and their non-college peers. *Sociological Spectrum*, 36(4), 191-207.  
<https://doi.org/10.1080/02732173.2016.1155516>
- Calhoun, B. H., Maggs, J. L., & Loken, E. (2018). Change in college students' perceived parental permissibility of alcohol use and its relation to college drinking. *Addictive Behaviors*, 76, 275-280. <https://doi.org/10.1016/j.addbeh.2017.08.025>
- Capone, C., Wood, M. D., Borsari, B., & Laird, R. D. (2007). Fraternity and sorority involvement, social influences, and alcohol use among college students: A prospective examination. *Psychology of Addictive Behaviors*, 21, 316-327. <https://doi.org/10.1037/0893-164X.21.3.316>
- Carey, K. B., Carey, M. P., Henson, J. M., Maisto, S. A., & DeMartini, K. S. (2011). Brief alcohol interventions for mandated college students: Comparison of face-to-face counseling and computer-delivered interventions. *Addiction*, 106(3), 528-537.  
<https://doi.org/10.1111/j.1360-0443.2010.03193.x>

- Carter, A. C., Brandon, K. O., & Goldman, M. S. (2010). The college and noncollege experience: A review of the factors that influence drinking behavior in young adulthood. *Journal of Studies on Alcohol and Drugs*, 71(5), 742-750.  
<https://doi.org/10.15288/jsad.2010.71.742>
- Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998). Alcohol use in the Greek system: Follow the leader? *Journal of Studies on Alcohol*, 59(1), 63-70.  
<https://doi.org/10.15288/jsa.1998.59.63>
- Center for Substance Abuse Treatment. (2005). *Substance Abuse Treatment: Group Therapy. Treatment Improvement Protocol (TIP) Series 41*. DHHS Publication No. (SMA) 05-3991. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Chauvin, C. D. (2012). Social norms and motivations associated with college binge drinking. *Sociological Inquiry*, 82(2), 257-281. <https://doi.org/10.1111/j.1475-682X.2011.00400.x>
- Chavez, L. J., Williams, E. C., Lapham, G., & Bradley, K. A. (2012). Association between alcohol screening scores and alcohol-related risks among female veterans' affairs patients. *Journal of Studies on Alcohol and Drugs*, 73(3), 391-400.  
<https://doi.org/10.15288/jsad.2012.73.391>
- Cheney, M. K., Harris, L. W., Gowin, M. J., & Huber, J. (2014). Smoking and membership in a fraternity or sorority: A systematic review of the literature. *Journal of American College Health*, 62(4), 264-276. <https://doi.org/10.1080/07448481.2014.891595>
- Cheney, M. K., Maness, S., Huber, J. K., Burt, T., Eggleston, L., Naberhaus, B., & Nichols, B. (2017). Social influences on sorority and fraternity member smoking. *Journal of American College Health*, 65(8), 525-533. <https://doi.org/10.1080/07448481.2017.1351444>
- Cheney, M. K., Maness, S., Huber, K., Eggleston, L., Naberhaus, B., Nichols, B., & Burt, T. (2017). Beliefs about alcohol use and smoking among sorority and fraternity members. *Journal of Alcohol & Drug Education*, 61(3), 49-71.
- Chiuve, S. E., Rimm, E. B., Mukamal, K. J., Rexrode, K. M., Stampfer, M. J., Manson, J. E., & Albert, C. M. (2010). Light-to-moderate alcohol consumption and risk of sudden cardiac death in women. *Heart Rhythm*, 7(10), 1374-1380.  
<https://doi.org/10.1016/j.hrthm.2010.05.035>
- Choquette, E. M., Rancourt, D., Thompson, K. J. (2018). From fad to FAD: A theoretical formulation and proposed name change for 'drunkorexia' to food and alcohol disturbance. *International Journal of Eating Disorders*, 51(8), 831-834.  
<https://doi.org/10.1002/eat.22926>
- Chou, K. L., Liang, K., & Mackenzie, C. S. (2011). Binge drinking and axis I psychiatric disorders in community-dwelling middle-aged and older adults: Results from the national

- epidemiological survey on alcohol and related conditions (NESARC). *Journal of Clinical Psychiatry*, 72(5), 640-647. <https://doi.org/10.4088/JCP.10m06207gry>
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58(6), 1015-1026. <https://doi.org/10.1037/0022-3514.58.6.1015>
- Cimino, A. (2018). Fraternity hazing and the process of planned failure. *Journal of American Studies*, 52(1), 214-236. <https://doi.org/10.1017/S0021875816001924>
- Cleveland, M. J., Mallett, K. A., White, H. R., Turrisi, R., & Favero, S. (2013). Patterns of alcohol use and related consequences in non-college-attending emerging adults. *Journal of Studies on Alcohol and Drugs*, 74(1), 84-93. <https://doi.org/10.15288/jsad.2013.74.84>
- Collins, C. S., & Liu, M. (2014). Greek environments: An update on the effects of fraternities and sororities on health-related behaviors. *Journal of College & Character*, 15(2), 87-101. <https://doi.org/10.1515/jcc-2014-0013>
- Connor, K. R., & Bagge, C. L. (2019). Suicidal behavior: Links between alcohol use disorder and acute use of alcohol. *Alcohol Research: Current Reviews*, 40(1), 11-14. <https://doi.org/10.35946/arcr.v40.1.02>
- Connor, K. R., & Ilgen, M. A. (2016). Substance use disorders and suicidal behavior: A conceptual model. In: O'Connor, R. C. & Pirkis, J. (Eds.). *The International Handbook of Suicide Prevention* (2<sup>nd</sup> ed). Hoboken, NJ: Wiley.
- Cornelius, J., Kirisci, L., Reynolds, M., & Tarter, R. (2014). Does stress mediate the development of substance use disorders among youth transitioning to young adulthood? *The American Journal of Drug and Alcohol Abuse*, 40(3), 225-229. <https://doi.org/10.3109/00952990.2014.895883>
- Costa, F. M., Jessor, R., Turbin, M. S. (2007). College student involvement in cigarette smoking: The role of psychosocial and behavioral protection and risk. *Nicotine & Tobacco Research*, 9(2), 213-224. <https://doi.org/10.1080/14622200601078558>
- Cox, M. J., DiBello, A. M., Meisel, M. K., Ott, M. Q., Kenney, S. R., Clark, M. A., & Barnett, N. P. (2019). Do misperceptions of peer drinking influence personal drinking behavior? Results from a complete social network of first-year college students? *Psychology of Addictive Behaviors*, 33(3), 297-303. <https://doi.org/10.1037/adb0000455>
- Crawford, L. A., & Novak, K. B. (2010). Beliefs about alcohol and the college experience as moderators of the effects of perceived drinking norms on student alcohol use. *Journal of Alcohol and Drug Education*, 54(3), 69-86. [https://digitalcommons.butler.edu/facsh\\_papers/390](https://digitalcommons.butler.edu/facsh_papers/390)

- Crawford, L. A., Novak, K. B., & Jayasekare, R. R. (2019). Volunteerism, alcohol beliefs, and first-year college students' drinking behaviors: Implications for prevention. *The Journal of Primary Prevention, 40*, 429-448. <https://doi.org/10.1007/s10935-019-00558-z>
- Cronk, N. J., Harris, K. J., Harrar, S. W., Conway, K., Catley, D., & Good, G. E. (2011). Analysis of smoking patterns and contexts among college student smokers. *Substance Use & Misuse, 46*(8), 1015-102. <https://doi.org/10.3109/10826084.2010.543736>
- Croom, K., Lewis, D., Marchell, T., Lesser, M. L., Reyna, V. R., Kubicki-Bedford, L., Feffer, M., & Staiano-Coico, L., (2009). Impact of an online alcohol education course on behavior and harm for incoming first-year students: Short-term evaluation of a randomized trial. *Journal of American College Health, 57*(4), 445-454. <https://doi.org/10.3200/JACH.57.4.445-454>
- Davis, S. E. (2018). Objectification, sexualization, and misrepresentation: Social media and the college experience. *Social Media + Society, 4*(3), 1-9. <https://doi.org/10.1177/2056305118786727>
- DeSantis, A. D., & Hane, A. C. (2010). "Adderall is definitely not a drug": Justifications for the illegal use of ADHD stimulants. *Substance Use and Misuse, 45*(1-2), 31-46. <https://doi.org/10.3109/10826080902858334>
- DeSantis, A. D., Webb, E. M., & Noar, S. M. (2008). Illicit use of prescription ADHD medications on a college campus: A multimethodological approach. *Journal of American College Health, 57*(3), 315-323. <https://doi.org/10.3200/JACH.57.3.315-324>
- DiFulvio, G. T., Linowski, S. A., Mazziotti, J. S., & Puleo, E. (2012). Effectiveness of the brief alcohol and screening intervention for college students (BASICS) program with a mandated population. *Journal of American College Health, 60*(4), 269-280. <https://doi.org/10.1080/07448481.2011.599352>
- Dussault, C. L., & Weyandt, L. L. (2013). An examination of prescription stimulants misuse and psychological variables among sorority and fraternity college populations. *Journal of Attention Disorder, 27*(2), 87-97. <https://doi.org/10.1177/1087054711428740>
- Dvorak, R. D., Stevenson, B. L., Kilwein, T. M., Sargent, E. M., Dunn, M. E., Leary, A. V., & Kramer, M. P. (2018). Tension reduction and affect regulation: An examination of mood indices on drinking and non-drinking days among university student drinkers. *Experimental and Clinical Psychopharmacology, 26*(4), 377-390. <https://doi.org/10.1037/pha0000210>
- Eagon, P. K. (2010). Alcoholic liver injury: Influence of gender and hormones. *World Journal of Gastroenterology, 16*(11), 1377-1384. <https://doi.org/10.3748/wjg.v16.1377>
- Egan, K. L., Reboussin, B. A., Blocker, J. N., Wolson, M., & Sutfin, E. L. (2013). Simultaneous use of non-medical ADHD prescription stimulants and alcohol among undergraduate



- students. *Drug and Alcohol Dependence*, 131(0), 71-77.  
<https://doi.org/10.1016/j.drugalcdep.2012.12.004>
- Epstein, E. E., McCrady, B. S., Hallgren, K. A., Gaba, A., Cook, S., Jensen, N., Hildebrandt, T., Holzhauser, C. G., & Litt, M. D. (2018). Individual versus group female-specific cognitive behavior therapy for alcohol use disorders. *Journal of Substance Abuse Treatment*, 88, 27-43. <https://doi.org/10.1016/j.sat.2018.02.003>
- Erol, A., & Karpyak, V. (2015). Sex and gender-related differences in alcohol use and its consequences: Contemporary knowledge and future research considerations. *Drug and Alcohol Dependence*, 156, 1-13. <https://doi.org/10.1016/j.drugalcdep.2015.08.023>
- Everfi. (2020). *Higher education: Alcohol awareness and prevention for college students*. Retrieved from <https://everfi.com/courses/higher-education/alcooledu-awareness-prevention-undergraduate/>.
- Everfi. (2020). *Higher Education: GreekLifeEdu- Addressing Fraternity and Sorority Hazing*. Retrieved from <https://everfi.com/courses/higher-education/fraternity-sorority-hazing-alcohol-abuse/>
- Farooq, M. U., Bhatt, A., & Patel, M. (2009). Neurotoxic and cardiotoxic effects of cocaine and ethanol. *Journal of Medical Toxicology*, 5(3), 134-138.  
<https://doi.org/10.1007/BF03161224>
- Farrow, K., Grolleau, G., & Ibaneza, L. (2017). Social norms and pro-environmental behavior: A review of the evidence. *Ecological Economics*, 140, 1-13.  
<https://doi.org/10.1016/j.ecolecon.2017.04.017>
- Franke, R., Ruiz, S., Sharkness, J., DeAngelo, L., & Pryor, J. (2010). *Findings from the 2009 administration of the College Senior Survey (CSS): National aggregates*. Los Angeles: University of California, Los Angeles, Higher Education Research Institute.
- Franklin, C. A. (2010). Physically forced, alcohol-induced, and verbally coerced sexual victimization: Assessing risk factors among university women. *Journal of Criminal Justice*, 38(2), 149-159. <https://doi.org/10.1016/j.jcrimjus.2010.02.004>
- Franklin, C. A., Bouffard, L. A., & Pratt, T. C. (2012). Sexual assault on the college campus: Fraternity affiliation, male peer support, and low self-control. *Criminal Justice and Behavior*, 39(11), 1457-1480. <https://doi.org/10.1177/0093854812456527>
- Franklin, C. A., & Menaker, T. A. (2018). Feminist routine activity theory and sexual assault victimization: Estimating risk by perpetrator tactic among sorority women. *Victims & Offenders*, 13(2), 158-178. <https://doi.org/10.1080/15564886.2016.1250692>

- Fromme, K., Wetherill, R. R., & Neal, D. J. (2010). Turning 21 and the associated changes in drinking and driving after drinking among college students. *Journal of American College Health, 59*(1), 21-27. <https://doi.org/10.1080/07448481.2010.483706>
- Gadalla, T., & Piran, N. (2007). Co-occurrence of eating disorders and alcohol use disorders in women: A meta-analysis. *Archives of Women's Mental Health, 10*(4), 133-140. <https://doi.org/10.1007/s00737-007-0184-x>
- Garnier, L. M., Arria, A. M., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., & Wish, E. D. (2010). Sharing and selling of prescription medications in a college student sample. *Journal of Clinical Psychiatry, 71*(3), 262-269. <https://doi.org/10.4088/JCP.09m05189ecr>
- GBD 2016 Alcohol Collaborators. (2018). Alcohol use and burden for 195 countries and territories, 1990-2016: A systematic analysis for the global burden of disease study 2016. *Lancet, 392*, 1015-1035. [https://dx.doi.org/10.1016/S0140-6736\(18\)31310-2](https://dx.doi.org/10.1016/S0140-6736(18)31310-2)
- Geisner, I. M., Lewis, M. A., Rhew, I. C., Mittmann, A. J., Larimer, M. E., & Lee, C. M. (2017). Does one day of drinking matter? 21<sup>st</sup> birthday drinking predicts subsequent drinking and consequences. *Addictive Behaviors, 64*, 57-61. <https://doi.org/10.1016/j.addbeh.2016.08.006>
- Geisner, I. M., Rhew, I. C., Ramirez, J. J., Lewis, M. E., Larimer, M. E., & Lee, C. M. (2017). Not all drinking events are the same: Exploring 21<sup>st</sup> birthday and typical alcohol expectancies as a risk factor for high-risk drinking and alcohol problems. *Addictive Behaviors, 70*, 97-101. <https://doi.org/10.1016/j.addbeh.2017.02.021>
- Gilbert, P.A., Marzell, M. (2018). Characterizing a hidden group of at-risk drinkers: Epidemiological profiles of alcohol-use disorder diagnostic orphans. *Substance Use & Misuse, 53*(8), 1239-1251. <https://doi.org/10.1080/10826084.2017.1402057>
- Gillen, M. M., & Lefkowitz, E. S. (2006). Gender role development and body image among male and female first year college students. *Sex Roles, 55*, 25-37. <https://doi.org/10.1007/s11199-006-9057-4>
- Graham, K., Bernard, S., Wilsnack, S. C., & Gmel, G. (2011). Alcohol may not cause partner violence, but it seems to make it worse: A cross national comparison of the relationship between alcohol and severity of partner violence. *Journal of Interpersonal Violence, 26*(8), 1503-1523. <https://doi.org/10.1177/0886260510370596>
- Graham, J. W., Marks, G., & Hansen, W. B. (1991). Social influence processes affecting adolescent substance use. *Journal of Applied Psychology, 76*(2), 291-298. <https://doi.org/10.1037/0021-9010.76.2.291>
- Greenagel, F. L. (2016). *History of collegiate recovery programs*. Hazelden Betty Ford Foundation. Retrieved from <https://www.hazeldenbettyford.org/articles/greenagel/history-of-collegiate-recovery->

[programs#:~:text=Carl%20Anderson%20helped%20found%20CSAR,located%20outside%20of%20the%20northeast.](#)

- Grodin, E. N., & Momenan, R. (2016). Decreased subcortical volumes in alcohol dependent individuals: effect of polysubstance use disorder. *Addiction Biology*, 22(5), 1426-1437. <https://doi.org/10.1111/adb.12421>
- Guirguis, J., Chhatwal, J., Dasarathy, J., Rivas, J., McMichael, D., Nagy, L. E., McCullough, A. J., & Dasarthy, S. (2015). Clinical impact of alcohol-based cirrhosis in the next decade: Estimates based on current epidemiological trends in the United States. *Alcoholism: Clinical and Experimental Research*, 39(11), 2085-2094. <https://doi.org/10.1111/acer.12887>
- Guy, J., & Peters, M. (2013). Liver disease in women: The influence of gender on epidemiology, natural history, and patient outcomes. *Gastroenterology & Hepatology*, 9(10), 633-639.
- Hagman, B. T. (2017). Development and psychometric analysis of the brief DSM-5 alcohol use disorder diagnostic assessment: Towards effective diagnosis in college students. *Psychology of Addictive Behaviors*, 31(7), 797-806. <https://doi.org/10.1037/adb0000320>
- Hagman, B. T., Cohn, A. M., Schonfeld, L., Moore, K., & Barrett, B. (2014). College students who endorse a sub-threshold number of DSM-5 alcohol use disorder criteria: Alcohol, tobacco, and illicit drug use in DSM-5 diagnostic orphans. *The American Journal on Addictions*, 23(4), 378-385. <https://doi.org/10.1111/j.1521-0391.2014.12120.x>
- Hahn, E. J., Rayens, M. K., Ridner, S. L., Butler, K. M., Zhang, M., & Staten, R. R. (2010). Smoke-free laws and smoking and drinking among college students. *Journal of Community Health*, 35, 503-511. <https://doi.org/10.1007/s10900-010-9220-2>
- Hays, D. G. (2017). *Assessment in counseling: Procedures and practices* (6<sup>th</sup> ed.). American Counseling Association.
- Hedegaard, H., Curtin, S. C., & Warner, M. (2018). *Suicide Rates in the United States Continue to Increase*. Hyattsville, MD: National Center for Health Statistics, Centers for Disease Control and Prevention.
- Hernandez, R. (2018). Understanding sorority women's privacy management about condom use. *Qualitative Health Research*, 28(8), 1342-1353. <https://doi.org/10.1177/1049732318766506>
- Hevel, M. S., Martin, G. L., Weeden, D. D., & Pascarella, E. T. (2015). The effects of fraternity and sorority membership in the fourth year of college: A detrimental or value-added component of undergraduate education? *Journal of College Student Development*, 56(5), 456-470. <https://doi.org/10.1353/csd.2015.0046>

- Hindelang, M., Gottfredson, M., & Garofalo, J. (1978). *Victims of personal crime*. Cambridge, MA: Ballantine.
- Hingson, R., Zha, W., Simons-Morton, B., & White, A. (2016). Alcohol-induced blackouts as predictors of other drinking related harms among emerging young adults. *Alcoholism: Clinical and Experimental Research, 40*(4), 776-784. <https://doi.org/10.1111/acer.13010>
- Hingson, R., Zha, W., & Smyth, D. (2017). Magnitude and trends in heavy episodic drinking, alcohol-impaired driving, and alcohol-related mortality and overdose hospitalization among emerging adults of college ages 18-24 in the United States, 1998-2014. *Journal of Studies on Alcohol and Drugs, 78*(4), 540-548. <https://doi.org/10.15288/jsad.2017.78.540>
- Hirschi, T. (1969). *Causes of delinquency*. Berkley: University of California Press.
- Hommer, D. W. (2004). *Male and female sensitivity to alcohol-induced brain damage*. Bethesda: MD. National Institute on Alcohol Abuse and Alcoholism.
- Howell, A. N., Leyro, T. M., Hogan, J., Buckner, J. D., & Zvolensky, M. J. (2010). Anxiety sensitivity, distress tolerance, and discomfort intolerance in relation to coping and conformity motives for alcohol use and alcohol use problems among young adult drinkers. *Addictive Behaviors, 35*, 1144-1147. <https://doi.org/10.1016/j.addbeh.2010.07.003>
- Hu, S., & Wolniak, G. C. (2010). Initial evidence on the influence of college student engagement on early career earnings. *Research in Higher Education, 51*(8), 750-766. <https://doi.org/10.1007/s11162-010-9176-1>
- Hughes, T. L., Wilsnack, S. C., & Kantor, L.W. (2016). The influence of gender and sexual orientation on alcohol use and alcohol-related problems: Toward a global perspective. *Alcohol Research: Current Reviews, 38*(1), 121-132.
- Hultgren, B. A., Turrisi, R., Cleveland, M. J., Mallett, K. A., Reavy, R., Larimer, M. E., Geisner, I. M., & Hospital, M. M. (2019). Transitions in drinking behaviors across the college years: A latent transition analysis. *Addictive Behaviors, 92*, 108-114. <https://doi.org/10.1016/j.addbeh.2018.12.021>
- Hustand, J. T. P., Barnett, N. P., Borsari, B., & Jackson, K. M. (2010). Web-based alcohol prevention for incoming college students: A randomized controlled trial. *Addictive Behaviors, 35*(3), 183-189. <https://doi.org/10.1016/j.addbeh.2009.10.012>
- Iwamoto, D. K., Corbin, W., Takamatsu, S., & Castellanos, J. (2018). The association between multidimensional feminine norms, binge drinking and alcohol-related problems among young adult college women. *Addictive Behaviors, 76*, 243-249. <https://doi.org/10.1016/j.addbeh.2017.08.016>

- Janssen, M. M., Mathijssen, J. J. P., van Bon-Martens, M. J. H., van Oers, H. A. M., & Garretsen, H. F. L. (2013). Effectiveness of alcohol prevention interventions based on the principles of social marketing: A systematic review. *Substance Abuse Treatment, Prevention, and Policy, 8*(18). <https://doi.org/10.1186/1747-597X-8-18>
- Jarrett, T., Blosnich, J., Tworek, C., & Horn, K. (2012). Hookah use among US college students: Results from the national college health assessment II. *Nicotine & Tobacco Research, 14*(10), 1145-1153. <https://doi.org/10.1093/ntr/nts003>
- Jongenelis, M. I., Johnston, R., & Stafford, J. (2018). Factors associated with parents' belief in the appropriateness of providing alcohol to their child. *Substance Use & Misuse, 53*(14), 2281-2290. <https://doi.org/10.1080/10826084.2018.1473433>
- Jozkowski, K. N., Wiersma-Mosley, J. D., (2017). The Greek system: How gender inequality and class privilege perpetuate rape culture. *Family Relations, 66* (1), 89-103. <https://doi.org/10.1111/fare.12229>
- Kasperski, S. J., Vincent, K. B., Calderia, K. M., Garnier-Dykstra, L M., O'Grady, K. E., & Arria, A. M. (2011). College students' use of cocaine: Results from a longitudinal study. *Addictive Behaviors, 36*(4), 408-411. <https://doi.org/10.1016/j.addbeh.2010.12.002>
- Keith, D. R., Hart, C. L., McNeil, M. P., Silver, R., & Goodwin, R. D. (2015). Frequent marijuana use, binge drinking and mental health problems among undergraduates. *The American Journal on Addictions, 24*(6), 499-506. <https://doi.org/10.1111/ajad.12201>
- Khantzian, E. J. (1997). The self-medication hypothesis of substance use disorders: A reconsideration and recent applications. *Harvard Review of Psychiatry, 4*(5), 231-244. <https://doi.org/10.3109/10673229709030550>
- Khurana, A., & Buettner, C. K. (2015). Hosting non-university guests and party-related drinking behaviors of college students. *Journal of Substance Use, 20*(1), 22-26. <https://doi.org/10.3109/14659891.2013.866174>
- Kingree, J. B., & Thompson, M. (2017). Sorority membership and sexual victimization: An examination of potential mediators of the association. *Journal of Interpersonal Violence, 1*-19. <https://doi.org/10.1177/0886260517723745>
- Korcha, R. A., Cherpitel, C. J., Witbrodt, J., Borges, G., Hejazi-Bazargan, S., Bond, J. C., Ye, Y., & Gmel, G. (2014). Violence-related injury and gender: The role of alcohol and alcohol combined with illicit drugs. *Drug and Alcohol Review, 33*(1), 43-50. <https://doi.org/10.1111/dar.12087>
- Krebs, C. P., Lindquist, C. H., Warner, T. D., Fisher, B. S., & Martin, S. L. (2009). The differential risk factors of physically forced and alcohol- or other drug-enabled sexual assault among university women. *Violence and Victims, 24*(3), 302-321. <https://doi.org/10.1891/0866-6708.42.3.302>

- La Flair, L. N., Bradshaw, C. P., Storr, C. L., Green, K. M., Alvanzo, A. A. H., & Crum, R. M. (2012). Intimate partner violence and patterns of alcohol abuse and dependence criteria among women: A latent class analysis. *Journal of Studies on Alcohol and Drugs*, *73*(3), 351-360. <https://doi.org/10.15288/jsad.2012.73.351>
- Lakhan, S. E., & Kirchgessner, A. (2012). Prescription stimulants in individuals with and without attention deficit hyperactivity disorder: Misuse, cognitive impact, and adverse effects. *Brain and Behavior*, *2*(5), 661-677. <https://doi.org/10.1002/brb3.78>
- Larimer, M. E., Turner, A. P., Mallett, K. A., & Geisner, I. M. (2004). Predicting drinking behavior and alcohol-related problems among fraternity and sorority members: Examining the role of descriptive and injunctive norms. *Psychology of Addictive Behaviors*, *18*(3), 203-212. <https://doi.org/10.1037/0893-164X.18.3.203>
- Laudet, A. B., Harris, L., Kimball, T., Winters, K. C., & Moberg, D. P. (2015). Characteristics of students participating in collegiate recovery programs: A national survey. *Journal of Substance Abuse Treatment*, *51*, 38-46. <https://doi.org/10.1016/j.jsat/2014.11.004>
- Laudet, A. B., Harris, K., Kimball, T., Winters, K. C., & Moberg, D. P. (2016). In college and in recovery: Reasons for joining a collegiate recovery program. *Journal of American College Health*, *64*(3), 238-246. <https://doi.org/10.1080/07448481.2015.1117464>
- Laudet, A. B., Harris, K., Winters, K., Moberg, D., & Kimball, T. (2014). Nationwide survey of collegiate recovery programs: Is there a single model? *Drug and Alcohol Dependence*, *140*. <https://doi.org/10.1016/j.drugalcdep.2014.02.335>
- Laudet, A. B., Harris, K., Winters, K., Moberg, D. P., Kimball, T. (2015). Results from the first nationwide survey of students in collegiate recovery programs. *Drug and Alcohol Dependence*, *146*. <https://doi.org/10.1016/j.drugalcdep.2014.09.378>
- Lazowski, L. E., & Geary, B. B. (2019). Validations of the adult substance abuse subtle screening inventory-4 (SASSI-4). *European Journal of Psychological Assessment*, *35*(1), 86-97. <https://doi.org/10.1027/1015-5759/a000359>
- Lew, J. Q., Freedman, N. D., Letizmann, M. F., Brinton, L. A., Hoover, R. N., Hollenbeck, A. R., Schatzkin, A., & Park, Y. (2009). Alcohol and risk of breast cancer by histologic type and hormone receptor status in postmenopausal women: The NIH-AARP diet and health study. *American Journal of Epidemiology*, *170*(3), 308-317. <https://doi.org/10.1093/aje/kwp120>
- Lewis, B., Hoffman, L. A., & Nixon, S. J. (2014). Sex differences in drug use among polysubstance users. *Drug and Alcohol Dependence*, *145*, 127-133. <https://doi.org/10.1016/j.drugalcdep.2014.10.003>

- Lewis, M. A., & Neighbors, C. (2006). Social norms approaches using descriptive drinking norms education: A review of the research on personalized normative feedback. *Journal of American College Health, 54*(4), 213-218. <https://doi.org/10.3200/JACH.54.5.213-218>
- Lewis, R., Sharp, E., Remnant, J., & Redpath, R. (2015). "Safe spaces": Experiences of feminist women-only space. *Sociological Research Online, 20*(4), 9. <https://doi.org/10.5153/sro.7381>
- Li, C. I., Chlebowski, R. T., Freiberg, M., Johnson, K. C., Kuller, L., Lane, D., Lessin, L., O'Sullivan, M. J., Wactawski-Wende, J., Yasmeen, S., & Prentice, R. (2010). Alcohol consumption and risk postmenopausal breast cancer by subtype: The women's health initiative observational study. *Journal of the National Cancer Institute, 102*(18), 1422-1431. <https://doi.org/10.1093/jnci/djq316>
- Linden-Carmichael, A. N., & Lanza, S. T. (2018). Drinking patterns of college- and non-college-attending young adults: Is high-intensity drinking only a college phenomenon? *Journal of Substance Use & Misuse, 53*(13), 2157-2164. <https://doi.org/10.1080/10826084.2018.1461224>
- Liu, B., Balkwill, A., Reeves, G., & Beral, V. (2010). Body mass index and risk of liver cirrhosis in middle aged UK women: Prospective study. *BMJ, 340*. <https://doi.org/10.1136/bmj.c912>
- Long, L. D. (2012). Unchallenged, professed core values: Do undergraduate fraternity/sorority members actually benefit in the areas of scholarship. *College Student Affairs Journal, 30*(2), 15-30.
- Lovecchino, C. P., Wyatt, T. M., & DeJong, W. (2010). Reductions in drinking and alcohol-related harms reported by first-year college students taking an online alcohol education course: A randomized trial. *Journal of Health Communication, 15*(7), 805-819. <https://doi.org/10.1080/10810730.2010.514032>
- Lui, P. P. (2019). College alcohol beliefs: Measurement invariance, mean differences, and correlations with alcohol use outcomes across sociodemographic groups. *Journal of Counseling Psychology, 66*(4), 1-9. <https://doi.org/10.1037/cou0000338>
- Luk, J. W., Fairlie, A. M., & Lee, C. M. (2018). Daily-level associations between negative mood, perceived stress, and college drinking: Do associations differ by sex and fraternity/sorority affiliation? *Substance Use & Misuse, 53*(6), 989-997. <https://doi.org/10.1080/10826084.2017.1392980>
- Luketic, R. (Director). (2001). *Legally blonde* [Film]. Type A Films.
- Lundin, A., Hallgren, M., Forsman, M., & Forsell, Y. (2015). Comparison of DSM-5 classifications of alcohol use disorders with those of DSM-IV, DSM-III-R, and ICD-10 in a general population sample in Sweden. *Journal of Studies on Alcohol and Drugs, 76*(5), 773-780. <https://doi.org/10.15288/jsad.2015.76.773>

- Lynskey, M. T., & Agrawal, A. (2008). Differential criterion functioning of alcohol use symptomatology in major depressive disorder? *Psychological Medicine*, *38*(3), 441-449. <https://doi.org/10.1017/S003329170700178X>
- Magill, M., & Ray, L. A. (2009). Cognitive-behavioral treatment with adult alcohol and illicit drug users: A meta-analysis of randomized controlled trials. *Journal of Studies on Alcohol and Drugs*, *70*(4), 516-527. <https://doi.org/10.15288/jsad.2009.70.516>
- Mallett, K. A., Varvil-Weld, L., Borsari, B., Read, J. P., Neighbors, C., & White, H. R. (2013). An update of research examining college student alcohol-related consequences: New perspectives and implication for interventions. *Alcoholism: Clinical and Experimental Research*, *37*(5), 709-716. <https://doi.org/10.1111/acre.12031>
- Mares, S. H. W., Lichtwarck, A., Burk, W. J., van der Vorst, H., & Engels, R. C. M. E. (2012). Parental alcohol-specific rules and alcohol use from early adolescence to young adulthood. *The Journal of Child Psychology and Psychiatry*, *53*(7), 798-805. <https://doi.org/10.1111/j.1469-7610.2012.02533.x>
- Mares, S. H. W., van der Vorst, H., Engels, R. C. M. E., & Lichtwarck-Aschoff, A. (2011). Parental alcohol use, alcohol-related problems, and alcohol-specific attitudes, alcohol-specific communication, and adolescent excessive alcohol use and alcohol-related problems: An indirect path model. *Addictive Behaviors*, *36*(3), 209-216. <https://doi.org/10.1016/j.addbeh.2010.10.013>
- Martin, G. L., Hevel, M. S., Asel, A. M., & Pascarella, E. T. (2011). New evidence on the effects of fraternity and sorority affiliation during the first year of college. *Journal of College Student Development*, *52*(5), 543-559. <https://doi.org/10.1353/csd.2011.0062>
- Martinez, H. S., Klanecky, A. K., & McChargue, D. E. (2018). Problem drinking among at-risk college students: The examination of Greek involvement, freshman status, and history of mental health problems. *Journal of American College Health*, *66*(7), 579-587. <https://doi.org/10.1080/07448481.2018.1432625>
- McCabe, S. E. (2008). Misperceptions of non-medical prescription drug use: A web survey of college students. *Addictive Behaviors*, *33*(5), 713-724. <https://doi.org/10.1016/j.addbeh.2007.12.008>
- McCabe, S. E., Teter, C. J., & Boyd, C. J. (2006). Medical use, illicit use, and diversion of abusable prescription drugs. *Journal of American College Health*, *54*(5), 269-278. <https://doi.org/10.3200/JACH.54.5.269-278>
- McCabe, S. E., Veliz, P., & Schulenberg, J. E. (2018). How collegiate fraternity and sorority involvement relates to substance use during young adulthood and substance use disorders in early midlife: A national longitudinal study. *Journal of Adolescent Health*, *62*(3S), S35-S43. <https://doi.org/10.1016/j.jadohealth.2017.09.029>



- McCabe, S. E., West, B. T., Jutkiewicz, E. M., & Boyd, C. J. (2017). Multiple DSM-5 substance use disorders: A national study of US adults. *Human Psychopharmacology: Clinical and Experimental*, 32(5). <https://doi.org/10.1002/hup.2625>
- Mellinger, J. L., Fernandez, A., Shedden, K., Winder, G. S., Fontana, R. J., Volk, M. L., Blow, F. C., & Lok, A. S. F. (2019). Gender disparities in alcohol use disorder treatment among privately insured patients with alcohol-associated cirrhosis. *Alcoholism: Clinical and Experimental Research*, 43(2), 334-341. <https://doi.org/10.1111/acer.13944>
- Merrill, J. E., & Carey, K. B. (2016). Drinking over the lifespan: Focus on college ages. *Alcohol Research: Current Reviews*, 38(1), 103-114.
- Metzger, I. W., Blevins, C., Calhoun, C. D., Ritchwood, T. D., Gilmore, A. K., Stewart, R., & Bountress, K. E. (2017). An examination of the impact of maladaptive coping on the association between stressor type and alcohol use in college. *Journal of American college Health*, 65(8), 534-541. <https://doi.org/10.1080/07448481.2017.1351445>
- Minnich, A., Erford, B. T., Bardhoshi, G., & Atalay, Z. (2018). Systematic review of the Michigan alcoholism screening test. *Journal of Counseling & Development*, 96(3), 335-344. <https://doi.org/10.1002/jcad.12207>
- Minow, J. C., & Einolf, C. J. (2009). Sorority participation and sexual assault risk. *Violence Against Women*, 15(7), 835-851. <https://doi.org/10.1177/1077801209334472>
- Mohler-Kuo, M., Dowdall, G. W., Koss, M. P., & Wechsler, H. (2004). Correlates of rape while intoxicated in a national sample of college women. *Journal of Studies on Alcohol*, 65(1), 37-45. <https://doi.org/10.15288/jsa.2004.65.37>
- Moynihan, M. M., Banyard, V. L., Arnold, J. S., Eckstein, R. P., & Stapleton, J. G. (2011). Sisterhood may be powerful for reducing sexual and intimate partner violence: An evaluation for the bringing in the bystander in-person program with sorority members. *Violence Against Women*, 17(6), 703-719. <https://doi.org/10.1177/1077801211409726>
- Mukamal, K. J., Chen, C. M., Rao, S. R., & Breslow, R. A. (2010). Alcohol consumption and cardiovascular mortality among U.S. adults, 1987-2002. *Journal of the American College of Cardiology*, 55(13), 1328-1335. <https://doi.org/10.1016/j.jacc.2009.10.056>
- Napper, L. E., Grimaldi, E. M., & LaBrie, J. W. (2015). Parents' and students' perceptions of college alcohol risk: The role of parental risk perception in intentions to communicate about alcohol. *Addictive Behaviors*, 42, 114-118. <https://doi.org/10.1016/j.addbeh.2014.10.035>
- National Health Service. (2018). *Alcohol units: Alcohol support*. Retrieved from <https://www.nhs.uk/live-well/alcohol-support/calculating-alcohol-units/?tabname=alcohol-facts>

- National Institute on Alcohol Abuse and Alcoholism. (2020). *Alcohol facts and statistics*. Retrieved from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics>
- National Institute on Alcohol Abuse and Alcoholism. (2020). *College drinking*. Retrieved from <https://www.niaaa.nih.gov/sites/default/files/Collegefactsheet.pdf>
- National Institute on Alcohol Abuse and Alcoholism (2017). *Drinking levels defined*. Retrieved from <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking>
- National Institute on Alcohol Abuse and Alcoholism. (2019). *Hangovers*. Retrieved from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/hangovers>
- National Institute on Alcohol Abuse and Alcoholism. (2014). *Harmful Interactions: Mixing alcohol with medications*. Retrieved from [https://www.niaaa.nih.gov/sites/default/files/publications/Harmful Interactions.pdf](https://www.niaaa.nih.gov/sites/default/files/publications/Harmful_Interactions.pdf)
- National Institute on Alcohol Abuse and Alcoholism. (2020). *Understanding the dangers of alcohol overdose*. Retrieved from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/understanding-dangers-of-alcohol-overdose>
- National Institute on Alcohol Abuse and Alcoholism. (2019). *Women and Alcohol*. Retrieved from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/women-and-alcohol>
- National Panhellenic Conference. (n.d.). *About the national panhellenic council*. <https://www.npcwomen.org/about/>
- National Panhellenic Conference. (2018, August). *Government relations platform*. [https://npcwomen.dynamic.omegafi.com/wp-content/uploads/sites/2037/2017/09/npc\\_pillars.pdf](https://npcwomen.dynamic.omegafi.com/wp-content/uploads/sites/2037/2017/09/npc_pillars.pdf)
- National Panhellenic Conference. (n.d.). *Mission, vision and purpose*. <https://www.npcwomen.org/about/mission-vision-and-purpose/>
- National Panhellenic Conference. (n.d.). *National panhellenic conference member organizations*. <https://www.npcwomen.org/about/our-member-organizations/>
- National Panhellenic Conference. (2014). *NPC position statement against discrimination*. <https://www.npcwomen.org/wp-content/uploads/sites/2037/2017/12/NPC-Position-Statement-Against-Discrimination.pdf>
- National Panhellenic Conference. (2019). *NPC position statement against hazing*. <https://www.npcwomen.org/wp-content/uploads/sites/2037/2017/08/Position-Statement-Against-Hazing.pdf>

- National Panhellenic Conference. (2015). *NPC position statement against sexual assault*. <https://www.npcwomen.org/wp-content/uploads/sites/2037/2017/08/Position-Statement-Against-Sexual-Assault.pdf>
- National Panhellenic Conference. (n.d.). *Our story* [Video]. <https://www.npcwomen.org/about/our-story/>
- National Panhellenic Conference. (2014). *Standards*. [https://www.npcwomen.org/wp-content/uploads/sites/2037/2017/09/npc\\_standards\\_2017.pdf](https://www.npcwomen.org/wp-content/uploads/sites/2037/2017/09/npc_standards_2017.pdf)
- Neighbors, C., Lee, C. M., Atkins, D. C., Lewis, M. A., Kaysen, D., Mittman, A., Fossos, N., Geisner, I. M., Zheng, C., & Larimer, M. E. (2012). A randomized controlled trial of event-specific prevention strategies for reducing problematic drinking associated with 21<sup>st</sup> birthday celebrations. *Journal of Consulting and Clinical Psychology, 80*(5), 850-862. <https://doi.org/10.1037/a0029480>
- Neilson, E. C., Bird, E. R., Metzger, I. W., George, W. J., 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. <https://doi.org/10.1016/j.addbeh.2017.11.022>
- North American Interfraternity Conference. (2020). *About*. <https://nicfraternity.org/member-fraternities/>
- Nguyen, N., Walters, S. T., Wyatt, T. M., & DeJong, W. (2011). Use and correlates of protective drinking behaviors during the transition to college: Analysis of a national sample. *Addictive Behaviors, 36*(10), 1008-1014. <https://doi.org/10.1016/j.addbeh.2011.06.002>
- Nichter, M., Nichter, M., Carkoglu, A., & Lloyd-Richardson, E. (2010). Smoking and drinking among college students: "It's a package deal". *Drug and Alcohol Dependence, 106*(1), 16-20. <https://doi.org/10.1016/j.drugalcdep.2009.07.025>
- Nussbaum, J. (Director). (2007). *Sydney white* [Film]. Morgan Creek.
- O'Mara, R. J., Thombs, D. L., Wagenaar, A. C., Rossheim, M. E., Merves, M. L., Hou, W., Dodd, V. J., Pokorny, S. B., Weiler, R. M., & Goldberger, B. A. (2009). Alcohol price and intoxication in college bars. *Alcoholism: Clinical and Experimental Research, 33*(11), 1973-1980. <https://doi.org/10.1111/j.1530-0277.2009.01036.x>
- Ortiz, R. R., & Thompson, B. A. (2019). Sorority see, sorority do: How social identity and media engagement relate to in-group stereotyping and self-stereotyping. *Psychology of Popular Media Culture, 9*(3), 311-317. <https://doi.org/10.1037/ppm0000236>
- O'Sullivan, D., Cambria, A., Gray, J., & Watts, J. (2019). Assessment of substance use disorders from an ecological and trauma-informed lens. In Strauser, D. R., Tansey, T. N., & Chan, F. (Eds.). *Assessment in rehabilitation and mental health counseling* (pp.181-206). Springer.

- Park, C. L., Russell, B. S., & Fendrich, M. (2018). Mind-body approaches to prevention and intervention for alcohol and other drug use/abuse in young adults. *Medicines*, 5(3), 64. <https://doi.org/10.3390/medicines5030064>
- Park, A., Sher, K. J., & Krull, J. L. (2008). Risky drinking in college changes as fraternity/sorority affiliation changes: A person-environment perspective. *Psychology of Addictive Behaviors*, 22(2), 219-229. <https://doi.org/10.1037/0893-164X.22.2.219>
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: Volume 2, a third decade of research*. San Francisco: Jossey-Bass.
- Paschall, M. J., Antin, T., Ringwalt, C. L., & Saltz, R. F. (2011). Effects of AlcoholEdu for college on alcohol-related problems among freshman: A randomized multicampus trial. *Journal of Studies on Alcohol and Drugs*, 72(4), 642-650. <https://doi.org/10.15288/jsad.2011.72.642>
- Primack, B. A., Kim, K. H., Shensa, A., Sidani, J. E., Barnett, T. E., & Switzer, G. E. (2012). Tobacco, marijuana, and alcohol use in university students: A cluster analysis. *Journal of American College Health*, 60(5), 374-386. <https://doi.org/10.1080/07448481.2012.663840>
- Prince, M. A., Read, J. P., & Colder, C. R. (2019). Trajectories of college alcohol involvement and their associations with later alcohol use disorder symptoms. *Prevention Science*, 20(5), 741-752. <https://doi.org/10.1007/s11121-018-0974-6>
- Quinn, P. D., & Fromme, K. (2011). Alcohol use and related problems among college students and their noncollege peers: The competing roles of personality and peer influence. *Journal of Studies on Alcohol and Drugs*, 72(4), 622-632. <https://doi.org/10.15288/jsad.2011.72.622>
- Rabiner, D. L., Anastopoulos, A. D., Costello, E., Hoyle, R. H., McCabe, S., & Swartzwelder, H. (2009). Motives and perceived consequences of nonmedical ADHD medication use by college students: Are students treating themselves for attention problems? *Journal of Attention Disorders*, 13(3), 259-270. <https://doi.org/10.1177/1087054708320399>
- Rabiner, D. L., Anastopoulos, A. D., Costello, E., Hoyle, R. H., & Swartzwelder, H. (2010). Predictors of nonmedical ADHD medication use by college students. *Journal of Attention Disorder*, 13(6), 640-648. <https://doi.org/10.1177/1087054709334505>
- Radina, M. E. (2017). Sisterhood and sexual assault: Engaging sorority members in dialogue, critical analysis, and feminist praxis. *Family Relations*, 66(1), 126-138. <https://doi.org/10.1111/fare.12234>
- Ragsdale, K., Porter, J. R., Matthews, R., White, A., Gore-Felton, C., & McGarvey, E. L. (2012). Liquor before beer, you're in the clear: Binge drinking and other risk behaviors among fraternity/sorority members and their non-Greek peers. *Journal of Substance Use*, 17(4), 323-339. <https://doi.org/10.3109/14659891.2011.583312>

- Rancourt, D., Ahlich, E., Choquette, E. M., Simon, J., & Kelley K. (2020). A comparison of food and alcohol disturbance (FAD) in sorority and non-sorority members. *Journal of American College Health*, 1-4. <https://doi.org/10.1080/07448481.2020.1740233>
- Reavy, R., Cleveland, M. J., Mallett, K. A., Scaglione, N. M., Sell, N. M., & Turrisi, R. (2016). An examination of the relationship between consequence-specific normative belief patterns and alcohol-related consequences among college students. *Alcoholism: Clinical and Experiential Research*, 40(2), 2631-2638. <https://doi.org/10.1111/acer.13242>
- Reed, E., Amaro, H., Matsumoto, A., & Kaysen, D. (2009). The relation between inter-personal violence and substance use among a sample of university students: Examination of the role of victim and perpetrator substance use. *Addictive Behaviors*, 34(3), 316-318. <https://doi.org/10.1016/j.addbeh.2008.10.015>
- Reno, J. E., & McNamee, L. G. (2015). Do sororities promote members' health? A study of memorable messages regarding weight and appearance. *Health Communication*, 30(4), 385-397. <https://doi.org/10.1080/10410236.2013.863702>
- Ridner, S. L., Walker, K. L., Hart, J. L., Myers, J. A. (2010). Smoking identities and behavior: Evidence and discrepancies, issue for measurement and interventions. *Western Journal of Nursing Research*, 32(4), 434-446. <https://doi.org/10.1177/0193945909354904>
- Rinker, D. V., Young, C. M., Krieger, H., Lembo, J., & Neighbors, C. (2017). Evaluations and perceptions of others' evaluations of negative alcohol-related consequences predict negative alcohol-related consequences among college drinkers. *Journal of Studies on Alcohol and Drugs*, 78(2), 249-257. <https://doi.org/10.15288/jsad.2017.78.249>
- Rolnik, A. M., Engeln-Maddox, R., & Miller, S. A. (2010). Here's looking at you: Self-objectification, body image disturbance, and sorority rush. *Sex Roles*, 63(6), 6-17. <https://doi.org/10.1007/s11199-010-9745-y>
- Routon, P. W., & Walker, J. K. (2019). Post-baccalaureate health, family, and educational outcomes of fraternity and sorority members. *The Review of Higher Education*, 43(1), 427-455. <https://doi.org/10.1353/rhe.2019.0101>
- Saddleson, M. L., Kozlowski, L. T., Giovino, G. A., Hawk, L. W., Murphy, J. M., MacLean, M. G., Goniewics, M. L., Homish, G. G., Wrotniak, B. H., & Mahoney, M. C. (2015). Risky behaviors, e-cigarette use and susceptibility of use among college students. *Drug and Alcohol Dependence*, 149, 25-30. <https://doi.org/10.1016/j.drugalcdep.2015.01.001>
- Scott-Sheldon, L. A. J., Carey, K. B., & Carey, M. P. (2008). Health behavior and college students: Does Greek affiliation matter? *Journal of Behavioral Medicine*, 31(1), 61-70. <https://doi.org/10.1007/s10865-007-9136-1>

- Sheehan, B. E., Lau-Barraco, C., & Linden, A. N. (2013). An examination of risky drinking behaviors and motivations for alcohol use in a college sample. *Journal of American College Health, 61*(8), 444-452. <https://doi.org/10.1080/07448481.2013.831352>
- Shield, K. D., Soerjomatarma, I., & Rehm, J. (2016). Alcohol use and breast cancer: A critical review. *Alcoholism: Clinical and Experimental Research, 40*(6), 1166-1181. <https://doi.org/10.1111/acer.13071>
- Sidani, J. E., Shensa, A., & Primack, B. A. (2013). Substance and hookah use and living arrangement among fraternity and sorority members at US colleges and universities. *Journal of Community Health, 38*(2), 238-245. <https://doi.org/10.1007/s10900-012-9605-5>
- Sinozich, S., & Langton, L. U.S. Department of Justice. Bureau of Justice Statistics. (2014). *Rape and Sexual Assault Victimization Among College Female, 1995-2013* (NCJ248471). Government Printing Office: Washington, D.C.
- Slade, T., Chapman, C., Swift, W., Keyes, K., Tonks, Z., & Teesson, M. (2016). Birth cohort trends in the global epidemiology of alcohol use and alcohol-related harms in men and women: Systematic review and metaregression. *British Medical Journal Open, 6*(10). <https://doi.org/10.1136/bmjopen-2016-011827>
- Sobell, L. C., Sobell, M. B., & Agrawal, S. (2009). Randomized controlled trial of cognitive-behavioral motivation intervention in a group versus individual format for substance use disorders. *Psychology of Addictive Behaviors, 23*(4), 672-683. <https://doi.org/10.1037/a0016636>
- Soule, E. K., Barnett, T. E., & Moorhouse, M. D. (2015). Protective behavioral strategies and negative alcohol-related consequences among US college fraternity and sorority members. *Journal of Substance Use, 20*(1), 16-21. <https://doi.org/10.3109/14659891.2013.858783>
- Stappenbeck, C. A., Bedard-Gilligan, M., Lee, C. M., & Kaysen, D. (2013). Drinking motives for self and others predict alcohol use and consequences among college women: The moderating effects of PTSD. *Addictive Behaviors, 38*(3), 1831-1839. <https://doi.org/10.1016/j.addbeh.2012.10.012>
- Strine, T. W., Mokdad, A. H., Dube, S. R., Balluz, L. S., Gonzalez, O., Berry, J. T., Manderscheid, R., & Kroenke, K. (2008). The association of depression and anxiety with obesity and unhealthy behaviors among community-dwelling US adults. *General Hospital Psychiatry, 30*(2), 127-137. <https://doi.org/10.1016/j.genhosppsych.2007.12.008>
- Substance Abuse and Mental Health Services Administration. (2016). *Facing addiction in America: The surgeon general's report on alcohol, drugs, and health* [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK424847/>

- Substance Abuse and Mental Health Services Administration. (2019). *Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health*. Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
- Suffoletto, B., Kristan, J., Chung, T., Jeong, K., Fabio, A., Monti, P., & Clark, D. B. (2015). An interactive text message intervention to reduce binge drinking in young adults: A randomized controlled trial with 9-month outcomes. *PLoS ONE*, *10*(11). <https://doi.org/10.1371/journal.pone.1042877>
- Sutfin, E. L., McCoy, T. P., Morrell, H. E. R., Hoepfner, B. B., & Wolfson, M. (2013). Electronic cigarette use by college students. *Drug and Alcohol Dependence*, *131*(3), 214-221. <https://doi.org/10.1016/j.drugalcdep.2013.05.001>
- Sutfin, E. L., Reboussin, B. A., McCoy, T. P., & Wolfson, M. (2009). Are college student smokers really a homogenous group? A latent class analysis of college student smokers. *Nicotine & Tobacco Research*, *11*(4), 444-454. <https://doi.org/10.1093/ntr/ntp006>
- Sutherland, E. H. (1947). *Principles of Criminology*. New York: Lippincott.
- Taylor Jr., P., El-Sabawi, T., & Cangin, C. (2016). Improving alcohol screening for college students: Screening for alcohol misuse amongst college students with a simple modification to the CAGE questionnaire. *Journal of American College Health*, *64*(5), 397-403. <https://doi.org/10.1080/07448481.2016.1168429>
- Thompson, B., Coronado, G., Chen, L., Thompson, L. A., Halperin, A., Jaffe, R., McAfee, T., & Zbikowski, S. M. (2007). Prevalence and characteristics of smokers at 30 pacific northwest colleges and universities. *Nicotine and Tobacco Research*, *9*(3), 429-438. <https://doi.org/10.1080/14622200701188844>
- Terlecki, M. A., Buckner, J. D., Larimer, M. E., & Copeland, A. L. (2015). Randomized controlled trial of brief alcohol screening and intervention for college students for heavy-drinking mandated and volunteer undergraduates: 12-month outcomes. *Psychology of Addictive Behaviors*, *29*(1), 2-16. <https://doi.org/10.1037/adb0000056>
- Trolan, T. L., An, B. P., & Pascarella, E. T., (2016). Are there cognitive consequences of binge drinking during college? *Journal of College Student Development*, *57*(8), 1009-1026. <https://doi.org/10.1353/csd.2016.0096>
- Tyler, K. A., Schmitz, R. M., Ray, C. M., Adams, S. A., & Gordon Simons, L. (2017). The role of protective behavioral strategies, social environment, and housing type on heavy drinking among college students. *Substance Use and Misuse*, *53*(5), 724-733. <https://doi.org/10.1080/10826084.2017.1363235>



- U.S. Department of Education, National Center for Education Statistics. (2019). *Baccalaureate and Beyond (B&B: 16/17): A First Look at the Employment and Educational Experiences of College Graduates, 1 Year Later* (NCES 2019-106) [Data Set]. National Center for Education Statistics. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019241>
- U.S. Department of Education, National Center for Education Statistics. (2019). *Digest of Education Statistics, 2017* (NCES 2018-070) [Data set]. National Center for Education Statistics. [https://nces.ed.gov/fastfacts/display.asp?id=372#College\\_enrollment](https://nces.ed.gov/fastfacts/display.asp?id=372#College_enrollment)
- U.S. Department of Health and Human Services & U.S. Department of Agriculture. (2015). Appendix 9: Alcohol. *2015-2020 Dietary Guidelines for Americans* (8<sup>th</sup> ed.).
- U.S. Preventative Services Task Force. (2018). Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: US preventative services task force recommendation statement. *JAMA*, 320(18), 1899-1909.
- Walker, J. K., Martin, N. D., & Hussey, A. (2015). Greek organization membership and collegiate outcomes at an elite, private university. *Research on Higher Education*, 56, 203-227. <https://doi.org/10.1007/s11162-014-9345-8>
- Wardell, J. D., & Read, J. P. (2012). Alcohol expectancies, perceived norms, and drinking behavior among college students: Examining the reciprocal determinism hypothesis. *Psychology of Addictive Behaviors*, 27(1), 191-196. <https://doi.org/10.1037/a0030653>
- Wasylikiw, L., & Currie, M. (2012). The animal house effect: How university-themed comedy films affect students' attitudes. *Social Psychology of Education*, 15, 25-40. <https://doi.org/10.1007/s11218-011-9167-x>
- Weyandt, L. L., Janusis, G., Wilson, K. G., Verdi, G., Paquin, G, Lopes, J., Varejao, M., & Dussault, C. (2009). Nonmedical prescription stimulant use among a sample of college students: Relationship with psychological variables. *Journal of Attention Disorder*, 13(3), 284-296. <https://doi.org/10.1177/1087054709342212>
- White, A., Castle, IJ. P., Chen, C. M., Shirley, M., Roach, D., & Hingson, R. (2015). Converging patterns of alcohol use and related outcomes among females and males in the United States, 2002 to 2012. *Alcoholism: Clinical and Experimental Research*, 39(9), 1712-1726. <https://doi.org/10.1111/acer.12815>
- White, A., & Hingson, R. (2013). The burden of alcohol use: Excessive alcohol consumption and related consequences among college students. *Alcohol Research: Current Reviews*, 35(2), 201-218.
- Wilkinson, A. L., Halpren, C. T., & Herring, A. H. (2016). Directions of the relationship between substance use and depressive symptoms from adolescence to young adulthood. *Addictive Behaviors*, 60, 64-70. <https://doi.org/10.1016/j.addbeh.2016.03.036>



- Williams, M., Mohsin, M., Weber, D., Jalaludin, B., & Crozier, J. (2011). Alcohol consumption and injury risk: A case-crossover study in Sydney, Australia. *Drug and Alcohol Review, 30*(4), 344-354. <https://doi.org/10.1111/j.1465-3362.2010.00226.x>
- Willis, E., Adams, R., & Keene, J. (2019). If everyone is doing it, it must be safe: College students' development of attitudes toward poly-substance use. *Substance Use & Misuse, 54*(11), 1886-1893. <https://doi.org/10.1080/10826084.2019.1618334>
- Witte, T. H., Wright, A., & Stinson, E. A. (2019). Factors influencing stigma toward individuals who have substance use disorders. *Substance Use & Misuse, 54*(7), 1115-1124. <https://doi.org/10.1080/10826084.2018.1560469>
- Wolf, F. (Director). (2008). *House bunny* [Film]. Columbia Pictures.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioral disorders: Clinical descriptions and diagnostic guidelines*. Geneva, World Health Organization.
- Wu, L., Pilowsky, D. J., Schlenger, W. E., & Hasin, D. (2007). Alcohol use disorders and the use of treatment services among college-age young adults. *Psychiatric Services, 58*(2), 192-200. <https://doi.org/10.1176/ps.2007.58.2.192>
- Zamboanga, B. L., Schwartz, S. J., Van Tyne, K., Ham, L. S., Olthuis, J. V., Huang, S., Kim, S. Y., Hudson, M., Forthun, L. F., Bersamin, M., & Weisskirch, R. (2010). Drinking game behaviors among college students: How often and how much? *The American Journal of Drug and Alcohol Abuse, 36*(3), 174-179. <https://doi.org/10.3109/00952991003793869>