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HONORS THESIS

The Influence of Alcohol-Related Advertisements on College Students' Behaviors and Depression

BY Meghan McDonald

ADVISOR • Julie Volkman

EDITORIAL REVIEWER • Stephanie Carter

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ABSTRACT

College students have been exposed to alcohol-related advertisements for several decades now and research has proven that this exposure has an influence on today's population's knowledge, attitudes, and intentions to drink (Saffer, 2002). The college student population has been shown to participate in excessive drinking leading to other potential risks and harms, such as increased rates of depression (Furr et al., 2001; Hingson, 2009). Furthermore, students who experience depressive symptoms may experience elevated risks for alcohol-related problems (Joiner et al., 1992). The goal of this paper is to examine different persuasion techniques that alcohol companies currently expose to college students to analyze the effects the techniques have on the viewers. An online pre-test/post-test study experiment was distributed which included the Alcohol Use Disorder Identification Test (AUDIT), Beck Depression Inventory, and a series of social norm related questions with four alcohol-related advertisements as the treatment group. Participants (N = 133) were recruited that ranged between ages 18 and 49 (*n* = 66 responses; *M* = 21.31; *SD* = 3.75). These participants were recruited through a variety of sampling methods, such as convenience and snowball sampling. The data was analyzed with both qualitative and quantitative examination. The quantitative results supported previous research showing the connection between alcohol related advertisements and college students' intention to drink. However, there was no significant connection between the exposure to alcohol-related advertisements and the rates of depression among this population. Through qualitative analysis, a connection is seen between the perceptions of social norms and alcohol-related behaviors. This study provides a good foundation for future research into how to advertise alcohol-related advertisements to improve college students' behaviors and attitudes towards alcohol.

<u>INTRODUCTION</u>

College students are exposed to a variety of advertisements on a daily basis, whether in a physical or digital format. They may unconsciously see these ads without realizing companies are promoting their brands. A platform commonly utilized by companies to advertise and promote their brand names to college students is through social media (University of South Florida, n.d.). Businesses and companies have started to use this platform as a strategy to expand their products or services to a broader market. A sector that commonly utilizes social media advertising is the alcohol industry. Alcohol companies are posed with multiple challenges when digitally advertising their band. For example, companies must be aware of digital advertising placement, age demographics, and social media alcohol advertising policies (Jasnow & Halpern, 2021). However, young people are still exposed to and displayed pro-alcohol message and images through online portrayals of drinking on personal pages, as well as unregulated alcohol marketing on social media sites that may reach underage people (Moreno & Whitehill, 2014). To this end, existing research has concluded a heightened concern from public health advocates that underage individuals have significant exposure to alcohol advertising (Federal Trade Commission, 1999; Saffer & Dave, 2006).

Throughout the existing literature, there has been an established relationship between alcohol advertising and the influence it has to date on college students' knowledge, attitudes, and intentions to drink (Saffer, 2002). The use of alcohol among college students has produced public concern for several decades due to the elevated rate of hazardous drinking (Martin et al., 2016). Research has also shown that depression, as well as other psychological problems, are significantly experienced within the college population (Kumaraswamy, 2013). A survey of 308 participants concluded that depression was seen among 79.2% college students (Naushad et al., 2014). Furthermore, existing research has established that students with depressive symptoms are at an elevated risk for participating in hazardous drinking and alcohol-related negative consequences (Villarosa et al., 2018). However, there is a lack of research proving a direct relationship between advertising, binge drinking, and symptoms of depression among college students. The purpose of this study is to examine how the image of

drinking is portrayed in advertising. Additionally, this study seeks to illustrate whether these images have a relationship with college students' behavior and rates of depression.

LITERATURE REVIEW

<u>Alcohol Use</u>
The CDC (2022) defines ethyl or ethanol alcohol as "an intoxicating ingredient found in beer, wine, and liquor." Alcohol is produced by the fermentation of yeast, sugars, and starches (Centers for Disease Control and Prevention [CDC], 2022). Individuals consume alcohol to socialize, celebrate, and relax. The United States Department of Health and Human Services (2021) states that alcoholism is most the common type of substance use disorder in the United States. In fact, the National Institute on Drug Abuse reported that more people in the United States over the age of 12 have chosen alcohol in the past year over any other drug or tobacco product (The United States Department of Health and Human Services, n.d.). The CDC (2021) classifies a standard drink as being equivalent to 14.0 grams, or 0.6 ounces of pure alcohol. Beer, malt liquor, wine, and shots are all served using different ounces of measurement and have unique percentages of alcohol content according to the size (CDC, 2021). According to the Dietary Guidelines for Americans (n.d.), individuals of legal drinking age can choose to drink in moderation by limiting the intake to 2 drinks or less in a day for men or 1 drink or less in a day for women or choose not to drink. The United States National Library of Medicine states that moderate drinking is most likely safe, but consuming less is better for an individual's health (United States National Library of Medicine, 2022).

Alcohol consumption is complex, as individuals often struggle to understand and manage the power of this drug. According to the National Institute on Alcohol Abuse and Alcoholism [NIAAA] (2022), alcohol can have different effects on people, as a variety of factors can influence the human body. Some of these factors consist of how much and how often individuals drink, their age, health status, as well as family history (United States Department of Health and Human Services, n.d.). For example, two individuals can consume the same amount of alcohol but experience different symptoms of consumption.

<u>Consequences of Binge Drinking.</u> According to the CDC (2022), excessive drinking is experienced when individuals are binge drinking and/or drinking heavily. The terms excessive

drinking and binge drinking are interchangeable. Excessive drinking is experienced when individuals are consuming alcohol when pregnant or under the age of 21 (CDC, 2022). This type of alcohol consumption can have many side effects that can lead to elevated physical and mental risks. According to the NIAAA, common side effects experienced when drinking an excessive amount of alcohol include: reduced inhibition, slurred speech, motor impairment, confusion, memory problems, concentration problems, coma, breathing problems, and death (United States Department of Health and Human Services, n.d.). These side effects can influence outcomes such as car crashes and other accidents, unsafe sexual behavior, sexual assault, as well as suicide and homicide. Excess drinking can lead to long-term effects such as alcohol use disorder, health problems, and an increased risk for certain cancers (United States Department of Health and Human Services, n.d.).

To date, there has been a significant amount of research focused on college students' behaviors related to problematic drinking (Hingson, 2009; Martin, 2016). College students tend to be under the legal age limit to purchase and consume alcohol, which often leads to illegal usage. Approximately one-third of undergraduates have reported that they engaged in binge drinking at least once in the past month, and 12% of which classified themselves as heavy drinkers (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015). In addition, college students under the legal drinking age reported repeated involvement in both drinking and risky drinking behaviors, including binge drinking as well as drinking while driving (CBHSQ, 2015; Hingson et al., 2009). Hingson (2005) concluded that college students who participate in problematic drinking experience a higher risk for physical and social consequences. Further, the author articulates that the number of alcohol-related deaths and incidents among this age range has been increasing since 1998 (Hingson et al., 2005), which raises significant concern regarding the ramifications of college students engaging in this form of alcohol consumption.

<u>Depression and Drinking</u>
Existing research has analyzed the relationship between alcohol abuse and depression. Depression is a common psychological disorder with several subtypes that can shift one's mood, physical functions, and social interactions (Moreh & O'Lawrence, 2016). According to Crary and Crary (1973), frequent physical changes one experiences with depression include a

change in sleep pattern, changes in bowel health, weight loss, decreased sex drive, and psychomotor retardation. Other symptoms include an impairment of concentration, lack of interest or energy, and/or a change in self-esteem (Crary & Crary, 1973).

The transition from high school to college can present students with various challenges and obstacles they must overcome. According to a study that concentrated on suicide and depression, conducted with 1,455 college students at four different universities, 53% of the sample reported symptoms of depression, with only 9% reported having suicidal thoughts since beginning college (Furr et al., 2001). Since the start of the COVID-19 pandemic, rates of anxiety and depression among college-aged students have increased significantly. A recent study found that one in three college students experience substantial depression and anxiety (Druckenmiller, 2022). Moreover, college students experience increased societal pressure to achieve success while not being fully equipped with necessary life skills (Druckenmiller, 2022). Another study of college students indicated that a substantial number of students with symptoms of depression go without treatment; it was more common for females to seek treatment for depression in comparison to males (Michael et al., 2006).

Alcohol use disorder and depressive disorders are among the most prevalent psychiatric disorder and co-occur more often than expected by chance (McHugh & Weiss, 2019). As a result, college students who experience depressive symptoms may encounter an elevated risk for alcohol-related problems (Kumaraswamy, 2013; Joiner et al., 1992; Michael et al., 2006). For example, individuals in a depressive state of mind are associated with decreased social support (Joiner et al., 1992). This decreases the number of coping strategies due to fewer close connections with peers and/or others. With a limited number of close friends, an individual is less likely to be protected and more likely to experience negative consequences when they drink (Weitzman & Chen, 2005). Researchers have also discovered a direct relationship illustrating that students who drink to cope are also individuals struggling with other underlying problems and/or issues (Merrill & Read, 2010). After gathering information and statistics on college students persistently drinking and experiencing depressive symptoms, the need for prevention and counseling approaches must be emphasized to help reduce alcohol-related harms (Hingson et al., 2009).

Advertisements

The purpose of advertising is to persuade, inform, and remind consumers of products and/or services offered (Kokemuller, 2019). This is a commonly used technique to draw attention to a specific brand or company. Although advertising is beneficial to businesses, it is also a service to the consumers as it becomes possible for them to discover new products that attract their attention ("What Does Advertising Do for the Consumer?", 1973). Advertisements are a one-way channel of communication that tends to target groups of people rather than individuals (American Marketing Association [AMA], 2022). Some popular forms of advertising include television, radio, newspaper, magazines, and internet-related sources. In today's generation, traditional forms of marketing have shifted to digital marketing and social media advertising. The different types of advertising include traditional, retail, online, mobile, outdoor, and pay-per-click advertising.

Social Media and Advertising. Since its introduction over a decade ago, social media has become one of the most crucial communication channels for users and brands alike. These networking platforms provide a space for individuals to communicate regardless of geographic location and allow users to share and exchange ideas, feelings, personal information, videos, and pictures at an extremely fast rate (Owusu-Acheaw & Larson, 2015). According to Constantinides and Fountain (2008), the main goal of social media advertising is to encourage customers to promote their insights about the company's products and/or services in the public domain by interspersing useful content on digital platforms. Additionally, the messages that are shown strengthen market visibility which increases customer purchase behaviors (Constantinides & Fountain, 2008).

Brand Recall due to Humor/Shock/Emotional Advertisement. Marketers use a variety of methods to draw consumer attention and to break through the noise of advertising. For example, research from Srivastava and Dorsch (2020) focused on the effectiveness of three different approaches to advertising measured in terms of brand recall, image, attitudes, and purchase intentions towards a brand. The three approaches are as follows: fear/shock, emotional, and humor appeals. According to Walton (2000), the fear/shock appeal is used to frame a message to provoke the emotion of fear by representing a personally relevant and meaningful threat followed by recommendations that are effective in eliminating the threat.

According to Mukherjee and Dubé (2012), fear appeals are used to advertise many products and services such as house alarms, the use of sunscreen, antismoking, life insurance, and condom use. For example, advertisements will show pictures of diseased lungs for the viewers to fear these medical issues and promote antismoking (Mukherjee & Dubé, 2012). The emotional appeal focuses on a wide range of positive and negative sensing emotions to influence the audience including guilt, compassion, empathy, hope, anger, and disgust (Diedring, 2008). For example, The Last Plastic Straw project uses an emotional approach in their advertising campaign to display how sea creatures are harmed due to plastic pollution (The Last Plastic Straw, n.d.). Lastly, the humor appeal, which is the most employed communication strategy as it can enhance the recall of advertising messages, improves the level of favorability for the ad, and increase the influence of the ad among its target audience (Oakner, 2002). A company that successfully applies the humor approach is Charmin as they use bathroom humor as comic relief for potentially awkward or boring conversations (Speier, 2021). Furthermore, Srivastava and Dorsch (2020) concluded that brand recall is higher in emotional and humor advertisements while purchase intentions are high with emotional advertisements. Overall, the three approaches influence audiences in different ways and are utilized to persuade viewers (Srivastava & Dorsch, 2020).

The Influence of Persuasion in Advertisements
Companies that integrate persuasion in their advertisements experience leverage of desires and interests of consumers to convince them to purchase a product or service (Chi, 2021). There are three different processes that dictate the persuasion process in advertisements: response shaping, reinforcement, and change (Miller, 2002). Response shaping emphasizes the primary structure of how someone responds to an object, while response reinforcement focuses on strengthening a preexisting reaction of an object, and response change is detected as a change in the valence (positive/negative) of someone's response to an object (Dillard & Shen, 2013). Media effects that primarily focus on response change rather than all three of the processes deliver a limited lens to how influential media is, and all its complexities understood by persuasion (Bennett & Iyengar, 2008). When concentrating on these three processes as equally contributing elements of persuasion, there is a clear relationship between the study of media influence and the study of persuasion (Dillard & Shen, 2013). Thus, the

present paper will consider these three elements when researching to understand the various viewpoints of participants.

Message-Sidedness Effects in Advertising. Along with a strong argument, the context of the argument display is essential to the persuasion process as it is not required for the message to reference the opposing side (Dillard & Shen, 2013). In advertising, a message can be recognized with either a one-sided or a two-sided appeal, both having a distinct persuasion viewpoint from the audience's perspective (Etgar & Goodwin, 1982). A one-sided message consists of only positive information about a product (Crowley et al., 1994). On the other hand, a two-sided message incorporates both positive and negative perspectives about a product while advocating for one side over the other to persuade the audience (Hovland, 1954). A two-sided message can be non-refutational or refutational. Non-refutational is when there are no counter arguments present against the opposing view while refutational is when the message provides counterarguments to establish the superiority of the company's arguments and endorsements over the competitors (Dillard & Shen, 2013). Each of the message sidedness effects utilizes different techniques to persuade the audience in a certain way.

The question of which sidedness is more effective has gained awareness in persuasion research (Dillard & Shen, 2013). By displaying information from both the positive and negative sides, two-sided messages are often identified as more trustable in comparison to one-sided messages (Banas & Rains, 2010; Eisend, 2006; Eisend, 2007; Eisend, 2013). Therefore, integrating message-sidedness into narratives may heighten the effectiveness of narrative correction (Wang & Huang, 2021). On the other hand, advertisements often use one-sided messages to advocate a particular position and persuade recipients into becoming customers (Shen & Bigsby, 2013). Although the effects of sidedness have been heavily researched, the concluding findings regarding which approach is more effective is inconsistent, as it depends on the product and/or service itself (Eisend, 2006, 2007; Shen & Bigsby, 2013).

Social Norms Approach. Norms are the basis for understanding changes in social order and human behavior. A widely known theory that focuses on norms is the social norms approach,

which was initially used to focus on college students' alcohol patterns and which has implications for health promotion and prevention. Perkins (2002) presented a valuable explanation on the impact of norms on behavior in which attitudes of the dominant group norms reflect the expectations and behaviors that both characterize the groups and regulate actions to maintain the collective norm. Peer influences are affected more by perceived norms–what we view as typical or standard in a group, rather than actual norms–the real beliefs and actions of the group (LaMorte, 2022). The gap between perceived and actual norms is a misperception, and this forms the foundation for the social norms approach (LaMorte, 2022). A misperception is a situation in which students mistakenly recognize the attitudes and/or behaviors of peers and other community members to be different from their own when in fact they are not (Berkowitz, 2005). For example, students may believe they experience fewer consequences and recognize them more negatively than other do, possibly as a way of validating their own behavior in the face of negative experiences (Prentice & Miller, 1993).

As defined by Linkenbach (2003), there are three assumptions to the social norms theory. First, negative behavior is reinforced by misperception. Second, correct perceptions reduce negative behavior and encourage healthy behavior. Third, providing accurate information about a specific behavior can eliminate various intervention strategies (Linkenbach, 2003). Existing research has proven that utilizing the social norms approach in media marketing campaigns has a strong effect on normative perceptions and drinking behaviors (Perkins et al., 2010). Overall, this theory has a direct relationship to drinking and emphasizes how an individual can be easily influenced by other attitudes and behaviors.

Berkowitz (2004) stresses the social norms theory with an example of an individual who may overestimate the tolerance of peer attitudes and/or behaviors regarding alcohol or underestimate the degree to which peers participate in healthy behavior. The overestimations of problem behavior will increase problem actions, whereas the underestimations of healthy behaviors will hinder individuals from participating in them. Therefore, creating incorrect assumptions of group norms will most likely decrease problem behavior or increase the prevalence of healthy behaviors. These assumptions have been confirmed by an immense

amount of research on teenage and young-adult drinking and cigarette smoking, and are encouraged to promote safe drinking, tobacco termination, and safe driving on college campuses, as well as in middle and high schools (Berkowitz, 2004). In summary, the theory has proved to be effective in reducing alcohol consumption as well as correcting the norms of drinking of peers (Berkowitz, 2005).

The Influence of Alcohol-Related Advertisements and Media
Exposure to alcohol advertising and marketing is a major factor that might persuade young people to consume alcoholic beverages (Anderson et al., 2009; Morgenstern et al., 2011). Furthermore, there is a response-relationship between alcohol consumption and exposure to media and commercial communications (Morgenstern et al., 2011; Synder et al., 2006). Specifically, individuals with elevated exposure to alcohol advertising are at an elevated risk to consume alcohol more frequently (Anderson et al., 2009; Synder et al., 2006). When taking into consideration the exposure to media, it is just as crucial to consider and evaluate how associated messages are perceived and interpreted (Austin et al., 2006). When an alcohol-related advertisement is perceived as favorable, it can effectively influence an adolescent's intent to purchase the brand and products promoted (Chen et al., 2005). Alcohol-producing companies are cutting down the use of traditional advertising and have shifted towards online or digital advertising (Federal Trade Commission [FTC], 2014). This shift causes concern as the target audience is primarily underaged youth and adolescent technology users (Pew Research Center, n.d.). This causes an unbalanced exposure to digital alcohol advertisements beyond of-age drinkers. In addition, the self-imposed guidelines implemented by the alcohol industry have been unsuccessful in protecting and/or regulating the youth from exposure to their advertising content due to changes in marketing and advertising techniques (Anderson et al., 2009; Tanski et al., 2015).

Beverages that are shown in the media are often associated with a social norm or a misperception of reality (Eisenberg et al., 2017). Research from Eisenberg et al. (2017) conducted a content analysis of the beverage selection and health behaviors represented in the media, specifically, television shows. The television shows were chosen based off popularity among the large and diverse group of adolescent participants. The study focused on how the programming contributed to viewers' social norms and whether it influenced adolescent

behavior. It concluded that 96% of the television episodes included at least one beverage and alcohol was the most prominent beverage displayed. Commonly presenting alcohol contributes to social norms regarding viewers' desirability and potential risk of unhealthy habits (Eisenberg et al., 2017).

Conclusion

In accordance with previous research in this field, there is extant literature pertaining to the relationship between college students and binge drinking (Saffer, 2002). Further, there is a clear connection between binge drinking and depression (Villarosa et al., 2018). Previous literature has proven that excessive drinking and depression have an influence on college students' behaviors and attitudes. However, research examined these variables independently rather than analyzing the effect one may have on the other. Therefore, to expand on existing research, the present study seeks to examine the influence social media advertisements have on college students and analyze health behavior and/or social norm changes. The significance of this study is to examine both drinking and depression behaviors and analyze the actions associated with these behaviors, while recommending ways to decrease these behaviors if they prove to lead to negative consequences. This paper will discuss the following three research questions:

a) **RQ1:** What influence does alcohol-related advertisements have on college students' intention to drink?

b) **RQ2:** What impact does exposure to alcohol-related advertisements have on rates of depression among college students?

c) **RQ3:** What are the perceptions of social norms and alcohol-related behaviors among college-age students?

METHODOLOGY

Study Type

For this study, an online experiment with a pre-test/post-test study design was created and distributed. The goal of using an experiment was to assess the thoughts, opinions, and feelings of participants regarding their drinking-related attitudes and the influence of persuasion techniques. The independent variable in this study was exposure to alcohol-related

advertisements. This study also utilized three dependent variables: drinking behavior, rates of depression, and the influence of social norms.

Sample

Participants (N = 133) were recruited that ranged between ages 18 and 49 (n = 66 responses; *M* = 21.31; SD = 3.75). Participants were mainly college students and were primarily seniors (*n* = 36), then juniors (*n* = 11), freshmen (*n* = 8), grad school (*n* = 8), sophomores (*n* = 2), and other (*n* = 5). Participants were primarily white (*n* = 67), then Asian (*n* = 3), and Hawaiian (*n* = 1). These participants were recruited through a variety of sampling methods, such as convenience and snowball sampling. For example, communication professors at Bryant University sent out the experiment via link through an email for their students to take. An email was also created that was sent out to the tutoring center (Academic Center for Excellence) on campus. A flyer was also made that was posted in the Bryant University library as well as on social media sites such as Instagram and LinkedIn. In addition, the experiment link was sent to friends and family via text message and also forwarded to their friends.

Measures

Pre/Post-Test Measures. The experiment began with three sets of pre-test questions, the AUDIT, social norms questionnaire, and the Beck Depression Inventory to establish students' baseline knowledge relating to drinking behaviors, social norms, and depressive symptoms. Once the pre-test questions are completed and prior information was gathered from the participant, one of four advertisements was viewed. The post-test included questions pertaining to attitudes towards the advertisement and intentions to drink, a manipulation check, and depressive symptoms. To analyze depressive symptoms, the Beck Depression Inventory was distributed in both the pre-test and post-test to evaluate potential changes in depression symptoms.

Alcohol Use Disorder Identification Test. The first measure was the Alcohol Use Disorder Identification Test (AUDIT), which is a 10-item screening instrument that was created by the World Health Organization (see Appendix A). Participants began the experiment with this section (*n* = 120). The AUDIT asks questions relating to alcohol consumption during the past

year, symptoms of alcohol dependence, and alcohol-related problems or harm. The screening categorizes four different groups of people based on criteria established by the CDC (2014) – (1) those unlikely to be at risk, (2) those at risk due to excessive drinking, (3) those who have prior problem-related experience related to drinking, and (4) those who are likely to have alcohol dependence (CDC, 2014). Each response is scored using the numbers located at the top of each response column (see Appendix B). Once every question is answered, the appropriate numbers associated with each question is summed to calculate the total number to obtain a total score. As determined by the CDC (2014), the total score categorizes the participants into one of the four following groups: (1) A score of 0–7 suggests abstinence or drinking below low-risk guidelines. These participants should receive information that defines risky drinking levels and when any alcohol consumption is unhealthy, (2) A score of 8–15 suggests drinking in excess of screening guidelines, which merits a brief intervention, (3) A score of 16–19 suggests not only drinking above guidelines but also the experience of alcohol-related harm, which merits a brief intervention and follow up, (4) A score of 20 or more suggests but does not diagnose alcohol dependence syndrome, which may require a referral to specialized treatment. AUDIT has been extensively validated as it consists of a broad spectrum of drinking problems and provides information about the three major domains used in screening for alcohol problems – alcohol consumption, alcohol-related harm, and dependence symptoms (CDC, 2014).

Beck Depression Inventory. The second scale analyzes depression-related behaviors and attitudes using the Beck Depression Inventory (BDI). The BDI is a 21-item self-report rating inventory that measures characteristic attitudes and symptoms of depression (Beck et al., 1961). This was the third section of the experiment ($n = 106$). The questions are available in Appendix C. The score for each question was summed into a composite score. The composite score categorizes individuals into one of the following five levels of depression: (1) a score of 1-10 indicates these ups and downs are considered normal, (2) a score of 11-16 indicates mild mood disturbance, (3) a score of 17-20 indicates borderline clinical depression, (4) a score of 21-30 indicates depression (5) a score of 31-40 indicates severe depression (5) a score of over 40 indicates extreme depression (Beck et al., 1961). Previous research found this scale to have

strong levels of reliability (α = .90; Steer et al., 2000). The post test recorded a total of 70 responses (*n* = 70).

Treatment Variable. The treatment for this study includes four alcohol-related advertisements that vary throughout the experiments distributed (*n* = 104). Each video utilizes a different persuasive message/technique: emotional humor, emotional fear, and a one- and two-sided message (see Appendix D). All videos are easily accessible, not gender-specific, and targeted toward a younger audience. Several advertisements from YouTube were analyzed with an initial search of 50 videos, which was ultimately narrowed down to four advertisements. The examination began researching popular alcohol brands that the target audience would recognize, followed by investigating the most viewed advertisements among these brands. From there, the search focused on how well the advertisement used the different persuasion techniques this experiment studies. Ultimately, four videos were chosen based on high viewing and positive ratings that also used the persuasion techniques that were analyzed for this experiment.

Advertisements. One advertisement uses the emotional humor approach as it depicts a man who sits on the beach relaxing before he remembers he is on an airplane when the flight attendant hands him a Corona Extra beer. After a passenger sitting near him sees how the man immediately entered a peaceful state of mind when drinking a Corona, she decides to drink the same and the two were able to enjoy the tropical scenery together with their drinks in hand. The total percentage of participants who viewed this ad was 18.8% (*n* = 25).

The second advertisement uses the emotional fear approach as the beer brand Budweiser promotes responsible drinking habits and behaviors. The advertisement depicts a young adult taking in a dog and establishing a loving relationship with his pet. Overall, it encourages the audience to drink responsibly not only for their health but for the sake of those who wait at home for them. The total percentage of participants who viewed this ad was 19.5% (*n* = 26).

The third advertisement was created by Heineken which uses a one-sided message approach as they promote their non-alcoholic drink to consume on social and evening occasions when it may not be acceptable to drink alcohol. The social norm portrayed in this advertisement is

that alcohol is often consumed in a social setting to celebrate, but not every occasion is acceptable to drink. The total percentage of participants who viewed this ad was 22.6% ($n = 30$).

The final advertisement uses a two-sided message approach as it displays a group of people at a bar, casually and responsibly drinking the advertised alcohol, Taman. It then shifts quickly to visuals of individuals partaking in excess drinking while listing off statistics relating to the harm these actions can cause. This advertisement emphasizes that one can drink alcohol, but individuals tend to drink more and experience elevated risks. The total percentage of participants who viewed this ad was 17.3% ($n = 23$).

Dependent Measures. The first dependent variable is the influence the advertisements have on drinking behaviors and attitudes. The second dependent variable is the influence advertisements have on depression. These dependent variables were both analyzed using the measures previously mentioned to examine potential change after viewing the commercial advertisements.

Attitude Towards the Advertisement. Participants' attitudes towards the advertisement were measured using 7-point semantic differential questions (Dillard & Shen, 2005) ($n = 80$, $M = 3.91$, $SD = .72$, $\alpha = 0.76$). The adjective pairs consist of: bad/good; foolish/wise; unfavorable/favorable; negative/positive; undesirable/desirable; unnecessary/necessary; and detrimental/beneficial. Previous research demonstrates strong levels of reliability for this approach ($\alpha = .85$) (Farman et al., 2020).

Social Norms. A set of questions were distributed that combine items from Rimal (2008) and Lee et al. (2007) to assess social motives and perceived prevalence of alcohol consumption using descriptive norms and injunctive norms (see Appendix E) ($n = 106$). Cialdini et al. (1990) describes descriptive norms as one's perceptions about the occurrence of a behavior while injunctive norms describe the appropriate course of action in a certain situation. Moreover, a descriptive norm provides information about what is normal whereas injunctive norms provide information about what ought to be done (Cialdini et al., 1990). An example of a descriptive question is as follows, "When a typical student goes to a party, about how many

drinks do *you* think he or she consumes?" An example of an injunctive norm is as follows, "Is it appropriate for students to drink every weekend?" Descriptive norms responses were recorded on a 6-point Likert scale obtaining a composite score; higher scores indicate a higher perceived prevalence of drinking (α = .87) (Rimal, 2008). The injunctive norms were recorded using the same scale (α = .76) (Lee et al., 2007).

Procedure

The experiment subjects accessed the experiment through a link provided via Qualtrics. Participants were asked to answer two sets of pre-test questions relating to drinking behaviors and depression symptoms before viewing the advertisements. The four treatment groups focused on separate social norms related to drinking. In each case, respondents were randomized to watch one of four televised commercials with the same message. Following the advertisements, another round of questions were implemented to gather dependent information regarding their reactions, thoughts, and feelings towards the advertisement. Next, the same questions in the pre-test were distributed as post-test measures to analyze any change after watching the advertisements. The end of the experiment included a set of demographic questions (see Appendix F).

Analysis

After all responses were recorded and the experiment closed, preliminary analyses was then conducted to include the frequencies and response rates in order to assess the previously mentioned research questions: (1) What influence does alcohol-related advertisements have on college students' intention to drink? (2) What impact does exposure to alcohol-related advertisements have on rates of depression among college students? (3) What are the perceptions of social norms and alcohol-related behaviors among college-age students? Independent sample t-tests and correlations were conducted with the dependent variable of interest. When examining the qualitative responses, a thematic analysis procedure was applied to derive constructed patterns from the data set to understand experiences, thoughts, and behaviors that relate back to the research question. A thematic review examines qualitative data rather than quantitative data to recognize safety themes and issues. This was a powerful tool as it gathered the findings from multiple responses to identify interconnected contributing factors to inform and direct improvement efforts.

RESULTS

The experiment received a total of 133 responses (N = 133). Not all participants answered every question; therefore, some responses were eliminated to prevent any error. The AUDIT was distributed as a pre-test/post-test set of questions to analyze any potential change in behavior after viewing the advertisements. The pre-test AUDIT received a total of 120 responses ($n = 120$). Respondents were randomized to watch one of four televised commercials and that followed a set of post-test questions. The results of the four advertisements are as follows: Corona ($M = 4.36$, $SD = .69$), Budweiser ($M = 3.98$, $SD = .61$), Heineken ($M = 4.71$, $SD = .88$), and Taman ($M = 4.61$, $SD = .42$).

<u>RQ1: What influence does alcohol-related advertisements have on college students' intention to drink?</u>

A one-way between-groups analysis of variance was conducted to explore the impact of alcohol-related advertisements on college students' intentions to drink. There was a statistically significant difference at the $p < .05$ level in intentions to drink for the four advertisements: $F(3, 76) = 5.08$, $p = .003$. Post-hoc comparisons using Tukey HSD test indicated that the mean score for the Taman advertisement ($M = 3.61$; $SD = .42$) was statistically different than other advertisements. The Corona advertisement ($M = 4.36$; $SD = .69$), Budweiser advertisement ($M = 3.98$; $SD = .61$), and Heineken advertisement ($M = 3.71$; $SD = .88$) were statistically similar. As a result, the Corona advertisement as well as the Heineken advertisement displayed behaviors such as a higher intent to drink.

<u>RQ2: What impact does exposure to alcohol-related advertisements have on rates of depression among college students?</u>

Alcohol-related advertisements did not have a significant impact on the rates of depression among college students. The Beck Depression Inventory pre-test had a total of 104 responses ($N = 104$) and showed that 57.1% ($n = 76$) were in the "these ups and downs are considered normal" category, 11.3% ($n = 15$) were in the "mild mood disturbance" category, 3.0% (n=4) were in the "borderline clinical" category, 2.3% ($n = 3$) were in the "moderate depression" category, 3.2% ($n = 5$) were in the "severe depression" category, and .8% ($n = 1$) were in the "extreme depression" category. The Beck Depression Inventory posttest had a total of 70 responses ($N = 70$) and showed that 38.39% ($n = 51$) of students were in the "these ups and

downs are considered normal" category, 9.0% ($n = 12$) were in the "mild mood disturbance" category, .80% ($n = 1$) where in the "borderline clinical depression" category, 1.5% ($n = 2$) were in the "moderate depression" category, 2.3% ($n = 2$) were in the "severe depression" category, and .8% ($n = 1$) were in the "extreme depression" category. Preliminary analyses showed a significant difference on gender; consequently, an ANCOVA was performed.

After analyzing these results, alcohol-related advertisements did not have a significant impact on the rates of depression among college students, after controlling for gender ($F=(3, 65) = 1.04$, $p = .38$.

RQ3: What are the perceptions of social norms and alcohol-related behaviors among college-age students?
To determine the perceptions of social norms and alcohol-related behaviors among college-age students, open-ended, qualitative questions were asked, and the responses were analyzed using thematic analysis. Thematic analysis was a powerful tool to analyze the data as it provided a clear outline of assumptions to ensure the trustworthiness of the findings and interpretations. Four themes emerged for each of the three questions asked. The respondents each had different, but valuable comments that significantly contributed to the hypothesis. The themes were explored, and many commonalities were found within the participants' responses.

The first question that was asked was "How would your close friends feel if you drank alcohol every weekend?" After applying a thematic analysis to all responses, the following themes were derived: Indifferent, Disregarding, Acceptable if not harming self and/or others, and Concerning/Situational based. The themes and example responses are shown in Appendix G. These themes were found in the majority of responses, and are present in the following responses,

> Some of my friends may find it concerning but most of them would see it as just having fun on a weekend.

> In moderation, I see no issue. However, if my friend is unable to fulfill their obligations due to drinking, I would become concerned.

> As long as my drinking is not causing harm to others or affecting my daily life (work, etc) I think they would feel okay with it.

The second question asked relating to perceptions of social norms and alcohol-related behaviors is as follows: "How would your friends feel if you drank enough to throw up?" After applying a thematic analysis to all responses, the following themes were derived: Concerned/Worried, Normal/They would not care, Okay if not repeated, and Supportive. The themes and example responses are shown in Appendix H. These themes were generated based on commonality within all responses, and are present shown in the following responses,

> I believe that if I was ever in a situation where I drank enough to throw up, I know that my close friends would be there for me and would take care of me. In that case, I would hope that my friends would talk to me the next day about taking preventative measures to ensure this does not happen again.

> I think alcohol effects everyone in different ways, so I don't throw up is a major concern.

> They would make sure it was not a reoccurring issue.

The third question asked relating to perceptions of social norms and alcohol-related behaviors is as follows: "How would your close friends feel if you drank enough to forget what happened the night before?" After applying a thematic analysis to all responses, the following themes were derived: Concerned/Worried, It happens/It is normal, Funny/Laugh, and Neutral. The themes and example responses are shown in Appendix I. The themes are communicated in the following responses,

> Although it does happen at college, I would be concerned if it became a pattern.

> Again, neutral. It's not ideal, but they wouldn't see me differently because of it. They would take care of me and it would only become an issue if it was happening.

The themes that emerged from the participants' responses are consistent and expand on the knowledge of the perceptions of social norms and alcohol-related behaviors among college students.

DISCUSSION

The purpose of this study was to further examine how drinking is portrayed in advertising. Additionally, this study sought to illustrate whether these images had a relationship with college students' behavior and rates of depression.

RQ1: What influence does alcohol-related advertisements have on college students' intention to drink?

Previous research has supported that the college-aged student population is shown to participate in excessive drinking, leading to potential risks and harms, such as increased rates of depression (Furr et al., 2001; Hingson, 2009). Furthermore, college-aged students have been exposed to alcohol-related advertisements for several decades now. This paper examined whether or not alcohol-related advertisements had an influence on college students' intentions to drink.

The sample was exposed to one of four alcohol-related advertisements which were randomized among participants. The four advertisements were selected based on three communication approaches: fear/shock, emotional, and humor appeals. When analyzing the participants' responses relating to their attitude towards the advertisement, the humor emotional and emotional fear advertisements generated a higher likability compared to the other two advertisements. In addition, the two-sided message advertisement did not get as much of a positive reaction compared to the emotional humor and emotional fear advertisements. This finding supports previous research stating that two-sided messages are more effective when strengthening arguments and beliefs about positive attributes of the brand and enhancing purchase intentions if the potentially undesirable attribute is highly correlated with other desirable attributes featured in the message (Eisend, 2006). The potential undesired attribute of binge drinking does not correlate with the positive attributes of casual drinking. Therefore, the Taman two-sided message in this experiment was not significantly effective.

Moreover, advertisements that appeal to people's optimism make consumers far more likely to promote the brand, regardless of the type of product being advertised (Palmquist, 2014). This research supports the reasoning behind why the emotional and humor appeal advertisements appealed more to the participants. Although some studies have found that participants feel more ambivalent/uncertain when they obtain only one piece of information as opposed to multiple due to the missing information of the opposite valence (Priester et al., 2007), this is not always the most effective appeal. Overall, positive alcohol-related advertisements are more effective as they evoke pleasant feelings that consistently resonate with consumers as opposed to negative advertisements.

RQ2: What impact does exposure to alcohol-related advertisements have on rates of depression among college students?

Previous research has supported that there is a relationship between alcohol abuse and depression. Furthermore, college students who experience depressive symptoms may encounter an elevated risk for alcohol-related problems for several reasons (Kumaraswamy, 2013; Joiner et al., 1992; Michael et al., 2006). The Beck Depression Inventory was distributed as a pre-test/post-test study design that participants had to fill out before and after viewing one of the alcohol-related advertisements. The results show that there was no significant relationship between advertisements and depression. It is important to note that the majority of the sample collected believed that the ups and downs in life were normal (75% of the sample) and the post-test had similar responses. As a result, this sample did not have significant depression and the alcohol-related advertisement did not impact the rates of depression among college students.

RQ3: What are the perceptions of social norms and alcohol-related behaviors among college-age students?

The social norms approach was initially used to focus on college students' alcohol patterns and has implications for health promotion and prevention. Marketing campaigns, such as advertisements, are directly tied to changes in perceived norms, and these campaigns are likely to be successful to the extent that they correct normative misperceptions (Mattern & Neighbors, 2004). Three qualitative questions were asked to determine the perceptions of social norms and alcohol-related behaviors among college-aged students. The open-ended questions were related to the participants' own drinking habits as well as their friends' habits.

The results support that there are clear norms within drinking habits. The findings are consistent with research stating that college students drink heavily and experience alcohol-related consequences. It suggests that drinking in college is a ritual and has become an integral part of students' higher education experiences. Students enter college with established drinking habits and the environment can lead to a problem (National Institute on Alcohol Abuse and Alcoholism, n.d.). The responses collected from the experiment were categorized into one of four themes as many respondents had similar social attitudes and behaviors.

One perception of a social norm of alcohol-related behaviors among college-aged students was that everybody in college consumes alcohol, making it more acceptable. This social norm is consistent with other studies that supported that college students tend to overestimate the drinking of their peers (Lewis & Neighbors, 2006). Many participants stated that it was acceptable for their close friends to drink every weekend, and also stated that they were not worried or concerned when they threw up or drank enough to forget what happened the night before. It is acceptable to drink in moderation; however, the responses are supporting binge drinking and accepting alcohol-related consequences without realizing it. This social norm is communicated in the following responses,

> They would not be concerned because they have similar drinking habits to me.

> They would not see an issue, as it happens a lot for my friends and college students in general.

Another perception is that consuming alcohol is acceptable in a social setting if the individual is not causing harm to themselves or others. However, not all of the themes condoned drinking. For example, another social norm perception emerged in which alcohol should only be consumed in moderation and if throwing up and blacking out occurs too regularly, then that individual would need extra support. This social norm is communicated in the following responses,

> Some of my friends may find it concerning but most of them would see it as just having fun on a weekend.

> If we weren't doing something/going somewhere i think they would be concerned if I was just doing it by myself.

> Concerned, should not be a typical occurrence.

Future Research

To improve or add on to current research, future studies may want to look at another age population of individuals. It may also be interesting to interview extreme users of alcohol consumption. This would include interviewing a variety of individuals who drink for different reasons. Some types of drinkers could include a social drinker, stress drinker, binge drinker, self-medication drinker, high-risk drinker. It would also be interesting to interview a few individuals who do not consume alcohol at all or have been sober for a certain period of time.

Limitations

Some limitations should be considered regarding the overall analysis of this experiment. First, it is important to note that not all of the participants answered every question from the beginning to the end of the experiment. Some individuals only got halfway through the experiment and did not complete it in its entirety. As a result, those responses were disregarded. Another limitation was an unequal sample size that was distributed among the four advertisements. The advertisement that was most viewed was the Heineken advertisement whereas the Taman advertisement received seven less views. This could cause a Type I error (false positive) to occur and could potentially skew the results. Additionally, the survey was formatted so when the participant clinked the link to view the advertisement, they were taken to another page, allowing them to easily exit the survey. Moreover, the formatting of the AUDIT was incorrectly ranked; one of the questions was formatted incorrectly causing a challenge to calculate the overall AUDIT score for each individual. If this experiment were to be run again, an AUDIT posttest would be added to the experiment to evaluate any changes in behaviors of consuming alcohol.

CONCLUSION

The college student population has been shown to participate in excessive drinking, leading to other potential risks and harms, such as increased rates of depression. In addition, this population is exposed to alcohol-related advertisements that contain social norms that

encourage potential consumers to buy the company's products. The purpose of this study was to examine how the image of drinking is portrayed in advertising. Additionally, this study sought to illustrate whether these images have a relationship with college students' behavior and rates of depression. In conclusion, this experiment supports that alcohol-related advertisements do have an influence on college students' intentions to drink when the advertisement is optimistic and supports the feelings consumers resonate with. Moreover, this experiment did not show a relationship between alcohol-related advertisements and depression among college students. Furthermore, the qualitative results are consistent with social norms among college students and drinking habits.

APPENDICES

<u>Appendix A – AUDIT (US): Alcohol Use Disorders Identification Test</u>
How often do you have a drink containing alcohol?

0. Never

1. Monthly or less

2. 2-4 times a month

3. 2-3 times a week

4. 4 or more times a week

How many drinks containing alcohol do you have on a typical day when you are drinking?

0. 1 or 2

1. 3 or 4

2. 5 or 6

3. 7 to 9

4. 10 or more

How often do you have X (5 for men; 4 for women & men over age 65) or more drinks on one occasion?

0. Never

1. Monthly or less

2. 2-4 times a month

3. 2-3 times a week

4. 4 or more times a week

How often during the last year have you found that you were not able to stop drinking once you had started?

0. Never

1. Less than monthly

2. Monthly

3. Weekly

4. Daily or almost daily

How often during the past year have you failed to do what was normally expected of you because of drinking?

    0. Never

    1. Less than monthly

    2. Monthly

    3. Weekly

    4. Daily or almost daily

How often during the past year have you needed a drink first thing in the morning to get yourself going after a heavy drinking session?

    0. Never

    1. Less than monthly

    2. Monthly

    3. Weekly

    4. Daily or almost daily

How often during the last year have you had a feeling of guilt or remorse after drinking?

    0. Never

    1. Less than monthly

    2. Monthly

    3. Weekly

    4. Daily or almost daily

How often during the past year have you been unable to remember what happened the night before because you had been drinking?

    0. Never

    1. Less than monthly

    2. Monthly

    3. Weekly

    4. Daily or almost daily

Have you or someone else been injured because of your drinking?

0. No

2. Yes, but not in the past year

4. Yes, during the past year

Has a relative, friend, doctor, or other health care worker been concerned about your drinking and suggested you cut down?

0. No

2. Yes, but not in the past year

4. Yes, during the past year

Appendix B – AUDIT Scoring Scale

QUESTIONS	0	1	2	3	4	5	6	Score
1. How often do you have a drink containing alcohol?	Never	Less than Monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
2. How many drinks containing alcohol do you have on a typical day you are drinking?	1 drink	2 drinks	3 drinks	4 drinks	5-6 drinks	7-9 drinks	10 or more drinks	
3. How often do you have X (5 for men; 4 for women & men over age 65) or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
5. How often during the past year have you failed to do what was expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
6. How often during the past year have you needed a drink first thing in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
7. How often during the past year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
8. How often during the past year have you been unable to remember what happened the night before because you had been drinking??	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the past year		Yes, during the past year			
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking and suggested you cut down?	No		Yes, but not in the past year		Yes, during the past year			
							Total	

Appendix C – Beck Depression Inventory (BDI)

0. I do not feel sad.

1. I feel sad

2. I am sad all the time and I can't snap out of it

3. I am so sad and unhappy that I can't stand it

0. I am not particularly discouraged about the future.

1. I feel discouraged about the future.

2. I feel I have nothing to look forward to.

3. I feel the future is hopeless and that things cannot improve

0. I do not feel like a failure.

1. I feel I have failed more than the average person.

2. 2 As I look back on my life, all I can see is a lot of failures.

3. 3 I feel I am a complete failure as a person.

0. I get as much satisfaction out of things as I used to

1. I don't enjoy things the way I used to

2. I don't get real satisfaction out of anything anymore.

3. I am dissatisfied or bored with everything.

0. I don't feel particularly guilty

1. I feel guilty a good part of the time.

2. I feel quite guilty most of the time.

3. I feel guilty all of the time.

0. I don't feel I am being punished.

1. I feel I may be punished.

2. I expect to be punished.

3. I feel I am being punished.

0. I don't feel disappointed in myself.

1. I am disappointed in myself.

2. I am disgusted with myself.

3. I hate myself.

0. I don't feel I am any worse than anybody else.

1. I am critical of myself for my weaknesses or mistakes.

2. I blame myself all the time for my faults.

3. I blame myself for everything bad that happens.

0. I don't have any thoughts of killing myself.

1. I have thoughts of killing myself, but I would not carry them out

2. I would like to kill myself.

3. I would kill myself if I had the chance.

0. I don't cry any more than usual.

1. I cry more now than I used to

2. I cry all the time now.

3. I used to be able to cry, but now I can't cry even though I want to.

0. I am no more irritated by things than I ever was.

1. I am slightly more irritated now than usual.

2. I am quite annoyed or irritated a good deal of the time.

3. I feel irritated all the time.

0. I have not lost interest in other people.

1. I am less interested in other people than I used to be.

2. I have lost most of my interest in other people.

3. I have lost all of my interest in other people.

0. I make decisions about as well as I ever could.

1. I put off making decisions more than I used to.

2. I have greater difficulty in making decisions more than I used to.

3. I can't make decisions at all anymore.

0. I don't feel that I look any worse than I used to.

1. I am worried that I am looking old or unattractive.

2. I feel there are permanent changes in my appearance that make me look unattractive

3. I believe that I look ugly.

0. I can work about as well as before.

1. It takes an extra effort to get started at doing something.

2. I have to push myself very hard to do anything.

3. I can't do any work at all.

0. I can sleep as well as usual.

1. I don't sleep as well as I used to.

2. I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.

3. I wake up several hours earlier than I used to and cannot get back to sleep.

0. I don't get more tired than usual.

1. I get tired more easily than I used to.

2. I get tired from doing almost anything.

3. I am too tired to do anything.

0. My appetite is no worse than usual.

1. My appetite is not as good as it used to be.

2. My appetite is much worse now.

3. I have no appetite at all anymore.

0. I haven't lost much weight, if any, lately.

1. I have lost more than five pounds.

2. I have lost more than ten pounds.

3. I have lost more than fifteen pounds.

0. I am no more worried about my health than usual.

1. I am worried about physical problems like aches, pains, upset stomach, or

   constipation.

2. I am very worried about physical problems and it's hard to think of much else.

3. I am so worried about my physical problems that I cannot think of anything else.

0. I have not noticed any recent change in my interest in sex.

1. I am less interested in sex than I used to be.

2. I have almost no interest in sex.

3. I have lost interest in sex completely.

Appendix D – Independent Variable: Advertisements

1. **Emotional Humor:** Corona Extra Flight Find Your Beach TV Commercial

   o https://youtu.be/HBVAAPro02U

2. **Emotional Fear:** Someone Waits For You At Home, DON'T DRINK & DRIVE | Budweiser Ads

   o https://youtu.be/56b09ZyLaWk

3. **One Sided:** Heineken 0.0 | Now You Can | Presentation

   o https://youtu.be/XRgqiPO1uuE

4. **Two Sided:** Alcohol Commercial Suddenly Turns Anti Drinking

   o https://youtu.be/QalnisJfHEw

Appendix E – Social Norms Questionnaire

1. When a typical student goes to a party, about how many drinks do *you* think he or she consumes?

2. When a typical student goes to a bar, about how many drinks do *you* think he or she consumes?

3. When a typical student has friends over their suite/townhouse/apartment for drinks, about how many drinks do you think the person consumes?

4. On the average, about how many drinks do *you* think a typical student consumes during the weekend (Friday evening through Saturday evening)?

5. Is it appropriate for students to drink every weekend?

6. How would your close friends feel if you drank alcohol every weekend?

7. How would your friends feel if you drank enough to throw up?

8. How would your close friends feel if you drank enough to forget what happened the night before?

Appendix F – Demographic Questions

What gender do you identify as?

    a. Male

    b. Female

    c. Short answer space

    d. Prefer not to say

What is your age?

    a. 0-15 years old

    b. 15-20 years old

    c. 20-25 years old

    d. 25+

    e. Prefer not to answer

Please specify your ethnicity

    a. Caucasian

    b. African American

    c. Latino or Hispanic

    d. Asian

    e. Native American

    f. Two or More

    g. Other/ Unknown

What is the highest level of education you have completed?

    a. Some of High School

    b. High School

    c. Bachelor's Degree

    d. Master's Degree

    e. PH.D. or higher

    f. Trade School

    g. Prefer not to answer

Appendix G – Open Responses & Themes Q1

Question: How would your close friends feel if you drank alcohol every weekend?

Theme	Example Response
Indifferent	• "In moderation, I see no issue. However, if my friend is unable to fulfill their obligations due to drinking, I would become concerned."
Disregarding	• "They would not be concerned because they have similar drinking habits to me." • "Some of my friends may find it concerning but most of them would see it as just having fun on a weekend."
Acceptable if not harming self and/or others	• "As long as my drinking is not causing harm to others or affecting my daily life (work, etc) I think they would feel okay with it."
Concerning/Situational based	• "They would encourage me to spend time doing other things that don't include alcohol." • "If we weren't doing something/going somewhere i think they would be concerned if I was just doing it by myself."

Appendix H – Open Responses & Themes Q2

Question: How would your friends feel if you drank enough to throw up?

Theme	Example Response
Concerned/Worried	• "They would make sure it was not a reoccurring issue." • "Not normal and overindulgent. May need some help."
Normal/They would not care	• "We've all been there." • "I would not care. I have a lot of friends who throw up often." • "I think alcohol effects everyone in different ways, so I don't throw up is a major concern."
Okay if not repeated	• "We would laugh about it the next day. But they would be concerned because it rarely happens." • "As long as it occurs infrequently they wouldn't mind."
Supportive	• "I believe that if I was ever in a situation where I drank enough to throw up, I know that my close friends would be there for me and would take care of me. In that case, I would hope that my friends would talk to me the next day about taking preventative measures to ensure this does not happen again."

Appendix I – Open Responses & Themes Q3

Question: How would your close friends feel if you drank enough to forget what happened the night before?

Theme	Example Response
Concerned/Worried	• "Concerned, should not be a typical occurrence." • "They would be worried about my mental health."
It happens/It is normal	• "They would not see an issue, as it happens a lot for my friends and college students in general."
Funny/Laugh	• "My close friends would probably laugh and think it was funny if I couldn't recall the events that transpired the night before because of an overconsumption of alcohol."
Neutral	• "Again, neutral. It's not ideal, but they wouldn't see me differently because of it. They would take care of me and it would only become an issue if it was happening." • "Although it does happen at college, I would be concerned if it became a pattern."

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