

## ABSTRACT

### MOTIVATIONS AND POTENTIAL CONSEQUENCES ASSOCIATED WITH HEALTH-CONSCIOUS DRINKING

by Alexandra Elizabeth Frederick

Alcohol consumption is a serious health problem on college campuses. It is reported that approximately 65% of college students drink alcohol in a given month and a large portion of these students drink it to excess (Hingson & White, 2013). The heavy drinking culture in college leads to an increase in negative alcohol related consequences for students, including risky sexual behavior, physical and sexual assaults, injuries, poor academic performance, and adverse effects to others (Hingson & White, 2014). Recently, we are beginning to see an increase in health-conscious behavior in college students. Therefore, the purpose of this paper is to explore health-conscious drinking among college students and what their motivation is for participating in this behavior. This study examined if people that participate in health-conscious drinking have more positive or negative alcohol related consequences. Data were collected via an online survey from 216 participants at a mid-sized Midwestern University. After performing various statistical analysis it was found that students who have higher motivation to drink for health-conscious reasons are experiencing more alcohol related problems. Additional research needs to be done to analyze the relationship between number of drinks consumed and health-conscious behaviors and motives.

MOTIVATIONS AND POTENTIAL CONSEQUENCES ASSOCIATED WITH  
HEALTH-CONSCIOUS DRINKING

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## **Introduction**

Alcohol consumption is a serious health problem on college campuses. It is reported that approximately 65% of college students drink alcohol in a given month and a large portion of these students drink it to excess (Hingson & White, 2013). There are approximately 1,800 deaths, 599,000 injuries, 646,000 physical assaults, and 97,000 sexual assaults occurring each year due to alcohol consumption in United States among college students (Hingson et al., 2005). The heavy drinking culture in college leads to an increase in negative alcohol related consequences for students, including risky sexual behavior, physical and sexual assaults, injuries, poor academic performance, and adverse effects to others (Hingson & White, 2014). Not only are increased negative alcohol related consequences a problem when students participate in binge drinking, but they may begin to see weight gain. When students consume alcohol to excess, they intake a large number of calories between the alcohol that is being drunk and the food that is being consumed while drinking, this can in turn lead to a weight gain in college students.

College students are typically an extremely weight conscious population and are often concerned about their appearance. This can be seen with the term “freshman-fifteen”. “Freshman fifteen” is a term which refers to the extra fifteen pounds that some freshmen gain when they begin college and is thought to be one of college students' most dreaded fears” (Brown, 2008, p.2). To not gain this weight, some college students participate in extreme dieting or working out excessively. It has been estimated that 60%-80% of students have been on a diet within the previous year (Fonseca et al., 2009).

Health-conscious behavior has previously been defined as, “the degree to which someone attends to or focuses on his or her health, an inner state of self-attention to self-relevant cues reflected in both thought and somatic feelings” (Gould, 1990, p. 4). By extension, health-conscious drinkers are people who think about their health when they are making choices about drinking alcohol. When someone participates in health-conscious drinking, it does not mean that the behavior is necessarily healthier, it is that the person views the behavior to be healthier. This health-conscious drinking behavior can be thought of as a spectrum. On one side of the spectrum are behaviors that are viewed as healthier drink choices and the other end of the spectrum are behaviors that are thought to be dangerous drinking practices, which people take part in because they view them to be “healthy.”

When examining health-conscious drinking behaviors on the healthier side of the spectrum, these are defined as “healthier drink choices” Some examples of healthy drinks would be using low calorie alcohol such as Vodka, Tequila, Gin, or Whiskey with a low-calorie mixer such as tonic water, soda water, or water. An emerging health-conscious behavior surrounding drinking is the trend of drinking “hard seltzer” also known as “spiked seltzer.” Hard or spiked seltzer is a carbonated alcoholic beverage. This type of drink typically contains less calories, carbohydrates, and sugar than most drinks. Some examples of these drinks are White Claw, Truly, Spiked Seltzer, and Natty Light Seltzer. People feel they can drink a larger number of these drinks because they are viewed as healthier. These healthier drink choices are placed at the healthier end of the spectrum because when consumed in moderation, they can be healthier options than other types of alcohol, but when these drinks are consumed to excess, this can lead to a dangerous drinking practice and a potential for negative alcohol related outcomes.

Drunkorexia is a trend that is extremely prevalent on college campuses across the nation. Drunkorexia was coined by the media in 2008 and can be defined as, “drunkorexia consists of alcohol consumption combined with disordered eating, such as skipping meals or restricting calorie intake and/or excessive exercise” (Memmer et al., 2018, p. 1). There are multiple different reasons that people participate in this type of behavior. One reason for this behavior is to avoid gaining weight from the alcohol that is being consumed. The other main reason that someone would participate in this behavior is to help feel the effects of alcohol quicker (Burke et al., 2010). “Drinking on an empty stomach allows alcohol to get into the body faster, which raises blood alcohol levels higher and leads to increased risks for brain impairments (blackouts) and resultant negative health and behavioral consequences” (Burke et al., 2010, p.22). Drunkorexia can be viewed as a health-conscious behavior because, although the behavior may not be healthy. People who participate in this behavior are typically doing it because they are focused on their health. Therefore, Drunkorexia can be thought of as a dangerous health-conscious drinking because people that participate in it feel that they are being healthy by saving their food calories for alcohol calories, therefore, not gaining any weight. When it actually is an extremely dangerous behavior that can lead to numerous negative alcohol related consequences.

Health-conscious drinking is important because for some it might be a marker of safer drinking practices, while for others it may be another dangerous drinking practice disguised as being healthy. However, there is little information in the literature about health-conscious



drinking and the variables surrounding it. Therefore, the purpose of this paper is to explore health-conscious drinking among college students and what their motivation is for participating in this behavior. This study will also examine if people that participate in health-conscious drinking have more positive or negative alcohol related consequences. To provide a context for this proposed study, a review of some relevant research studies on this topic is provided in the next section.

### **Health-Conscious Behavior**

Health-Conscious was previously defined as, “the degree to which someone attends to or focuses on his or her health, an inner state of self-attention to self-relevant cues reflected in both thought and somatic feelings” (Gould, 1990, p. 4). In a study done by Hassen it was stated that, “Health-conscious individuals are likely to eat and sleep sensibly, get enough exercise, avoid substance abuse, and get necessary medical care (Hassen, Kibret, 2015).” When a person thinks of health-conscious behaviors, they may initially think of eating fruits and vegetables, avoiding added sugar, partaking in regular physical activity, and getting adequate sleep. Not only are we seeing people partake in multiple health-conscious behaviors, but we are now beginning to see some people participate in health-conscious behaviors surrounding drinking, also known as health-conscious drinking. An article done FSR magazine titled, “Fun Without Guilt: 4 Beverages for the Health-Conscious Drinker” defined a health-conscious drinker as, “a drinker who demands more than their simplistic drinking predecessors, and is looking to balance the social and psychological desires to consume alcohol, with the increasingly important need for health and support of the body and mind.” This new type of “health-conscious drinker” prefers to drink alcoholic beverages that are lower in calories, carbohydrates, and sugars. This health-conscious drinker has caused a major change in the alcohol industry as the types of alcohol that people are wanting to drink are changing from what people used to prefer to drink in the past.

It is important to look at alcohol sales and what types of alcohol many people are interested in buying to better understand the market of a potential health-conscious drinker. Alcohol sales had seen a drop in sale from 2015-2018 (CNN). However, according to the annual IWSR report from 2019, “total beverage alcohol in the country posted volume growth of 0.3% in 2019 (reversing a previous decline)” Alcohol sales, specifically beer companies have seen a decline in liquor sales in the previous few years. From October 2018 to October 2019 it was reported that, “sales of domestic beer slipped 4.6%” Alcohol Industries quickly realized that

consumers were changing the way that they drank alcohol and had to come up with new solutions so they would not lose revenue. Alcohol companies started to see a decline in drinking due to people wanting to be healthier. In turn, the companies began to market healthier drinks and make their alcoholic beverages appear more towards the health-conscious consumer by producing alcoholic beverages that are low in calories, carbohydrates, and sugars. By producing these new drinks, this gives companies the ability to offer drinks that are more appealing to those consumers who fall into the health-conscious drinker category. Due to multiple companies beginning to produce hard seltzer, the alcohol companies are in turn helping to fuel this trend of health-conscious drinking.

### **Drunkorexia and Multiple Variables Surrounding it**

The study conducted by Bryant and his colleagues (Bryant, Darkes, & Rahal, 2012). focused on describing dysfunctional eating and other behaviors, in response to the ingestion of calories consumed from drinking alcohol. This study examined different patterns of behavior, frequency, and severity. Finally, the study used gender and living arrangements as two variables that could potentially be related to the behaviors.

Participants completed the anonymous survey online. Participants completed basic demographic information and were asked about their typical alcohol consumption which included; frequency of drinking, occurrence per week, number of drinks typically consumed, types of alcohol consumed, and the frequency of binge drinking within the previous month. Next, participants took an assessment which examined at their compensatory eating and behavior in response to alcohol consumption. This assessment was 34 questions divided into three sections: before drinking, under the effects of alcohol, and after drinking. Each section asked what compensatory eating behaviors, if any, that they participated in. An example question was, “Before drinking, how often do you eat low-calorie or low-fat food” Participants could reply with: never, rarely (about 25% of the time), sometimes (about 50% of the time), often (about 75% of the time), and almost all the time. Participants also completed three subscales of the Eating Disorder Inventory (Drive for Thinness, Dissatisfaction, and Bulimia). Finally, participants took the Global Belief in a Just World Scale.

In their study, Bryant et al. (2012) found that women were more likely to engage in multiple compensatory eating strategies. It was found that women were more likely to eat low-calorie or low-fat food and eat less than usual during 1 or more meals prior to drinking. Women

were also found to eat low-calorie or fat-free food while drinking to make up for the alcohol calories and were more likely to eat low-calorie, low-fat food, or skip meals after drinking alcohol. Finally, it was found that those who participate in binge drinking are more likely to participate in compensatory eating habits to feel the effects of alcohol quicker. In the discussion, it was found that women were more likely to partake in the compensatory eating habits than men were, but that men are also participating in this behavior. It was found that instead of restricting food prior to drinking, men were more likely to workout excessively prior to or after consumption of alcohol.

The study conducted by Wilkerson, Hackman, Rush, Usdan, and Smith (2017) examined food consumption and physical activity in weight conscious drinkers. The purpose of this study was to examine factors that increase the likelihood of college students participating in weight conscious drinking.

Participants participated in a study exploring multiple health behaviors that included disordered eating, exercise dependence, and alcohol consumption. Participants took a binge drinking survey that examined three different items. An example of an item examined at was binge drinking and the presence of body weight conscious drinking. The question asked, “Think back over the last two weeks. How many times have you had four/five (four for women, five for men) or more drinks at a sitting?” To examine restricted eating, the Drunkorexia Scale developed by Burke was used. An example question used states, “Do you cut back on eating before drinking to avoid gaining weight?” The participants who reported cutting back prior to drinking to avoid weight gain were classified as body weight conscious drinkers. Finally, body weight conscious drinking was defined as, “the concurrent presence of binge drinking behavior, excessive physical activity behavior, and restricted eating behavior.”

In their study, Wilkerson et al. (2017) found that 54.9% of participants had an intention to lose weight and 57.3% participate in binge drinking. It was found that the most common reason a student participates in body weight conscious drinking is to control their weight. This study didn’t find any correlation between gender and body weight conscious drinking, but previous studies have found that both genders participate in this behavior, they just do it in different ways. For example, females tend to restrict their caloric intake prior to drinking. While males focus on excessive exercise prior to or after consumption of alcohol. It is suggested that further research examine the motives behind body weight conscious drinking and see if there is a difference

between female and male's motivation. Finally, it is suggested that programming be targeted to each gender individually given the difference in motivation.

A study done by Barry and Piazza-Gardner (2012). was conducted to examine the relationship between alcohol consumption, eating, and exercise weight management behaviors. The purpose of the study is to examine physical activity and disordered eating are indicators of drinking behaviors. The study also examined, "Are there social and/or environmental factors that influence the relationship between alcohol consumption and physical activity?"

Alcohol Use was a measure that was used in this survey that specifically examined how many times during the last two weeks the participants had consumed five or more drinks of alcohol in one sitting to determine their rates of binge drinking. Participants were asked about their physical activity behaviors, specifically examining at 3 items. 1. How many times during the past 7 days had they done a moderate-intensity cardio or aerobic exercise for at least 30 minutes. 2. How many times during the past 7 days had they performed vigorous-intensity cardio or aerobic exercise. 3. How many times during the past 7 days had they done 8-10 strength training exercises. Participants could reply ranging anywhere from 0 to 7 days. When examining disordered eating behaviors, participants were asked, "Within the last 30 days, did you diet to lose weight?", "Within the last 30 days did you vomit or take laxatives to lose weight?", "Within the last 30 days, did you take diet pills to lose weight?" and "Within the last 30 days, did you exercise to lose weight?" Participants could either reply with, no (0) or yes (1).

In the study, Barry et al. (2012) found that the strongest predictor of binge drinking and physical activity was strength training and vigorous exercises. When examining disordered eating, it was found that the strongest predictor was the use of laxatives and self-purging. Overall, it was found that college students who engage in vigorous exercise, strength training, and disordered eating behaviors have the greatest chance of being binge drinkers. It was found that students that are more highly active are more likely to participate in binge drinking than students who aren't as active. It was discovered that moderate-intensity activities were negatively correlated with binge drinking. When examining food consumption before alcohol, it was found that those who restrict their caloric intake before drinking alcohol have a higher likelihood of binge drinking. It is discussed that this research has multiple implications on college students and how universities address drinking problems on college campuses. It has been shown that students who exhibited behaviors of eating disorders were more likely to

participate in binge drinking behaviors. This behavior provides educators or clinicians, working with students with eating disorders, an opportunity to examine the student's alcohol consumption to help treat disordered eating. It is recommended that further research examines closer into the co-occurrence of eating disorders and drunkorexia.

### **Rationale for, and Overview of Study**

When examining past literature that has researched Drunkorexia in college students, one can see this is a major health concern on college campuses. It was found that Drunkorexia is more prevalent in female students than male students. Even though less males are participating in Drunkorexia, males have been found to exercise more heavily before or after drinking to make up for the calories gained from alcohol. Whereas, females are more likely to not eat before or after consuming alcohol. Overall, it was found that Drunkorexia behaviors are performed to both, feel the effects of alcohol quicker and to not gain weight while consuming alcohol. Finally, it was found that students who participate in binge drinking, 5 or more drinks in one sitting for males or 4 or more drinks in one sitting for females, are more likely to participate in Drunkorexia behaviors.

It was found that people are choosing to live more health-conscious, specifically with food and exercise. With the trend of health-conscious drinking being something that is a newer phenomenon there is little information behind people's motivations for choosing health-conscious beverages and how these health-conscious beverages are potentially changing people's behaviors in terms of the quantity of drinks they are consuming and the positive or negative consequences that they are experiencing from choosing this type of beverage.

Due to the fact that there is such little information and research done on this type of drinking behavior. The health-conscious drinking behaviors, motivations, and consequences is an important aspect of college students drinking that needs to be studied. With health-conscious drinking becoming increasingly popular on college campuses, it is important that administrators are aware of the motivations behind this behavior and potential dangers that this type of drinking can lead to. By administrators being knowledgeable about this behavior it will allow them to work with students on how to participate in safe and healthy drinking practices and help deter from any harmful or negative alcohol consequences that could potentially be coming from health-conscious drinking.

Even with the large extent of research that has been done on Drunkorexia, there are still numerous gaps that are present in the literature. A gap that is seen in the literature surrounding Drunkorexia is the need for more intervention programs to be created on college campuses. With the trend of Drunkorexia continuing to increase on college campuses and with the literature showing that this is a learned behavior, it is necessary to implement an effective intervention or prevention program on college campuses to teach students about the dangers of participating in this type of behavior. There are multiple research studies conducted about the immediate consequences of Drunkorexia. However, a crucial gap that is missing in the literature is research that is examining both male and females to see what their individual motivations are for participating in Drunkorexia behavior. This is important research that needs to be studied because without knowing what the motivation behind the behavior is, researchers cannot help to create interventions to help curb the behavior. It is also critical that more research be done examining psychosocial factors that may influence if students are having positive or negative alcohol related consequences when consuming alcohol.

### **Study Purpose**

The purpose of the proposed study was to examine student's motivations for participating in health-conscious drinking and if those who participate in health-conscious drinking experience more positive or negative alcohol associated consequences. It has been previously stated that health-conscious drinking behavior is considered to be a spectrum of behaviors. Where one end of the spectrum is thought to be safe and healthy and the other end is thought to be dangerous and risky, but students view it to be healthy. Healthier drink choices are thought to be safe and healthy, when consumed in moderation, whereas, Drunkorexia is risky and dangerous.

**Research Questions 1:** It is hypothesized that students who participate in behavior that is thought to be safe and healthy, will have less alcohol related consequences than students who participate in the dangerous drinking practices, such as Drunkorexia.

**Research Question 2:** It is hypothesized that females will have a higher motivation to participate in health-conscious drinking because they believe it to be better for their health.

### **Methods**

#### **Participants**

Data were collected from 216 participants at a mid-sized Midwestern University. The majority of the participants were female (77.8%,  $n = 168$ ). When examining at race, the majority

of the sample was Caucasian (80.6%,  $n = 174$ ) and African American (16.7%,  $n = 36$ ). The mean age of the sample was 20.86 years old ( $SD = 2.77$ ). When examining the samples' status in school 14.8% were first year ( $n = 32$ ), 23.6% second year ( $n = 51$ ), 28.2%, third year ( $n = 61$ ), 19.9% fourth year ( $n = 43$ ), .9% fifth year ( $n = 2$ ), and 11.1% graduate student ( $n = 24$ ). The majority of the sample lived off-campus with friends (45.8,  $n = 99$ ) and 38.9% ( $n = 84$ ) lived on-campus.

## **Procedure**

Data began being collected in Fall of 2019 and concluded in Spring 2020 through a snowball method via a Qualtrics Survey that contained the instrumentation specific to this study. Participants for the study were recruited by undergraduate and graduate research assistants working in a health research lab. The research assistants went into various academic classrooms on campus and distributed the link to the survey for the students to take the survey during the class period. Additionally, participants were recruited by receiving an invitation to the survey through various clubs and organizations on campus that the research assistants are involved in. Research assistants also went into academic classrooms on campus and had students in the class take the survey. A variety of the academic classrooms that allowed the research assistants to facilitate the survey to their classes all provided extra credit to their students as incentive to take the survey. The survey was voluntary, and answers were kept anonymous. If students participated in the survey, they were entered in a drawing to win a 20 \$30 gift card.

## **Measures**

**Demographic Questions.** A basic demographic questionnaire was used to analyze the gender, year in school, ethnicity, and current living situation of the participants. The demographic questions can be found in Appendix C.

**Drinking Frequency.** The drinking frequency was used to analyze how much the participant is drinking. The scale asks participants if they have ever had an alcoholic beverage to drink, in a typical week how many days have you had at least one drink containing alcohol, "how many drinks do you have in a typical day when you are drinking?", and "During the last 30 days, what is the highest number of drinks that you drank on any one occasion?". The drinking frequency can be found in Appendix D.

**The Rutgers Alcohol Problem Index.** The Rutgers Alcohol Problem Index (RAPI) is a 23-item questionnaire that is used to screen for alcohol problem drinking in adolescents.

Participants are asked to reply how many times they have experienced one of the items due to their alcohol use in the past 6 months. An example question from the questionnaire is, “Not able to do your homework or study for a test” Respondents can reply with (0) never, (1) 1-2 times, 3-5 times (2), 6-10 times (3), more than 10 times (4). The higher their score, the more problems surrounding alcohol they have. The Rutgers Alcohol Problem Index can be found in Appendix E

**The Daily Drinking Questionnaire.** The Daily Drinking Questionnaire was used to assess the participants typical drinking habits. Participants were first asked to reply with their average alcohol consumption for each day of the week for the last 3 months. The Daily Drinking Questionnaire can be found in Appendix F

**Drunkorexia Scale.** The Drunkorexia scale was used to examine people's ways that they participate in Drunkorexia behaviors. This is a 5-item scale. Participants can reply with a 3-point Likert scale ranging from “I would eat the same amount as I normally eat on any Saturday. The fact that I knew I would be drinking that night wouldn’t change my eating behavior.”, “I would eat less than I normally eat if I knew I was going to be drinking that night.”, “I would eat more than I normally eat if I knew I was going to be drinking that night.” The first item says, “Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Which of the following best describes how you most likely eat that day? The second item says, “Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Answer the following questions in accordance with the response that best describes how you will most likely eat that day - amount of food consumed.” The third asks, consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Answer the following questions in accordance with the response that best describes how you will most likely eat that day -Amount of calories consumed.” The fourth asks, “Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Answer the following questions in accordance with the response that best describes how you will most likely eat that day - Amount of sugar/carbs consumed.” The fifth asks, “Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Answer the following questions in accordance with the response that best describes how you will



most likely eat that day - Amount of fat consumed.” The Drunkorexia Motives Scale can be found in Appendix G.

**Health-Conscious Drinking Scale.** A Health-Conscious Drinking Scale was created based on modifying the Health-Conscious Scale created by Stephen Gould because there was no previous scale used to analyze health-conscious drinking. This questionnaire contains nine items and participants can respond using a 5-point Likert scale (Never, Almost Never, Sometimes, Almost Always, Always) An example question is, “I reflect about my health before, during, or after drinking” Responses from this scale will be used to analyze student’s opinions around health-conscious drinking. The Health-Conscious Drinking Scale can be found in Appendix H.

**Health-Conscious Drinking Motives Scale.** A Health-Conscious Drinking Motives Scale was developed based on modifying the Drinking Motives Scale developed by Cooper. The Health-Conscious Drinking Motives scale consists of seven items and asks participants to think of times they have been drinking and reply with how often they have drunk alcohol for each given item. The Health-Conscious Drinking Motives Scale consists of a 5 point Likert scale ranging from 1 (almost never/never) to 5 (almost always/always) An example question from this questionnaire is, “To not feel hungover the next day” The results from this scale will be used to analyze students motives for participating in health-conscious drinking. The Health-Conscious Drinking Motives Scale can be found in Appendix I.

**Drinking Motives Questionnaire.** The drinking motives scale was designed to examine people's motivations behind drinking. The scale is divided into five subscales; social, coping, enhancement, conformity, and reliabilities. Participants are given the questions, “Listed below are reasons people might be inclined to drink alcoholic beverages. Using the five - point scale below, decide how frequently your own drinking is motivated by each of the reasons listed. Participants can respond ranging from “Almost never/ never” to “Almost always/ always” An example question from the questionnaire is, “Listed below are reasons people might be inclined to drink alcoholic beverages. Using the five - point scale below, decide how frequently your own drinking is motivated by each of the reasons listed. - To forget your worries.” The Drinking Motives Questionnaire can be found in Appendix J.

## **Analysis Plan**

### **Data Screening**

Several initial tests were used to help evaluate the data. The tests that were used helped to examine the fit of the data. All statistical tests were examined using a significance variable of .05. Analysis was performed on all scales to test for reliability and validity. The Health-Conscious Drinking Motives scale was created by modifying the drinking motives scale created by Cooper. Multiple tests were run on the scale to test for validity and reliability. The Health-Conscious Drinking scale was created using a scale created by Stephen Gould that looked at health-conscious behavior. A factor analysis was performed on the scale and the item “How often do you choose what type of alcohol to drink for the following reasons? - because all my friends are doing it” was excluded because it was low loading.

**Research Question 1:** It is hypothesized that students who participate in behavior that is thought to be safe and healthy, will have less alcohol related consequences than students who participate in the dangerous drinking practices, such as Drunkorexia. This will be analyzed by examining students' involvement in Drunkorexia and comparing it to their score on the Rutgers Alcohol Problem Index to see if those who participate in Drunkorexia have more or less negative alcohol related consequences.

**Research Question 2:** It is also hypothesized that females will have a higher motivation to participate in health-conscious drinking because they believe it to be better for their health.

## **Results**

### **Descriptive Statistics:**

**Alcohol use.** Due to the research focusing on having had an alcoholic beverage to drink, participants who have never had an alcoholic beverage were excluded, therefore, all of the participants ( $n = 213$ ) had reported having consumed an alcoholic beverage. It was found that participants consume an average of 1.34 alcoholic beverages ( $SD = 1.17$ ) in a typical week. On a typical drinking occasion, participants reported having an average of 3.35 alcoholic beverages ( $SD = 2.07$ ). When looking at the highest number of drinks consumed on any one drinking occasion during the last 30 days, participants reported an average of 5.27 alcoholic beverages ( $SD = 3.91$ ).

**Rutgers Alcohol Problem Index Scale.** Participants had an average score of 8.71 ( $SD = 12.83$ ) on the Rutgers Alcohol Problem Index Scale.

**Drunkorexia Scale.** Participants had an average score of 1.58 ( $SD = .850$ ) when asked “Consider this scenario: it is a typical Saturday during the school year. You know that you are

going to a party tonight and that you will be drinking. Which of the following best describes how you most likely eat that day? When asked, “Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Answer the following questions in accordance with the response that best describes how you will most likely eat that day- amount of food consumed” had an average score of 2.07 ( $SD = .519$ ), Amount of calories consumed had an average of 2.00 ( $SD = .429$ ), and Amount of sugar/carbohydrates consumed was found to have an average of 2.18 ( $SD = .583$ )

**Health-Conscious Drinking Motives Scale.** A factor analysis was performed and therefore, “How often do you choose what type of alcohol to drink for the following reasons? - because all my friends are doing it” was excluded because the number was .366. After removing the item “because all my friends are doing it” participants had an average score of 2.00 ( $SD = 1.27$ ) and the Cronbach’s Alpha was .850

**Health-Conscious Drinking Scale.** Participants had an average score of 3.54 ( $SD = 1.67$ ) on the Health-Conscious Drinking Scale.

**Drinking Motives Questionnaire.** When looking at the drinking motives for social reasons participants had an average score of 15.08 ( $SD = 5.91$ ) and Cronbach's Alpha was .908. Drinking motives for coping had an average score of 9.81 ( $SD = 5.13$ ) and Cronbach’s Alpha was .885. Drinking motives for enhancement had an average score of 13.64 ( $SD = 5.48$ ) and Cronbach’s Alpha was .881. When looking at the drinking motives conformity scale participants had an average score of 8.22 ( $SD = 4.27$ ) and Cronbach’s Alpha was .881.

## **Discussion**

The primary purpose of the study was to examine students’ motivations for participating in health-conscious drinking on college campuses and if those that participate in health-conscious drinking had more or less alcohol related consequences. It was hypothesized that students who participate in behavior that is thought to be safe and healthy, will have less alcohol related consequences than students who participate in the dangerous drinking practices, such as Drunkorexia. It was found that the higher the motivation students have to drink for health-conscious reasons the more alcohol related problems that they are experiencing. Table 1 shows the correlation between the health-conscious motives and alcohol related problems. This is the opposite of what was hypothesized. It is unknown as to why those who have a higher motivation

to participate in health-conscious drinking have more alcohol related consequences than those who do not participate in health-conscious drinking.

It was also hypothesized that female students will have a higher motivation to participate in health-conscious drinking because they believe it to be better for their health. Surprisingly, however, this hypothesis was not supported by the data collected. When running an Independent T-test on health-conscious drinking and health-conscious motives in females there was no significant data (see Table 3). From this one can conclude that one's gender is not a factor in one's motivation to participate in health-conscious drinking. This is surprising because in a study done by a Massachusetts survey it was found that, "Women were about 50% more likely than men to meet the goal of eating at least five servings of fruits and vegetables a day." (Harvard, 2019) It was also found in a study by Stefan Ek that, "When it comes to health, women seem to be more engaged, more involved, more attentive, and apparently better-informed decision - makers. Thus, gender plays an important role in the patterns of health information behavior." (Ek, 2013, p.742). Based on the information from the two studies that looked at health behaviors it can be concluded that females are overall more health-conscious than men are. The results of the hypothesis, that gender does not contribute to either health-conscious drinking or health-conscious motives, are surprising due to the large amount of research that has been done focusing on female's likelihood to be more health-conscious behaviors than males. Due to health-conscious drinking being a newer behavior within drinking, this could potentially be a reason why females have not shown the motivation and participation in this type of behavior yet. As the market of alcoholic health-conscious drinks begins to expand and more people start to participate in this behavior more females may gravitate to participating in health-conscious drinking. Another reason there may not have been any significant data surrounding females being more health-conscious is due to the fact that the study consisted of mostly females, therefore, not allowing there to be a large amount of males to compare to.

It is important that when looking at health-conscious drinking that drinking motivations in general are examined. By looking at students drinking motivations this can provide greater insight into why they may or may not decide to participate in health-conscious drinking. For this study, drunkorexia and drinking motives were compared using an Anova analysis to see if students that participate in drunkorexia behaviors have different motivations for drinking. (See Table 2.) It was found that students who drink for social reasons are more likely to participate in

drunkorexia behaviors. This can cause serious alcohol related problems on college campuses. College is a very social time, so if people who are drinking for social reasons are more likely to participate in drunkorexia this will lead to a large quantity of students participating in drunkorexia. Drunkorexia is extremely dangerous and can cause numerous negative consequences. In a study done by Burke in 2010 it was found that, “Drinking on an empty stomach allows alcohol to get into the body faster, which raises blood alcohol levels higher and leads to increased risks for brain impairments (blackouts) and resultant negative health and behavioral consequences” (Burke et al., 2010, p.22). It is important that the students are taught of the danger of this type of behavior and the types of consequences that it can cause. It would be beneficial for colleges to have some type of intervention or education program about the dangers and risks of taking part in this type of behavior.

When looking at the motivations behind health-conscious drinking it was found that the highest motivations that students had for participating in health-conscious drinking was “to not feel bloated” and “to not feel hungover the next day”.

It was found that health-conscious drinking and health-conscious drinking motives are positively related to each other. This is expected because a person who has higher motivation to participate in health-conscious drinking is going to participate in health-conscious drinking more than someone who is not motivated by health-conscious drinking. In respect to the amount of days that someone drinks and health-conscious drinking behaviors those two items are not related to each other. This means that it does not matter how many days a week you are drinking you could still be considered a health-conscious drinker. This is interesting, because this shows that while students may be focusing on being more health-conscious when it comes to drinking, they are not focusing on decreasing the amount of days in a week that they are consuming alcohol.

### **Limitations:**

It is important to note that there are a few limitations that are present with this research study. For example, since this study is all self-report, this can be a limitation because participants may not be paying close enough attention to the questions being asked or may just be replying with random answers. Failure to not reply accurately, could interfere with the results of the research. To mitigate the chances of participants replying with random answers, questions to test the students are paying attention were randomly placed throughout the survey. When analyzing

the results, those who do not correctly answer those questions were removed from the study. Second, many of the participants that replied to this survey were predominantly white students of similar background. This may provide inconsistent data from what other universities across The United States would collect if they performed this research study. This limitation hinders the ability to generalize this information to all college students in The United States. The majority of this sample is mostly women, this caused a slight limitation because this doesn't allow researchers to see what types of behaviors men participate in when health-conscious drinking. This does not allow us to generalize the data to all college students because it is mostly only looking at women. Health-conscious drinking is something that has not been studied before there was no working definition for the term health-conscious drinking. In the earlier phases of the project, a definition was constructed that was used for this paper. However, it may be beneficial for future research to interview a wide range of people to see what they believe the definition to health-conscious drinking is and in which ways they feel that people are participating in health-conscious drinking behaviors. By interviewing people this will allow researchers to have more insight to what people believe is the definition of health-conscious drinking. Finally, it is important to note that participants were never asked what types of alcohol they were drinking. This makes it hard to tell if health conscious drinkers are drinking alcohol that is "healthier" or if they are drinking less alcohol than those who are not health conscious drinkers. Future research should specially look at what types of alcohol students are drinking and how much of each type of alcohol the participants are consuming.

### **Conclusion:**

This study helped to provide insight to new drinking behaviors that students are participating in and helped to look at the dangers of certain drinking behaviors. It is important that more research be done to look at in which ways students are participating in health-conscious drinking and how this behavior is affecting students on college campuses. This study is important because it was found that the people who have higher motivation to be health-conscious are also experiencing more negative alcohol related consequences. This is particularly concerning because if students feel that they are being "healthy" by participating in certain drinking practices, but it is still causing them more alcohol related consequences they will most likely be hesitant to change their behaviors because they view what they are doing as healthy. It is important as this is a newer phenomenon that students learn quickly of the potential dangers of

some health-conscious drinking behaviors so that they are not experiencing more negative alcohol related consequences.

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**Table 1. Correlations Between Key Variables**

	<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>
<b>1. Health-Conscious Drinking Scale</b>	--	.441***	-.002	.188**
<b>2. I consider myself to be a health-conscious drinker</b>	.441***	--	-.141	.136
<b>3. RAPI2020</b>	-.002	-.141	--	.374***
<b>4. Health-Conscious Motives</b>	.188**	.136	.374***	--
<i>M (SD)</i>	3.54 (1.67)	3.67 (1.11)	8.71 (12.83)	12.00 (5.81)
<b>Cronbach's Alpha</b>	.923			.85

*Note.* \*\*\*  $p < .001$ ; \*\*  $p < .01$ ;  $M$  = mean;  $SD$  = Standard Deviation.

**Table 2. Drinking Motives across Drunkorexia Groups**

<b>DMQR_SOC</b>			
	<b>N</b>	<b>Mean</b>	<b>SD</b>
<b>I would eat the same amount as a normally eat on any Saturday. The fact that I knew I would be drinking that night wouldn't change my behavior</b>	124	3.11	1.18
<b>I would eat less than I normally eat if I knew I was going to be drinking that night.</b>	19	3.32	.912
<b>I would eat more than I normally eat if I knew I was going to be drinking that night.</b>	47	2.66	1.26

<b>DMQR_COP</b>			
	<b>N</b>	<b>Mean</b>	<b>SD</b>
<b>I would eat the same amount as a normally eat on any Saturday. The fact that I knew I would be drinking that night wouldn't change my behavior</b>	127	1.99	1.07
<b>I would eat less than I normally eat if I knew I was going to be drinking that night.</b>	19	2.31	.951
<b>I would eat more than I normally eat if I knew I was going to be drinking that night.</b>	48	1.79	.922

<b>DMQR_ENH</b>			
	<b>N</b>	<b>Mean</b>	<b>SD</b>
<b>I would eat the same amount as a normally eat on any Saturday. The fact that I knew I would be drinking that night wouldn't change my behavior</b>	125	2.76	1.12
<b>I would eat less than I normally eat if I knew I was going to be drinking that night.</b>	19	2.83	.798
<b>I would eat more than I normally eat if I knew I was going to be drinking that night.</b>	48	2.62	1.15

<b>DMQR_CON</b>			
	<b>N</b>	<b>Mean</b>	<b>SD</b>
<b>I would eat the same amount as a normally eat on any Saturday. The fact that I knew I would be drinking that night wouldn't change my behavior</b>	126	1.73	1.18
<b>I would eat less than I normally eat if I knew I was going to be drinking that night.</b>	19	1.69	.912
<b>I would eat more than I normally eat if I knew I was going to be drinking that night.</b>	48	1.44	1.26

**Table 3. Examining Health-Consciousness across Gender**

	<b>Male</b>	<b>Female</b>	<b>t</b>	<b>Sig.</b>
<b>Health-Conscious Drinking</b>	31.7(10.2)	31.7(8.8)	-.016	.987
<b>Health-Conscious Motives</b>	1.84(.97)	2.06(.97)	-1.317	.189

*Note.* \*\*\*  $p < .001$ ; \*\*  $p < .01$ ;  $M$  = mean;  $SD$  = Standard Deviation.

## **Appendix A: Informed Consent Form**

Dear Participant,

You have been asked to take part in the research project described below. If you have any questions, please feel free to call Dr. Rose Marie Ward, the person mainly responsible for the study.

Description of the research: The purpose of the study is to gather information from students about issues of alcohol use, social norms perception, blackouts, alcohol-related consequences, alcohol salience, drunkorexia, drinking motives, e-cigarette motives, pregaming experiences, spirituality, health conscious drinking, trauma, and coping skills. Although every effort will be done to ensure confidentiality of your responses, all Internet-based communication is subject to the remote likelihood of tampering from an outside source. IP addresses will not be investigated and data will be removed from the server.

1. You must be at least 18 years old to be in this research project.
2. Research procedures: If you decide to take part in this study, your participation will involve filling out a survey with questions pertaining to issues of alcohol use, social norms perception, blackouts, alcohol-related consequences, alcohol salience, drunkorexia, drinking motives, e-cigarette motives, pregaming experiences, spirituality, coping skills, and things associated with alcohol consumption.
3. Time required for participation: The study will take approximately 30-40 minutes to complete.
4. Potential risks: The possible risks or discomforts of the study are minimal, although you may feel some embarrassment answering some of the questions about private matters. Participants might find that some of the questions related to behaviors while intoxicated might make them feel uncomfortable. In addition, some of the questions ask you to admit to potentially incriminating and illegal behavior. Resources are provided at the conclusion of this consent

form. Previous participants have reported learning a lot about their health behaviors from reading these questions. While extremely unlikely, someone might try to identify you based on your demographic answers and link your identity to your survey responses. Data confidentiality is of the utmost importance for this data collection. We are taking a number of steps to protect your responses: 1) Password protected files; 2) Data kept behind university firewall; 3) Computers encrypted.

5. Potential benefits: Although there are no direct benefits of the study, your answers may increase your awareness of issues that arise in college. Your answers will serve as a basis for understanding college student health behaviors in the literature.

6. Confidentiality: Your participation in the study is anonymous. That means your answers to all questions are private. Nobody else can find out what your answers are. Scientific reports (written by Dr. Ward or one of her students) will be based on group data and will not identify you or any individual as being in this project.

7. Voluntary participation: You do not have to participate, you can leave some items blank, or you can terminate participation. Doing so will not involve any penalty or loss of benefits.

8. Compensation for injury: Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any harm, you should write or call Dr. Rose Marie Ward at (513) 529-9355.

9. Contact information: If you have questions about the study you can contact the investigator, Dr. Rose Marie Ward, 513-529-9355, wardrm1@miamioh.edu.

As a token of our appreciation, your name will be entered into a \$50 drawing. If you have any questions or concerns about your rights as a subject, you may contact Miami University's Office for the Advancement of Research and Scholarship, (513) 529-3600 or humansubjects@miamioh.edu.

You are at least 18 years old. You must be 18 years old to participate. You have read the consent form and your questions have been answered to your satisfaction. You filling out the survey implies your consent to participate in the study.

If these questions are upsetting and you want to talk, please use the phone numbers below:

MU Student Counseling Services 529-4634

Psychology Clinic Psychology Building 529-2423

Oxford Counseling Center (Butler Behavior Health Services) 273-8064

Thank you,

Rose Marie Ward, Ph.D.

Please print this screen for your records.

Printing this screen can be accomplished by hitting the 'Print Screen/F11' key on your keyboard or selecting print in your browser window. If a printer is unavailable, the contents of this page can be copied by highlighting this text, right-clicking, select copy. Then in a blank document again right click and select paste. Retain this electronic document for your records. If you are unable to retain this information but wish to receive a copy, contact Dr. Ward and she will provide a print and/or electronic version of this information.

I have read the consent form and consent to the researchers using my data.



## Appendix B: Debrief Sheet

[Click here to be entered into the drawing for one of 20 \\$30 gift cards.](#)

Thank you for helping us with our study. The purpose of the study is to gather information about issues of alcohol use, social norms perception, blackouts, alcohol-related consequences, alcohol salience, drunkorexia, drinking motives, e-cigarette motives, e pregaming motives, spirituality, coping skills, and other variables associated with alcohol consumption. You will fill out an online survey about those issues. It is our hope that through the answers we get from you and others like you, we will begin to understand the issues surrounding college student health behaviors. Your answers provide us with crucial information.

Heavy drinking occasions (i.e., binge drinking) are common on college campuses in the United States (Mundt & Zakletskaia, 2012; Siqueira & Smith, 2015; Wechsler et al., 2003), which consistently remain at the highest level since 1980 (Johnston et al., 2016). A blackout is a common negative outcome of heavy episodic drinking, and its risks are above and beyond the drinking per se. Examining the blackout history with respect to the common predictors (i.e., social norms perception, difficulty in emotion regulation) can inform future initiatives and prevention efforts. Your answers can help us build intervention programs that prevent alcohol use and negative consequences that lead to future health problems.

We appreciate your participation in this study.

If these questions were upsetting and you want to talk, please use the phone numbers below:

- MU Student Counseling Services 529-4634
- Psychology Clinic Psychology Building 529-2423
- Oxford Counseling Center (Butler Behavior Health Services) 273-8064

If you would like more information concerning our theories, please read:

Chung, A., & Rimal, R. N. (2016). Social Norms: A Review. *Review of Communication Research*, 4, 1–28.

<https://doi.org/10.12840/issn.2255-4165.2016.04.01.008>

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1–26.

<https://doi.org/10.1080/1047840X.2014.940781>

Mundt, M. P., Zakletskaia, L. I., Brown, D. D., & Fleming, M. F. (2012). Alcohol-induced memory blackouts as an indicator of injury risk among college drinkers. *Injury Prevention: Journal Of The International Society For Child And Adolescent Injury Prevention*, 18(1), 44-49. doi:10.1136/ip.2011.031724

If you have questions/comments, or if you are interested in getting information about the results, please call Dr. Ward at 529-9355 or email [wardrm1@miamioh.edu](mailto:wardrm1@miamioh.edu). You may contact Miami University's Office for the Advancement of Research and Scholarship, (513) 529-3600 or [humansubjects@miamioh.edu](mailto:humansubjects@miamioh.edu).

Please print this screen for your records.

Printing this screen can be accomplished by hitting the 'Print Screen/F11' key on your keyboard or selecting print in your browser window. If a printer is unavailable, the contents of this page can be copied by highlighting this text, right clicking, select copy. Then in a blank document again right click and select paste. Retain this electronic document for your records. If you are unable to retain this information but wish to receive a copy, contact Dr. Ward, and she will provide a print and/or electronic version of this information.

## **Appendix C: General Questions and Demographics**

Do you consent to participate in the study?

- Yes, I consent to researchers to use my data.
- No, I refuse to participate.

Where do you currently live?

- On-campus
- Recognized fraternity house
- Off-campus alone
- Off-campus with parents
- Off-campus with friends
- Off-campus with spouse/partner and/or children

What is your gender identity?

- Man
- Woman
- Genderqueer/gender non-conforming
- Other (please specify)
- Transgender woman
- Transgender man
- Prefer not to answer

What term best describes your sexual orientation?

- Bisexual
- Questioning
- Gay
- Other (please specify)
- Heterosexual
- Lesbian
- Prefer not to answer

What is your ethnicity?

- Hispanic or latino/a
- Not Hispanic or latino/a

What is your race (as you define it)? (check all that apply)

- African American/Black
- Caucasian/White
- American Indian or Alaskan Native
- Pacific Islander/Hawaiian
- Asian/Asian American
- Other (please specify)

What is your current student status?

- First year/ Freshman
- Second year/ Sophomore
- Third year/Junior
- Fourth year/Senior
- Fifth year/Super Senior
- Graduate Student
- Non-Matriculated
- Other

Are you a vegan (no meat, fish, or dairy) or Vegetarian (no meat)?

- Yes, Vegan
- Yes, Vegetarian
- No

What is your student status this term?

- Full-time student
- Part-time student
- Not taking classes this term

What is your cumulative GPA (first semester first year students leave this blank) \_\_\_\_\_

Are you an international student

- Yes
- No

Are you currently or have you ever been a member of a social Greek organization (i.e., fraternity or sorority)?

- Yes
- No

How old are you: \_\_\_\_\_

Are you in Miami's marching band?

- Yes
- No

Were you in a marching band in high school?

- Yes
- No

What is your height in inches? \_\_\_\_\_

What is your weight in pounds? \_\_\_\_\_

What is your home campus?

- Oxford
- Hamilton
- Middletown

What is your major? \_\_\_\_\_

Where are you from?

- In-State
- Out-of-State

Are you a first generation college student?

- Yes
- No

What is your future professional environment?

- Accounting & Financial Services
- Economic & Data Analytics
- Arts, Communication, Media, & Design
- Engineering & Technology
- Law & Government
- Management, Sales, & Consulting
- Health & Sciences
- Education, Nonprofit, & Human Services
- Unsure/ Exploring
- Other

### **Appendix D: Drinking Frequency**

The following questions are about your use of alcoholic beverages (beer, wine, malt liquor, hard liquor, or mixed drinks). A drink is defined as one 12-ounce beer, one 1.5 ounce shot of liquor, or a four-ounce glass of wine.

Have you ever had an alcoholic beverage or drink?

- Yes
- No

In a typical week, how many days have you had at least one drink containing alcohol? \_\_\_\_\_  
days

How many drinks do you have in a typical day when you are drinking? \_\_\_\_\_ drinks

During the last 30 days, what is the highest number of drinks that you drank on any one occasion?

\_\_\_\_\_ drinks

### **Appendix E: Rutgers Problem Index**

Different things happen to people while they are drinking ALCOHOL or because of their ALCOHOL drinking. Several of these things are listed below. Indicate how many times each of these things happen to you WITHIN THE LAST YEAR.

How many times did the following things happen to you while you were drinking alcohol or because of your alcohol use during the last year?

0- Never

1- 1-2 times

2- 3-5 times

3- 6-10 times

4- More than 10 times

1. Not able to do your homework or study for a test
2. Got into fights, acted bad, or did mean things
3. Missed out on other things because you spent too much money on alcohol
4. Went to work or school high or drunk
5. Caused shame or embarrassment to someone
6. Neglected your responsibilities
7. Relatives avoided you
8. Felt that you needed more alcohol than you used to in order to get the same effect
9. Tried to control your drinking by trying to drink only at a certain times of the day or certain places.
10. Had withdrawal symptoms, that is, felt sick because you stopped or cut down on drinking
11. Noticed a change in your personality
12. Felt that you had a problem with alcohol
13. Missed a day (or part of a day) of school or work
14. Tried to cut down or quit drinking
15. Suddenly found yourself in a place that you could not remember getting to
16. Passed out or fainted suddenly
17. Had a fight, argument or bad feelings with a friend



18. Had a fight, argument or bad feeling with a family member
19. Kept drinking when you promised yourself not to
20. Felt you were going crazy
21. Had a bad time
22. Felt physically or psychologically dependent on alcohol
23. Was told by a friend or neighbor to stop or cut down drinking

### **Appendix F: Daily Drinking Questionnaire**

The following questions are about your use of alcoholic beverages (beer, wine, malt liquor, hard liquor, or mixed drinks). A drink is defined as one 12-ounce beer, 1.5-ounce shot of liquor, or a 4-ounce glass of wine.

Please estimate your average alcohol consumption for each day of the week for the last 3 months. (How many drinks per day on average?)

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

## **Appendix G: Drunkorexia Questions**

Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Which of the following best describes how you most likely eat that day?

- I would eat the same amount as I normally eat on any saturday. The fact that I knew I would be drinking that night wouldn't change my eating behavior.
- I would eat less than I normally eat if I knew I was to be drinking that night.
- I would eat more than I normally eat if I knew I was to be drinking that night.

Consider this scenario: it is a typical Saturday during the school year. You know that you are going to a party tonight and that you will be drinking. Which of the following best describes how you most likely eat that day?

- I would consume that same amount of CALORIES as I normally eat on any Saturday. The fact that I knew I would be drinking wouldn't change my calorie intake.
- I would consume less CALORIES than I normally eat if I knew I was going to be drinking.
- I would consume more CALORIES than I normally eat if I knew I was going to be drinking.

### **Appendix H: Health-Conscious Drinking Motives Scale**

How often do you choose what type of alcohol to drink for the following reasons? - to not gain weight?

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - To not feel hungover the next day?

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - To not feel bloated?

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - Because all my friends are doing it?

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - To be able to have fun without compromising my health

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - Because health conscious behaviors are in fad

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

How often do you choose what type of alcohol to drink for the following reasons? - To feel better while drinking

- (1) Almost never/never
- (2) Some of the time
- (3) Half of the time
- (4) Most of the time
- (5) Almost always/always

### **Appendix I: Health-Conscious Drinking Scale**

How true are the following statements for you? - I reflect about my health before, during, or after drinking

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm very self-conscious about my health before, during or after drinking

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm generally attentive to my inner feelings about my health surrounding drinking

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm constantly examining my health before, during, or after drinking

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm alert to changes in my health due to drinking

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm usually aware of my health as I consume alcohol

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm aware of the state of my health as I consume alcohol

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I notice how I feel physically as I consume alcohol

- (1) Completely untrue
- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true

How true are the following statements for you? - I'm very involved with my health in relation to alcohol

- (1) Completely untrue

- (2) Somewhat untrue
- (3) Neither untrue or true
- (4) Somewhat true
- (5) Completely true



## **Appendix J: Drinking Motives Questionnaire**

Listed below are reasons people might be inclined to drink alcoholic beverages. Using the five-point scale below, decide how frequently your own drinking is motivated by each of the reasons listed.

(1) “Almost never/never”

(2) “Some of the time”

(3) “Half of the time”

(4) “Most of the time”

(5) “Almost always/always”

- To forget your worries
- Because your friends pressure you to drink
- Because it helps you enjoy a party
- Because it helps you feel depressed or nervous
- To be sociable
- To cheer up when you are in a bad mood
- Because you like the feeling
- So that others won’t kid you about not drinking
- Because it’s exciting
- To get high
- Because it makes social gatherings more fun
- To fit in with groups you like
- Because it gives you a pleasant feeling
- Because it improves parties and celebrations
- Because you feel more confident and sure of yourself
- To celebrate a special occasion with friends
- To forget about your problems
- Because it’s fun
- To be liked

- So you won't feel left out