

The Relation between Non-Oral and Unusual Alcohol Consumption Methods and Academic Performance

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Abstract

Approximately 65% of college students consume alcohol in a given month, and many of the college students will drink to excess¹. College student alcohol consumption is a public health concern in the United States. In a recent trend, college students seem to be exploring non-oral and other extreme methods of consuming alcohol. These methods such as vodka eyeballing may cause eye injuries¹ and are linked to negative alcohol-related consequences. Whereas some of these extreme methods have received media attention (e.g., powdered alcohol), it is assumed that they have a very low prevalence on college campuses². The research examining these non-oral and extreme methods of consuming alcohol is limited. It is still unknown what other atypical, non-oral drinking habits (e.g., butt chugging and beer miles) are prevalent on campuses, and whether or not those that engage in two or more of the behaviors are less likely to academically succeed and more likely to have alcohol issues. The purposes of the current study are to expand the list of extreme methods of alcohol consumption, to examine the prevalence of the consumption methods, and to determine if clusters of the methods relate to academic and other negative consequences. The survey was administered to undergraduate students at a mid-sized Midwestern school in the United States. As expected, most non-oral methods of consumption were relatively rare. Results from cross tabulations and chi-square tests revealed a relation between non-oral alcohol methods and academic engagement. This study has implications for future initiatives to reduce these habits on campuses in the future.

Keywords: Extreme methods, alcohol consumption, academic engagement

1. Introduction

Research indicates that roughly 65% of college students drink in a given month and are likely to engage in binge-drinking behaviors¹. Moreover, it is evident that student alcohol consumption is a public health concern across the United States. Additionally, college students have begun to explore more extreme and unusual methods of alcohol consumption. Even though they are low prevalence forms of alcohol consumption², these methods of alcohol consumption may result in a number of negative alcohol-related consequences. Additionally, these methods are most widespread on college campuses, where the primary focus should surround school and pursuing academic goals. Any sort of high-risk drinking can take away from the academic focus. These methods are all associated with negative effects. The purpose of this study is to describe the presence of these unusual and non-oral consumption methods on college campuses, and examine to see if they impact one's level of academic engagement and alcohol problems.

Unusual alcohol consumption can be defined as alcohol consumed in non-oral or rapid manners. These methods include vodka eyeballing, beer bong, running in beer miles, powdered alcohol, vodka-soaked gummy bears, butt chugging, alcohol-soaked tampons, vaporettes, shot books, body shots, beer Olympics, Edward 40 hands, power hours, or numbing one's throat with Orajel—a cream/gel used to numb toothaches. To define a few of these terms, vodka

eyeballing occurs when someone takes a direct shot of vodka into his or her eye for the alcohol to reach the bloodstream faster, and is associated with extreme negative consequences (e.g., eye injury)¹. Beer bonges are often found at parties, and are devices with a funnel attached to a tube so that beer can be consumed rapidly. Powdered alcohol, often referred to as palcohol, is a newer phenomenon that came to the market in 2015. It is alcohol in a powder form. People misuse palcohol by snorting it, adding it to food, or adding it to already made alcoholic drinks¹⁰. Beer miles occur when people chug a beer, run a quarter of a mile, chug another beer, and repeat until they have completed an entire mile⁹. Vodka-soaked gummy bears and alcohol soaked tampons are self-explanatory: they are gummy bears or tampons that are soaked with vodka or another alcohol and then used so that alcohol gets into the blood faster. Butt chugging is a phenomenon in which alcohol is consumed through the anus, so that it can evade its first metabolism and have a greater effect on the Blood Alcohol Concentration (BAC)³. Additionally, people have been found to numb their throats with Orajel so that they don't feel the alcohol on their throats and can consume it faster and in more quantities.

Commonly, people choose these methods so that they can consume alcohol rapidly. People are more likely to engage in these activities if they are drinking for that sole purpose. For example, “inhaled alcohol initially bypasses first-pass metabolism and rapidly reaches the arterial circulation and the brain, suggesting that this route of administration” may be associated with effects that can increase the risks of addiction and increase one's perceived level of inhibition⁴. Likewise, participants of vodka eyeballing claim that it speeds up inebriation because the alcohol is able to enter the bloodstream through veins in the rear of the eye¹. This desire for a rapid impact was also found with butt chugging, since alcohol is consumed through the anus and evades first metabolism altogether. It also inhibits the body's ability to get rid of the toxin via vomiting³. Not only will they elevate their BACs more quickly, but they will also heighten their symptoms of being under the influence and increase the risk of their central nervous system being affected negatively since it is being consumed in more of an accelerated manner³.

Furthermore, many studies have been conducted that show that alcohol consumption is related to lower academic performance. One such study found a negative relationship between alcohol consumption and GPA; meaning that those that engage in more drinking have a lower GPA as opposed to those that drink less⁷. Another study found that those who drank to “blackout” had lower GPAs and engaged in riskier behaviors in general, as opposed to higher GPAs associated with those that abstained from drinking altogether¹². Since the study of interest about the prevalence of risky alcohol consumption was conducted on a college campus, these two variables are likely to be connected in some way.

Given the link between higher alcohol consumption being related to lower academic achievement, the current study hypothesizes that those who engage in these unusual and non-oral methods of alcohol consumption are less attentive to academics. There appears to be no available research that addresses this correlation, so this study aims to bridge this gap and see if a relationship does indeed exist. Therefore, it is hypothesized that those that do take part in these unusual alcohol consumption methods will not do as well in school and will be less engaged academically.

2. Methodology

2.1 Participants

Participants included students from a midsized college. The total number of participants was 332. This campus is unique because it is not very diverse racially, as seen with 76.5% of survey participants reported being Caucasian. An overwhelming 75.9% of student participants were female, and the age ranged from 17 years old to 45 years old. However, most participants were 18 or 19 years old—106 and 78 students respectively.

2.2 Procedure

A survey was designed using the online software service called “Qualtrics,” and asked questions addressing several health topics. Potential participants received an email invitation to the study. Data was collected using the snowball method. An email was sent out to all students on this midsized, Midwestern campus with a link to an online survey. Students were encouraged to take the survey, answering the prompted questions and upon completion, were entered into a drawing for four \$50 gift cards.

2.3 Measures

2.3.1 *unusual and non-oral alcohol consumption methods*

The first measure examined the prevalence of unusual and non-oral alcohol consumption methods. To assess this measure, one of the survey questions asked students to “Please indicate below whether or not you have engaged in the following behaviors.” The list of behaviors included all the risky methods defined above: alcohol-soaked tampons, butt chugging, beer bong, beer miles, vodka-soaked gummy bears, vodka eyeballing, powdered alcohol, vaportinis, shot books, body shots, beer Olympics, Edward 40 hands, power hours, or numbing one’s throat with Orajel. The end also included an “Other” category in which the student could type in another method that was not previously mentioned. The scale used for measuring all the other options was a simple yes or no indication from a drop-down menu. For the same unusual alcohol consumption methods, the participants were asked to indicate if they would be willing to try a behavior if they had not done it in the past. See Table 1 for a complete listing of the unusual alcohol consumption methods.

2.3.2 *alcohol impact on academic performance*

Additionally, questions assessed indicators of alcohol’s impact on academic performance of the participants. One of the questions used to measure academic performance asked participants if because of alcohol consumption, they “waited until the last minute to study or to complete an assignment, project, or online test/quiz.” The other question asked participants if because of alcohol consumption, they “asked classmates for notes.” These questions assessed alcohol-related academic consequences of alcohol consumption and were written for the current study.

2.4 Statistical Approach

After all the data was collected and the survey was completed, data was composed analyzing the specific questions addressed above. Cross-tabulations were made between the two questions assessing academic performance as well as the variables with the highest prevalence: vodka-soaked gummy bears and beer bong, specifically. Cross tabulations were chosen instead of other analysis methods based on the nature of the categorical data from the survey. It was then analyzed accordingly to see if any of the hypothesized patterns occurred.

3. Results

Of the 332 survey participants, the average age of participants was 19.5 years old ($SD = 2.5$). Thus, the sample size was mostly younger students. Approximately, 252 of the respondents were female and 50 were male. A total of 254 respondents—or 76.5%—reported to be Caucasian, while 16 were Hispanic, 14 were African American, and 2 reported to be another ethnicity not specifically mentioned.

A total of 284 participants responded to the portion of the survey about alcohol. Of the 284, 226 of them reported to have tried alcohol in his or her life while 58 have not. Those that responded yes to having tried alcohol were then directed to further questions, where 16.5% reported have at least one drink on 3 days of the week, 27.7% on 2 days of the week, and 21.9% on 1 day of the week. The question that asked “during the last 30 days, what is the highest number of drinks you have consumed” yielded responses of 7.7% for 8 drinks, 9 % for 7 drinks, 10.4% for 6, 11.8% for 5, and 10.4% for 4.

When asking if participants had tried a certain risky drinking method, the most prevalent responses were vodka-soaked gummy bears, beer bong, body shots, and beer Olympics. All of the questions had responses and had at least one person that had tried that method before. The least prevalent method on campus was reported to be numbing one’s throat with Orajel before consuming alcohol (see Table 1). Additionally, when asked if one hadn’t tried a consumption method but would be willing to try it in the future, all the methods had responses. Again, there was no method in which there was a response of 0. Most people reported being willing to try vodka-soaked gummy bears, body shots, beer bong, and handcuffs/handles (see Table 1).

For further examination of the data, the two most prevalent unusual alcohol consumption methods were examined across two measures of academic engagement. A total of 4 different specific cross-tabulations were run for results. A cross tabulation between having tried vodka-soaked gummy bears and also people who wait until the last minute on

academics (studying, assignments, projects) was found to be statistically significant ($p = 0.003$). Thus, people who wait until the last minute are also more likely to have tried vodka soaked gummy bears. Another cross tabulation was run on people who have tried vodka-soaked gummy bears as well as people who ask other people for notes. A chi-square test also found this to be significant ($p = 0.039$). Thus, those that ask others for notes in class are more likely to have tried vodka-soaked gummy bears.

The same tabulations were done, but this time on people who have tried beer bong. Both were also significant. A chi-square test on the those that have tried beer bong and those who wait until the last minute on academics was significant ($p = 0.001$). A test on those that have tried beer bong and those that ask others for notes was significant ($p = 0.035$). Thus, those that are more likely to wait until the last minute on academics and ask others for notes are more likely to have tried beer bong., It seems that people who have tried these risky behaviors were found to be less engaged academically due to their alcohol consumption.

Table 1. Prevalence of risky drinking methods on campus and likelihood that students would try a certain behavior if they have not done so already.

<i>Risky Drinking Method</i>	<i>Yes—have tried it</i>	<i>Yes—would try it</i>
<i>Alcohol-soaked tampons</i>	1.8% ($n = 6$)	1.2% ($n = 4$)
<i>Powdered alcohol</i>	2.4% ($n = 8$)	6.0% ($n = 20$)
<i>Vaportinis</i>	0.90% ($n = 3$)	2.7% ($n = 9$)
<i>Vodka-eyeballing</i>	1.5% ($n = 5$)	1.2% ($n = 4$)
<i>Vodka-soaked gummy bears</i>	31.0% ($n = 103$)	31.3% ($n = 104$)
<i>Beer mile</i>	5.4% ($n = 18$)	11.7% ($n = 39$)
<i>Beer bong</i>	30.1% ($n = 100$)	11.7% ($n = 62$)
<i>Butt chugging</i>	2.4% ($n = 8$)	2.1% ($n = 7$)
<i>Shot book</i>	6.0% ($n = 20$)	11.7% ($n = 39$)
<i>Body shots</i>	20.2% ($n = 67$)	23.8% ($n = 79$)
<i>Beer Olympics</i>	16.0% ($n = 53$)	16.0% ($n = 53$)
<i>Edward 40-hands</i>	8.4% ($n = 28$)	11.1% ($n = 37$)
<i>Handcuffs and handles</i>	13.0% ($n = 43$)	14.2% ($n = 47$)
<i>Numb throat with Orajel</i>	0.60% ($n = 2$)	2.4% ($n = 8$)
<i>Power hour</i>	13.6% ($n = 45$)	9.6% ($n = 32$)
<i>QB sneak (Xanax)</i>	1.5% ($n = 5$)	0.90% ($n = 3$)

4. Discussion

As a result of this study, it is clear that there is a relationship between risky alcohol consumption methods and academic engagement. Specifically, individuals who practice the most common, non-oral methods (i.e., beer bong and vodka soaked gummy bears) are also less engaged academically. Even though not all the methods were very prevalent, none of the behaviors had responses of 0—even behaviors like butt-chugging or numbing one’s throat with Orajel. The presence of these methods on this campus in any quantity shows that people are willing to consume alcohol in unusual, extreme, and dangerous ways. All of the methods are considered riskier than normal alcohol drinking and can heighten the already dangerous effects of alcohol. It is important to recognize that the practice of these methods is detrimental to the health and academic performance of the college-aged population.

The results of this study correspond with past studies that have also found correlations between alcohol consumption and academic performance. A similar study assessed the prevalence of “innovative” use and consumption of alcohol that was non-oral or non-liquid. Similar variables were studied, such as vodka-soaked tampons and vodka eyeballing. This study also found that very few of the respondents participated in these abnormal behaviors⁸. Stogner concluded that these consumption methods were too rare to be significant and that they were perhaps more of an urban legend. This is similar to the study at hand that some of the methods were not very prevalent and used by students on campuses.

Certain variables were chosen over others to assess academic engagement based on findings from previous research articles. White & Hingson found a relationship between missing classes and receiving lower grades as a result of alcohol consumption¹¹. Because these were found to be consequences of excessive drinking, they were utilized in the current survey to assess the relationship with unusual alcohol consumption methods.

Furthermore, White & Hingson's study indicated that alcohol has severe consequences for those that engage in binge-drinking in college and can lead to injuries, death, sexual assault, violent behaviors, impairments in cognitive thinking, and declines in academic performance¹¹. This is congruent to the results of the current study that found that those that consume alcohol in riskier and more abnormal methods are more likely to fall behind on assignments and in classes, and are also more likely to rely on others to pick up their slack—such as taking notes.

Some limitations to the study and the results are that most of the respondents were female. It has been found that females often drink less or behave differently than males when drinking—specifically having fewer alcohol related problems than males⁶. This could have affected the results of the study and the responses received since it was alcohol-focused. Perhaps if more males had responded, there might have been more prevalence of some of the riskier behaviors. Furthermore, the sample of respondents were very young—primarily 18 and 19 years old. This means that most of the respondents were underclassmen, and were not of legal age to purchase or drink alcohol. This could have influenced their responses. It has also been found that younger students tend to engage in different drinking behaviors than upperclassmen, so this could have likely skewed the results. Another limitation to this study is that since data was found in a survey, it was self-report data. However, previous alcohol research indicates that self-report measures are good indicators of alcohol consumption habits in college students.

To reduce some of the limitations mentioned above, a larger study could be conducted that spans multiple different colleges and universities. This would increase the sample size, increase the diversity of student respondents, and increase the different demographics represented to give better and more representative results. A possible idea for future studies is to look for a correlation between these risky drinking behaviors and long-term health consequences. This study highlights the fact that consuming alcohol in abnormal and harmful ways is detrimental to their academic futures, but just briefly touches on why they're risky for health reasons. A future study can look more in depth at these methods and assess those that have engaged in them to see if they have more negative long-term effects as opposed to those that simply just drink alcohol in the normal manner.

Despite these limitations, though, this study does prove interesting and relevant to huge issues facing several campuses nationwide currently. Binge drinking and alcohol consumption are extremely prevalent on mostly all college campuses in the country, and unfortunately have fatal consequences. About 1,825 college students between the age of 18 and 24 died from alcohol-related causes in 2015⁵. Whereas alcohol consumption on any campus is most likely inevitable, binge drinking is what seems to cause the most issues and can be combated. With increased education, such as studies like these that publish results and make students aware of the issue, more students will know how serious of an issue it is and that it can put both their future and lives on the line. It is the hope that the results of this study will bring rise to more discussions surrounding alcohol use on college campuses, shedding light on this issue and sparking culture change away from the binge-drinking norm and the alcohol mindset that many possess.

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