Does Alcohol Consumption Affect Academic Performance of College Students?
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Our group met several times and worked together on putting our report together. We then divided up specific sections and worked on them individually before coming together and discussing as a group. Shannon worked on making the survey and getting it up online, while the three of us all distributed it throughout our own Northeastern networks as well as put together and executed the presentation. Once the results came in, Shannon and Oliver worked on completing the abstract, methodology, discussion and conclusion, while Matt focused on the introduction and interpreting the results. Our entire group worked together in completing the literature review, bringing in articles from our own research for our final report.

ABSTRACT

This paper examines the correlation between alcohol consumption and academic performance of undergraduate students at Northeastern University. Analysis of the variables showed that there was a negative correlation between grade point average (GPA) and frequency of alcohol consumption, meaning that as the nights per week that a participant consumed alcohol went up, grade point average went down. The findings also revealed that, although there was a positive correlation, there was not a strong correlation between number of drinks per occasion and GPA.

Alcohol Consumption and Academic Performance of College Students

College is a time that gives one their first shot at freedom and with that, is synonymous with drinking. Factors such as freedom, social pressure, academic stress, availability of alcohol and drugs, and the overall culture make the consumption of alcohol a prominent aspect of college life. Regardless of age, sex, or interest in school, most college students have had some encounter with alcohol in one way or another. Whether individuals choose to drink alcohol varies from person to person, but alcohol consumption has always been thought of as a large part of the college culture. There has been numerous amounts of research conducted on drinking habits in college life, as the number and availability of students as well as the drinking habits of most college students make it relatively easy to get information about alcohol consumption.

Although there is a lot of research that has been done about binge drinking in college and the long-term effects of binge drinking, there has not been much research done on whether or not there is a direct connection between grade point average (GPA) and the frequency of alcohol consumption as well as the amount of alcohol consumed per occasion. We would like to further examine the relationship and potential correlation between academics and alcohol consumption specifically at Northeastern University so we can better understand the culture of drinking and school performance as they relate to each other. We are interested in this topic because college students are notorious for binge drinking and we hope to further investigate the consequences that excessive drinking has on an individual's academic performance.

LITERATURE REVIEW

While many studies have examined the effects of drinking on a student's school work, it should be noted "it's tricky to test the effects of alcohol consumption on academic performance." In examining the two, "one big problem is that there may be another variable explaining both poor student performance and drinking (for example, mental health issues) so the connection could be what scientists call spurious." (Pillemer 2010) In our methodology we had outlined several other variables such as religious observance and drinking starting age that we were aware could influence our results. Because of the vastness of outside variables, It is difficult to state a causal relationship between alcohol consumption and school grades, but in reviewing prior research on the topic, in addition to planning our own research, we're able to form several testable hypotheses that hope to better establish the correlation.

As previously mentioned, drinking habits in college have long been a popular topic of research. College drinking researcher Todd Wyatt notes that "because the research stops at a certain point, there's this intense speculation" about how spare time affects academic performance. (Grasgreen 2011) Wyatt's research goes beyond the standard analysis of college drinking habits to further examine the relationship between alcohol consumption and grade point average. Wyatt found that with "the more time spent partying with alcohol, there's a significant decrease in GPA. Meanwhile, other non-studious activities, like wasting away hours on Facebook, had virtually no effect on grades." (Grasgreen 2011) Although these activities take away from student's studying time, they don't seem to have a significant impact on GPA, allowing us to focus our research specifically on the relationship between drinking and grades.

Other similar studies on the topic have revealed further correlation between schoolwork and alcohol consumption. Of 494 respondents surveyed that drink alcohol in a study by O'Hare,

(1990) 11.5% reported problems with schoolwork as having occurred in the past year as a result of alcohol. In another report, The following statistics were compiled "to show on average, students who drink the most alcohol receive the lowest grades." (Presley, Leichliter, and Meilman 1999) found that "A" students average 3.1 drinks per week, "B" students average 4.4 drinks per week, "C" students averages 5.6 drinks per week, and "D" and "F" students average 9.5 drinks per week. Wechsler (2000) explored the difference between binge drinkers and non-binge drinkers and found that "frequent bingers are 17 times more likely to miss a class." The study also echoed the theory that "as a whole binge drinking contributes to poor academic performance and college dropout rates."

From a physiological standpoint, research also suggests that the consumption of alcohol can have an effect on essential brain functions needed for learning. Research has found "five areas where mental functioning can be compromised. They are memory foundation, abstract thinking, problem solving, attention and concentration, and perceptions of emotion." (Presley, Leichliter, and Meilman 1999) If we consider these to be the basic components of learning and academic performance, then there is no denying the ability of alcohol to have negative consequences in these areas.

In addition to the effect on grades during the student's school career, some relevant research also touched upon the consequences that alcohol consumption has on post-college plans. "Binge drinking in college among a segment of students had a significant, negative impact on educational attainment as well as an equally negative effect on post college occupational careers and wages."(Jennison 2004) Furthermore, Jennison found that "individuals who were frequent bingers in college were more likely to be dropouts." If consumption of large quantities

of alcohol increases dropout rates, assumptions could be made that prior to dropping out, the individual's grades were suffering.

Relationships can be seen between alcohol and physiological effects, alcohol and post college plans, and specifically between alcohol and grades. Our hypotheses are intended to find supporting evidence for prior research on the topic, as well as reveal unexpected patterns amongst drinking and school habits at Northeastern University.

The first hypothesis we seek to test is 1.) People who consume alcohol more frequently and in a larger quality have a lower average GPA compared to individuals who drink occasionally. We also expect that 2.) There will be a negative correlation between GPAs and amount of alcohol consumed.

METHODOLOGY

We decided to do a survey in order to test our hypothesis. Administering a survey was our best option because it is the best way to get results from a large population of people and draw a conclusion about the relationship between alcohol consumption of college students and their academics, specifically grade point average. We aimed to survey between 50 and 100 undergraduate students at Northeastern University. We figured this number would allow us to get a wide variety of results from many different student niches and demographics within Northeastern.

The main variables in our survey were alcohol consumption (comprised of average number of nights per week that the participant consumes alcohol and the average amount of drinks per occasion) and academics (comprised of grade point average and average hours of work done outside of the classroom per day.) These variables can be difficult to focus on because there are other outside factors that could very well affect both alcohol consumption and academic

performance. For example, the year and age of the participant could very well affect how much alcohol they consume. One could assume that Northeastern students who are 21 and older consume more alcohol at a more frequent rate than students who are younger than 21 because they are of the legal age. Although it is a large assumption, gender could influence alcohol consumption because, in our own experience, males consume more alcohol per occasion than females, simply because they tend to be bigger and they also tend to have a higher tolerance for alcohol. We included other variables such as gender, religious observance, and drinking starting age. These potentially biasing variables are important to consider, but we wanted to focus specifically on the potential correlation between alcohol consumption and academic performance, represented by grade point average.

We created an online survey using SurveyGizmo and sent it out to Northeastern undergraduate students through email, Twitter, and Facebook. Distributing the survey online gave participants a greater sense of anonymity and it was intended to eliminate any researcher-influenced biases that can come with face-to-face interaction. We closed our survey after about four days once we had received a number within our desired ranged.

Our survey yielded 76 responses from individual participants that currently attend Northeastern University, a large, private university located in Boston, Massachusetts. As mentioned, the survey was sent to undergraduate students at the university through various online mediums. The survey was open to any undergraduate student at Northeastern, however the majority of respondents were presumably online "friends" or "followers" of the researchers involved. We hoped to have the survey snowball throughout undergraduate students, but the effectiveness is difficult to determine due to anonymity of our study. An attached sample of our survey can be found in the appendix section of the report.

Of our respondents, 48 (62%) were female and 28 (38%) were male. The average age was 20 years old, which resulted in interesting findings in terms of underage drinking. The range of participants varied from 18 to 24 years old. 83.1% are currently in class, with 16.9% on co-op. We had provided respondents five options for their year in school, first through fifth. We chose five years because that is the typical Northeastern undergraduate schedule, and were pleased with the distribution between years in school. 1.3% of respondents were in their 1st year, 6.5% in their 2nd, 76.7% in 3rd, 14.3% in 4th, and 1.3% were in their 5th year at Northeastern. We had a bell-curve of sorts in terms of respondents' answers, and it worked out for the better that the majority of students were in their middle year at Northeastern. Middler students have typically had co-op experiences as well as experiences living both on and off campus. Therefore this was the best age demographic to have a majority of when analyzing our results and looking for correlations.

RESULTS

We found a negative correlation between nights per week drinking and GPA (R= -.423 P=< .001), which supported our expectations in hypothesis 2. As for drinks per occasion and GPA, we had anticipated a negative correlation, but the results said otherwise (R= .167 P= <.001). It doesn't seem to matter how many drinks you have in a night, so as long as the drinking doesn't occur frequently. We tested to see if students on co-op may have different drinking habits, as they are on a break from classes, and found that there's no correlation between co-op and the frequency of drinking (R=-.052 P=.658). In testing for correlation between frequency of drinking and quantity of drinks we found (R=.080 P=.494)

Some of the other findings of survey that were somewhat related to both drinking and GPA provide a better understanding of our participants. On average, our participants spend 2.6 hours on school work per day, and have GPA's within the 3.0-3.5 range. 100% of respondents

said that their close friends drink, 57% said they drink the same quantity as their friends with

71% said they drink the same frequency in a week. 16 was the median age for respondents to

start drinking, with a range of 13-20. In terms of religion of our participants, 27% identified

themselves as Agnostic, 26% were Catholic, and 6% were Jewish. The rest of our participants

identified in small percentiles with religions such as Buddhism, Hinduism, specific sects of

Christianity, as well as one "free thinker." Because of the wide range of both religious

affiliations and consumption patterns, we were unable to find specific correlations between the

two.

DISCUSSION

One interesting correlation we found after running our data through SPSS is that there

was a negative correlation (-.423) between the number of nights a participant drinks per week

and GPA. This suggests that the more frequently a participant drinks, the lower their GPA will

be, which goes along with part of our hypothesis that participants who consume alcohol more

frequently and in larger quantities are more likely to have a lower GPA than participants who

consume alcohol less frequently and in smaller amounts, or not at all. We did find a positive

correlation between the number of drinks consumed and GPA, which goes against our hypothesis

that suggests as the number of drinks consumed increases, GPA decreases. Although we did find

a correlation, it was less significant than the negative correlation between the frequency of

alcohol consumption and GPA. These findings suggest that the amount that one drinks does not

matter as much as the frequency that one drinks. This could be because if one drinks more

frequently, their drinking is more likely to interfere with school and nights that they should be

doing work, but these findings are interesting because they put less emphasis on binge drinking

and more on how often one drinks. We also found that the correlation between the number of

nights per week that a participant consumed alcohol and the number of drinks a participant consumed per occasion was .08. Although we cannot rule out the null hypothesis, the correlation is still very weak, which goes along with th

We found that our sample population was not necessarily reflective of Northeastern as a whole. 89.5% of our participants had a GPA of a 3.0 or above, which seems to be very high (refer to figure B in appendix). We also found that 54% of our participants spent 3 or more hours per day on work outside of the classroom (refer to figure C in appendix.) Although we were unable to find the average GPA for Northeastern University undergraduate students, we thought both of these statistics seemed a little high, and we feel as if the group of students we surveyed were more studious than an average student. For this project, it was easiest for us to distribute the survey to our close friends because they are easily accessible, but in the future, we would make more of an effort to distribute the survey to a truly random sample so we could get a better look at Northeastern students as a whole. We also found that a few of our questions were problematic, mostly because we administered them as open response questions. We did this to allow respondents to think about the questions as much as possible, and we also did not want respondents to choose a given answer because they thought it seemed more socially acceptable than another. But, we experienced problems with the open response questions, especially the one that asked about religion, because respondents' answers were hard to classify into groups.

A strength in this study was certainly the amount of students that were able to relate to this study, as all respondents had tried an alcoholic drink, and all possess a University standardized grade point average. Another strength of this study was that even with the sample only including Northeastern students, we were able to receive all different types of results, from people that love to go out and party to those who are very dedicated to their work. A limitation to

this study however was that it may have been hard for people to give truthful answers on the survey, because when it comes to drinking habits and grades in college, they can both be sensitive subjects. A few things could be changed in the future in order to help similar studies avoid this and other issues. Questions could have been asked in a closed format on the survey, not allowing for outliers or spurious responses which can potentially alter the data. Also, a student's major could have been taken into effect to look at another potential reason for a grade point average being either high or low. In all, this study was successful and completed most of the questions we had about the topic.

CONCLUSION

Overall, this study was put together in order to find a correlation between the alcohol consumption of a college student and their grades. Alcohol and binge drinking are very popular trends in college life, and with school work always on the tab for students, the subject of the one affecting the other needed to be examined. With finding that grade point average lowers as the amount of days per week a student consumes alcohol increases, we are able to show students that in order to take their schoolwork more seriously, they must drink less per week. However, finding that GPA does not have a correlation to drinks per sitting should allow students to realize that while binge drinking is never a good option, the more important thing is that drinking does not occur on multiple nights. In addition, this information should be pertinent to any similar university or college interested in balancing students' performance and their social nightlife, in particular alcohol consumption. Our findings indicate that students are more or less capable of managing both grades and drinking habits, but should be aware that more frequent occasions of drinking can be detrimental to one's overall GPA.
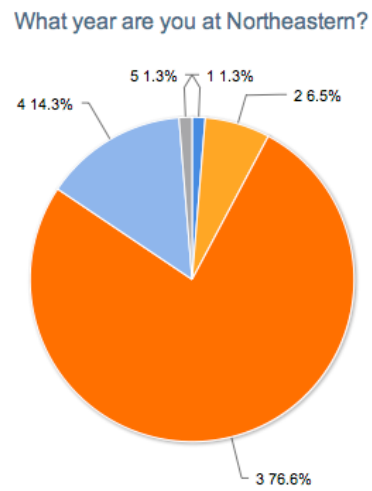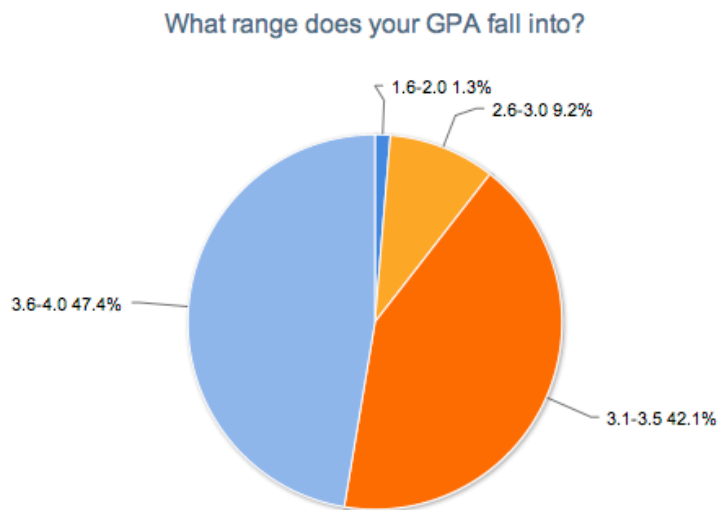
APPENDIX

Figure A:

Figure B:

Figure C:

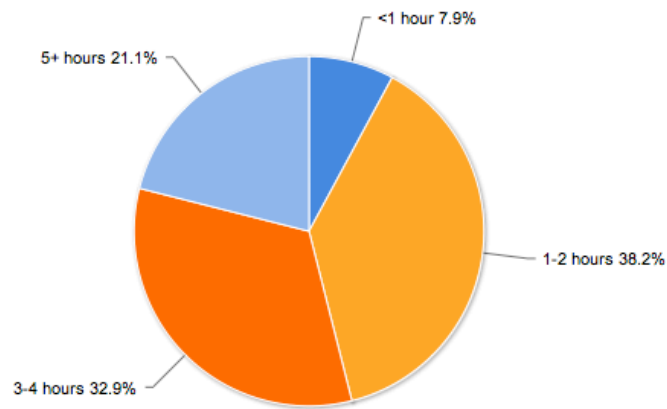On an average day, how many hours do you spend on schoolwork outside of class?
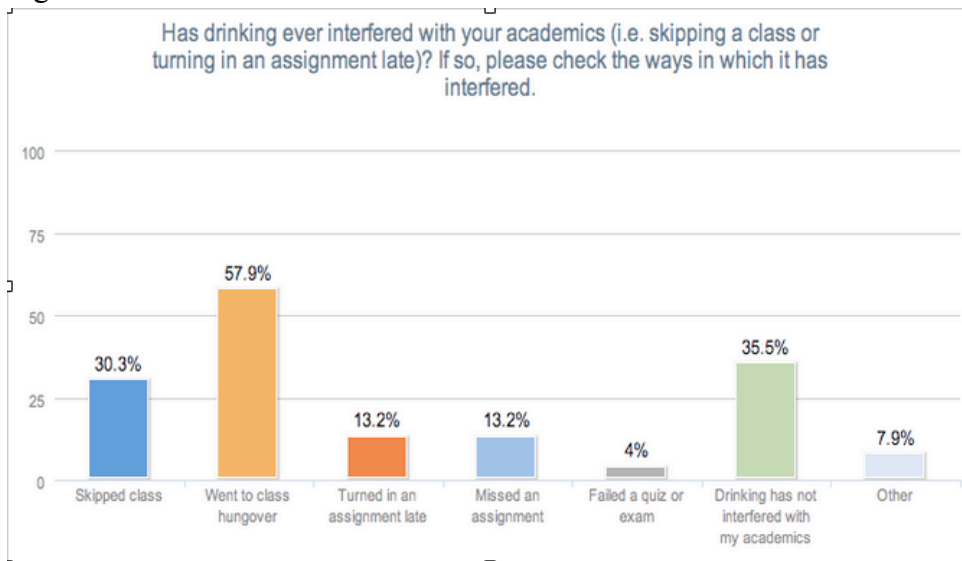

Figure D:

Figure E:

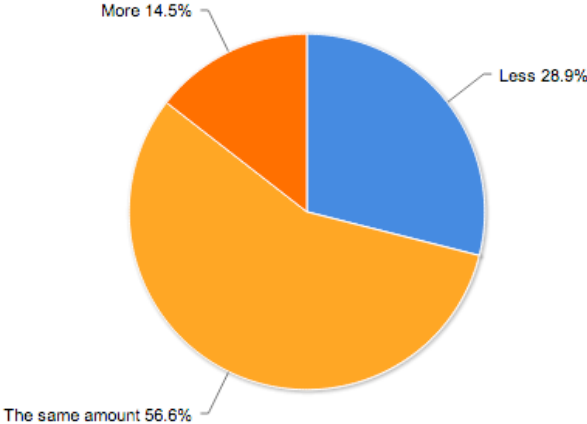How much do you think that you drink in relation to your friends?

Figure F:

How often do you drink in relation to your friends?
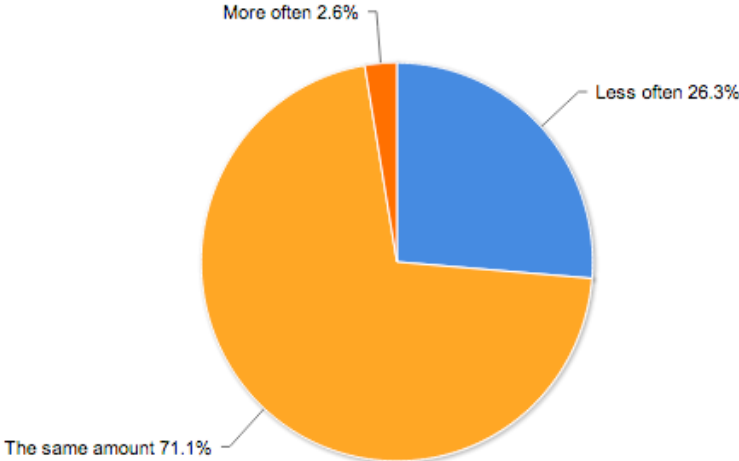

Figure G:

Are you on co-op?
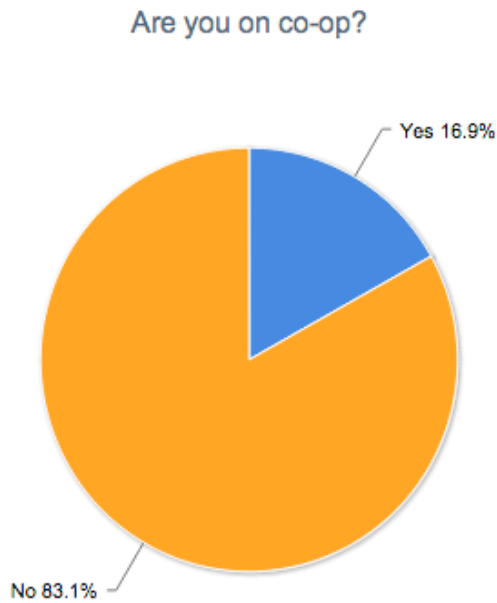

Here is an example of our survey:

Thank you for taking our survey! This survey consists of 14 questions and should only take up to 5 minutes of your time. The results are anonymous and will be used for a final project for our Methods and Research class. We are looking to examine the relationship between alcohol consumption and grades at Northeastern University. Please be as honest and thoughtful as possible in your responses. If you have any questions, do not to contact us. Thank you again!

1. What is your gender? Male   Female

2. What year are you at Northeastern? 1   2   3   4   5

3. What is your age? _____

4. What is your religious observance, if any? _____

5. On average, how many nights per week do you consume alcohol? _____

6. On average, how many drinks do you have per occasion? _____

7. Has drinking ever interfered with your academics? If so, please check the ways in

which drinking has interfered with your academics:

_____ Handed in assignment late   _____ Missed an assignment

_____ Skipped class   _____ Failed a quiz or exam

_____ Went to class hungover   _____ Failed a class

_____ Other (If you checked other, please explain in the space below)

8. What range does your GPA fall in?

   0-.5   .51-1   1.1-1.5   1.51-2   2.1-2.5   2.51-3

   3.1-3.5   3.51-4

9. On an average day, how many hours outside of class do you spend on schoolwork?

<1 hours   1-2 hours   3-4 hours   5+ hours

10. Do your close friends drink? Yes   No

11. How much do you think that you drink in relation to your friends?

Less   The same amount   More   Not applicable

12. How often do you drink in relation to your friends?

Less often   The same amount   More often   Not applicable

13. At what age did you start consuming alcohol? _____

14. Are you on co-op?   Yes   No

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