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# Student Attitudes Towards Drinking Behaviors

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**Abstract:** The literature is relatively inconclusive regarding predictors of alcohol use; while some studies have demonstrated an association between high levels of social interaction and increased alcohol use, others have shown that a lack of social support is linked to drinking heavily. The current study was conducted with students at the University of New Hampshire; participants' attitudes towards alcohol were assessed along with many psychosocial factors. Low levels of conscientiousness, parent and high school influence, frequently attending parties, and friend influence were most highly predictive of positive attitudes towards alcohol; multiple regression of these factors accounted for 30.1% of the variance. Alternatively, negative attitudes towards alcohol were most highly predicted by high levels of conscientiousness and infrequently attending parties. Positive and negative attitudes were not highly correlated with one another; therefore, some students had both highly positive and highly negative attitudes toward alcohol. This group, with conflicting attitudes toward alcohol use, is of particular interest.

## Introduction

Alcohol consumption is quite common on college campuses throughout the country, with studies approximating that 40% of students engage in heavy drinking (Martens, Karakashian, Fleming, Fowler, Hatchett, & Cimini, 2009). Such students range from recent freshmen, which are overwhelmingly underage, to soon to be college graduates. While it is evident that alcohol consumption occurs, little is known regarding the role that attitudes toward alcohol play; is alcohol used by students as a means of social facilitation or rather as a form of coping with negative feelings? Furthermore, what factors are predictive of the attitudes that students possess towards alcohol?

Previously conducted research has been inconclusive regarding the predictors of alcohol use. While most research suggests a negative relation between alcohol use and well-being, Molnar, Busseri, Perrier, and Savada (2009) provided support for a more favorable outcome. Their findings demonstrated that alcohol use predicts greater social well-being (SWB), likely as a result of the role that alcohol plays in social facilitation of sociable behavior during the college years. It is important to note, as the study was conducted in Ontario, Canada where the drinking age is 18, issues of underage drinking were not involved, and thus the findings cannot be easily generalized to the US population. Providing support for more negative correlates of alcohol use, Cohen and Lemay (2007) assessed levels of social integration in relation to positive and negative affect, smoking, and alcohol use. As defined in their study, social integration "refers to participation in a broad range of social relationships," (Cohen & Lemay, 2007). Individuals who interacted with a more diverse social network, and thus scored higher on levels of social integration, were less subject to peer pressure. Furthermore, they did not

rely on alcohol as a means of facilitating social interaction, in contrast to those individuals with a more limited social network. Strine, Chapman, Balluz, and Mokdad (2008) reported similar findings from their assessment of social and emotional support in relation to health related quality of life, demonstrating that a lack of social support leads individuals to drink more heavily, in congruence with a number of other unhealthy behaviors.

But, what about high school and parental influences? These factors may be especially influential to students in their freshmen and sophomore years of college, as high school friends and parents may still have a high level of involvement during the first two years. Amongst high school seniors, it has been shown that 43% report drinking within the past month, with 25% reporting behavior representative of binge drinking (Schwinn & Schinke, 2014). Previous research has demonstrated that peer alcohol use, perceived peer attitudes towards alcohol use, and being offered a drink by peers are amongst the strongest predictors of adolescent alcohol use. In terms of parental influences, the research is less clear regarding which types of parental behaviors are effective in reducing alcohol use amongst adolescents. Schwinn and Schinke (2014) demonstrated that peer alcohol use and alcohol offers were found to account for 33% of the variance in adolescent drinking, and 20% of the variance in binge drinking. Alternatively, parent influences were found to account for only 1% of the variance in terms of both drinking and binge drinking, indicating a small role for parental influence on such behaviors. Alternatively, they did find that higher levels of family support were associated with fewer alcohol-related consequences amongst youths.

In support of these findings, Thomas and Kelly (2013) suggest that within the context of an emotionally happy and close parent-child relationship, parental influences and rules regarding alcohol use may reduce their children's use of alcohol; alternatively, in more distant and conflict ridden relationships, parental rules about alcohol use may lead their children to rebel leading to potentially undesirable outcomes. Koning, Regina, Eijnden, and Vollebergh (2014) report that one of the strongest predictors of both early and later alcohol use amongst adolescents is a strict rule setting. But, when strict rules are combined with high-quality communication between parents and children, adolescents were found to drink less. Such findings provide support for the importance of the parent-child relationship, in influencing alcohol use.

Additionally, research has been conducted evaluating how certain factors of personality are associated with drinking amongst college students. One personality trait, in particular, has been repeatedly correlated with alcohol use: conscientiousness. As described by Martens *et al.* (2009), "conscientiousness refers to the tendency for an individual to follow socially prescribed norms and rules of impulse control, to be goal and task directed, to delay gratification, and to plan ahead during situations,". Multiple studies have demonstrated that higher levels of conscientiousness were associated with less alcohol use and related problems. Furthermore, results from a longitudinal study conducted with school children in England demonstrated that in addition to having predictive validity for health behaviors in adulthood, conscientiousness served as an early predictor of alcohol use amongst adolescents (Hagger-Johnson, Bewick, Conner, O'

As the majority of students in college at any given time are below the legal drinking age, assessing students' alcohol use poses potential ethical issues. Thus, we

decided to assess the next best thing: students' attitudes towards alcohol. In general, individuals' attitudes are highly related to their behaviors, and thus, information regarding students' attitudes towards alcohol could provide strong insight into the factors affecting students' alcohol use. To our knowledge, there are no existing measures that assess individuals' attitudes towards alcohol. Thus, through the administration of our new measure that assesses both positive and negative attitudes towards alcohol, we aimed to assess students' attitudes towards alcohol at the University of New Hampshire. It's important to note that throughout the paper "positive attitudes" refer to attitudes that view alcohol in a favorable light, while "negative attitudes" refer to attitudes that view alcohol in an adverse, more harmful light. Furthermore, we wish to evaluate the factors that predict these attitudes, including aspects of personality, perceived social influence, and students' upbringings- involving both high school and parental influences.

## Methods

### Participants

Participants were students at the University of New Hampshire, who were taking a psychology course in the fall of 2013 that required research participation. Students were recruited through the SONA subject pool and received 1 credit for their participation in the study. Originally 405 students were recruited, but after eliminating participants with incomplete data, age less than 18, and those that indicated the same response for each survey question, and thus took no notice to what the questions asked, 354 participants remained. Of the remaining participants, 83 were male, 262 were female, and 9 chose not

to indicate their gender. The final participants were between the ages of 18 to 25, with the majority indicating that they were 18.

Materials

Participants filled out an online survey through surveymonkey.com; they first read an informed consent form and decided whether to complete the survey or the alternate experience, which involved writing up a summary of the research questions, methods, and implications of the study. Participants under the age of 18 had the option to complete the alternate experience. The online survey took less than an hour to complete and asked participants about their attitudes towards alcohol.

Participants filled out the SWLS (satisfaction with life scale), the PANAS (positive and negative affect scale), the PSS (perceived stress scale), a subscale of the Big Five Inventory that solely evaluated participants' self-reported level of extraversion and conscientiousness, and the ISEL (interpersonal support evaluation list).

Participants were then asked questions about their best friend, good friends, and acquaintances at the University of New Hampshire. Participants were asked if they had a best friend at UNH and how many good friends/ acquaintances they had at UNH. Next, participants' feelings towards their best friend/good friends/acquaintances, including how much they "identified with," "liked," "trusted," "enjoyed," and "felt influenced" by each person/group, were evaluated on a 5-point Likert scale. In addition, participants were asked to indicate their level of agreement with statements regarding how much they felt influenced by their best friend/ good friends/ acquaintances at UNH, both in regard to and unrelated to alcohol, on a 5- point Likert scale; an example of such a statement is "Your best friend at UNH influences your attitudes and behavior in general."

Participants were also asked questions about the frequency with which they attended parties, and the frequency with which alcohol was served at the parties they attended. Participants were then asked about their best friend's/ good friends'/ acquaintances' drinking, as well as about their own perceptions of drinking.

Participants were asked to indicate their level of agreement with statements reflecting positive attitudes towards alcohol and negative attitudes towards alcohol. An example of a statement reflecting a positive attitude towards alcohol is, "I like the way alcohol makes me feel (such as relaxed, happy, less inhibited, sociable).". An example of a statement reflecting a negative attitude towards alcohol is, "Heavy alcohol consumption impairs academic performance.". These items were summed to form measures of overall positive and negative attitudes toward alcohol; all of the items can be viewed below in Table 1 (positive attitudes) and Table 2 (negative attitudes). At the end of the survey, participants were debriefed about the study.

Procedure

Participants were recruited through the SONA subject pool and directed to a survey through surveymonkey.com. After completion of the survey participants received 1 credit towards their course.

**Table1: Positive Attitudes Towards Alcohol**

| |
|---|
| I feel that it is okay for people who are under the legal age to drink a small amount of alcohol on special occasions. |
| I like the way alcohol makes me feel (such as relaxed, happy, less inhibited, sociable) |
| It is not a problem if a woman has 4 or more drinks at one sitting. (Note, this is the definition of binge drinking for a woman) |
| A party is more fun for a person who drinks alcohol, than for a person who does not drink alcohol. |
| A person who drinks alcohol is more likely to meet and go out with an attractive person, compared to a person who does not drink alcohol. |
| It is not a problem if a man has 5 or more drinks at one sitting. (Note, this is the definition of binge drinking for a man) |

| |
|---|
| Drinking provides a short term escape from stress and worry. |
| It is not possible to have fun at a party without drinking alcohol. |
| To fit in at UNH, people have to drink alcohol. |
| People who drink a lot will have happier memories of what college life was like. |
| If a person does not drink alcohol at UNH, other people perceive him or her in negative ways (uptight, odd, or no fun). |
| Alcoholic beverages have a pleasant taste. |
| Drinking alcohol is the only "fun" activity available at UNH. |
| There is something wrong or peculiar about people who refuse to drink alcohol. |

**Table 2: Negative Attitudes Towards Alcohol**

| |
|---|
| Drinking alcohol is against my personal or religious beliefs. |
| I prefer not to drink alcohol in most situations. |
| I am careful to limit or avoid drinking because of concerns about possibly becoming an alcoholic. |
| A person who drinks alcohol is more likely to have unprotected sex, compared to a person who does not drink alcohol. |
| Drinking is likely to lead to health problems later in life. |
| If people drink a lot in college, they may have a hard time reducing the amount they drink later on in life. |
| Drinking can make emotional problems such as anxiety and depression worse. |
| Drinking alcohol is bad for people's physical health. |
| Drinking too much alcohol makes people feel sick (for example, hangovers, vomiting, etc.) |
| Alcohol has a lot of calories and can cause a "beer belly" or weight gain. |
| Heavy alcohol consumption impairs athletic performance. |
| Heavy alcohol consumption impairs academic performance. |
| Heavy alcohol use can temporarily impair sexual performance. |
| Long term heavy use of alcohol kills brain cells. |
| People who drink a lot are more likely to be arrested for drink driving. |
| People who drink a lot are more likely to be in a serious automobile accident. |
| Drinking large amounts of alcohol on a regular basis could easily lead to addiction and alcoholism for most people. |
| Drinking large amounts of alcohol on a regular basis could easily lead to addiction and alcoholism for me. |

Results

**Table 3: Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Standard Deviation | Cronbach's Alpha |
|---|---|---|---|---|---|---|
| Extraversion | 354 | 8.00 | 40.00 | 26.75 | 6.15 | .855 |
| Conscientious | 354 | 17.00 | 45.00 | 32.90 | 5.55 | .805 |
| Perceived Stress Scale (PSS) | 353 | 10.00 | 47.00 | 27.72 | 6.45 | .876 |
| Satisfaction With Life Scale (SWLS) | 354 | 5.00 | 35.00 | 25.53 | 5.78 | .889 |
| Interpersonal Support Evaluation List (ISEL) | 354 | 3.00 | 35.00 | 20.73 | 3.86 | .845 |
| Positive Affect (PA) | 347 | 15.00 | 50.00 | 35.18 | 6.82 | .887 |
| Negative Affect (NA) | 343 | 11.00 | 47.00 | 23.21 | 7.07 | .866 |
| Feelings: UNH Best Friends | 338 | 5.00 | 25.00 | 20.98 | 3.72 | .904 |
| Feelings: UNH Good Friends | 352 | 5.00 | 25.00 | 19.79 | 3.05 | .843 |
| Feelings: UNH Acquaintances | 349 | 5.00 | 25.00 | 16.74 | 2.72 | .770 |
| Influence: UNH Best Friends | 343 | 6.00 | 28.00 | 13.96 | 3.89 | .736 |
| Influence: UNH Good Friends | 353 | 5.00 | 24.00 | 13.92 | 4.28 | .801 |
| Influence: UNH Acquaintances | 352 | 5.00 | 27.00 | 11.88 | 4.46 | .890 |
| Influence: Parents | 354 | 2.00 | 10.00 | 6.38 | 2.01 | .685 |
| Influence: High School | 349 | 3.00 | 15.00 | 8.86 | 2.94 | .847 |
| UNH Best Friend's Drinking | 327 | 4.00 | 13.00 | 8.97 | 1.81 | .892 |
| UNH Good Friends' Drinking | 346 | 4.00 | 13.00 | 9.36 | 1.45 | .829 |
| UNH Acquaintances' Drinking | 330 | 4.00 | 13.00 | 9.79 | 1.29 | .755 |
| How Many Drinks is Too Many | 352 | 8.00 | 40.00 | 24.95 | 6.10 | .767 |
| Negative Attitudes | 354 | 36.00 | 88.00 | 63.60 | 8.34 | .842 |
| Positive Attitudes | 354 | 20.00 | 63.00 | 38.40 | 7.04 | .797 |

**Figure 1: Histogram- Positive Attitudes**

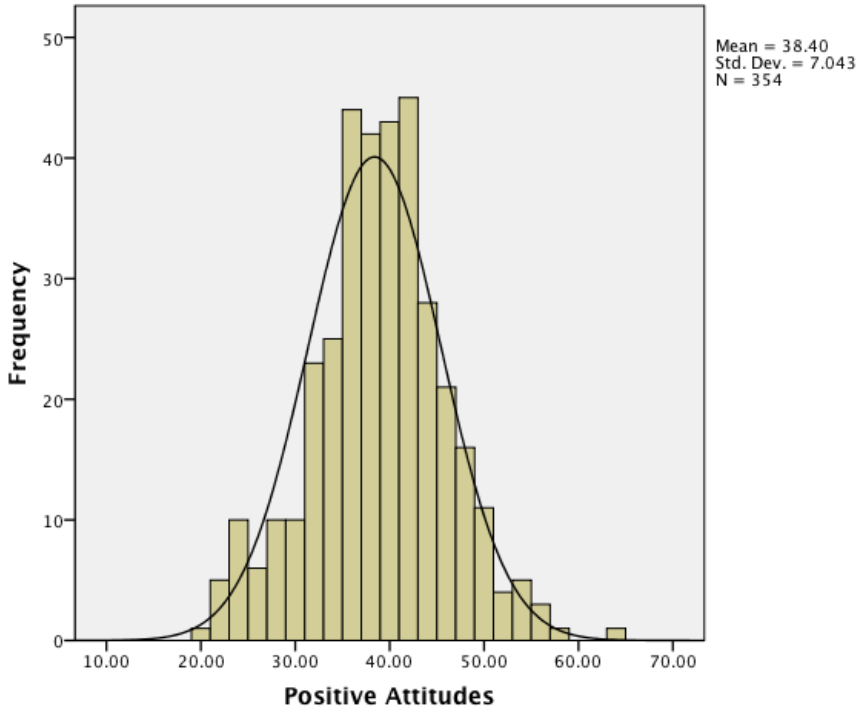
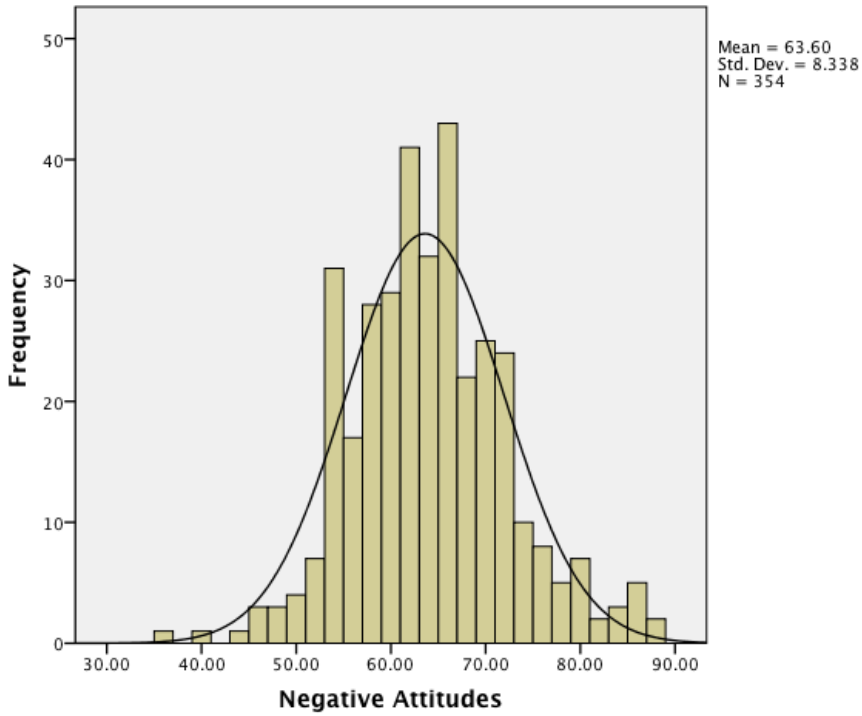



**Figure 2: Histogram- Negative Attitudes**



The present study aimed to evaluate individuals' attitudes towards alcohol, as well as the factors that predicted those attitudes. In addition to the use of well-established scales, such as the satisfaction with life scale (SWLS) and the positive and negative affect scale (PANAS), a number of new scales were created to assess feelings, influences, perceptions, and attitudes towards alcohol. Scale scores were created for each of the new measures; these measures include "Feelings: UNH Best Friends," "Feelings: UNH Good Friends," "Feelings: UNH Acquaintances," "Influence: UNH Best Friends," "Influence: UNH Good Friends," "Influence: UNH Acquaintances," "Influence: Parents," "Influence: High School," "How Many Drinks is Too Many," "UNH Best Friend's Drinking," "UNH Good Friends' Drinking," "UNH Acquaintances' Drinking," "Negative Attitudes," and "Positive Attitudes". Reliability analyses were run for each measure, to determine whether Cronbach's alpha was high enough, greater than .70. For each of the three measures assessing participants' UNH best friend's/ good friends'/ acquaintances' drinking habits, one of the items had to be deleted so as to increase the cronbach alpha levels. The item that had to be deleted was the same across the three measures; the deleted item asked, "To what extent do you think drinking is a problem for each of the three groups of people at UNH?". All other measures were reliable without the deletion of any items. Descriptive statistics of individuals' responses to all measures, both established and new, were also determined. Both descriptive statistics (including maximum, minimum, mean, and standard deviation) as well as the reliability analyses can be viewed in Table 3. Histograms were created, for both positive and negative attitudes towards alcohol, to better visualize the frequency and distribution of such

attitudes across participants. Both positive and negative attitudes exhibited a fairly normal distribution, as can be viewed in Figures 1 and 2 respectively.

In order to better understand the relationship between each of the predictive measures with both positive and negative attitudes towards alcohol, correlations were run. Such correlations can be viewed in Tables 4 and 5. In addition, correlations were run between negative attitudes and positive attitudes, as can be viewed in Table 6. Both positive and negative attitudes had a number of significant predictors. Positive attitudes towards alcohol were significantly correlated with extraversion ($r = -.107$, $p < .05$), conscientiousness ($r = -.225$, $p < .01$), PSS ($r = .194$, $p < .01$), SWLS ($r = -.161$, $p < .01$), ISEL ($r = .110$, $p < .05$), PA ($r = -.196$, $p < .01$), feelings about UNH best friends ($r = -.162$, $p < .01$), feelings about UNH good friends ($r = -.127$, $p < .05$), influence from UNH best friends ($r = .347$, $p < .01$), influence from UNH good friends ($r = .414$, $p < .01$), influence from UNH acquaintances ($r = .340$, $p < .01$), high school influence ($r = .314$, $p < .01$), UNH best friend's drinking ($r = .402$, $p < .01$), UNH good friends' drinking($r = .347$, $p < .01$), UNH acquaintances' drinking($r = .152$, $p < .01$), how many drinks is too many ($r = .354$, $p < .01$), frequency of attending UNH parties ($r = .288$, $p < .01$), and how often alcohol is served at UNH parties ($r = .127$, $p < .05$). Negative attitudes towards alcohol were significantly correlated with conscientiousness ($r = .203$, $p < .01$), high school influence ($r = -.171$, $p < .01$), UNH best friend's drinking ($r = -.287$, $p < .01$), UNH good friends' drinking ($r = -.285$, $p < .01$), how many drinks is too many ($r = -.226$, $p < .01$), and frequency of attending UNH parties ($r = -.328$, $p < .01$). Finally negative attitudes were significantly correlated with positive attitudes ($r = -.263$, $p < .01$).

**Table 4: Correlations**

| | | Negative Attitudes | Positive Attitudes |
|---|---|---|---|
| Extraversion | Pearson Correlation | -.095 | **-.107*** |
| | Sig. (2-tailed) | .074 | .044 |
| | N | 354 | 354 |
| Conscientiousness | Pearson Correlation | **.203**** | **-.225**** |
| | Sig. (2-tailed) | .000 | .000 |
| | N | 354 | 354 |
| Perceived Stress Scale (PSS) | Pearson Correlation | .066 | **.194**** |
| | Sig. (2-tailed) | .218 | .000 |
| | N | 353 | 353 |
| Satisfaction With Life Scale (SWLS) | Pearson Correlation | -.031 | **-.161**** |
| | Sig. (2-tailed) | .555 | .002 |
| | N | 354 | 354 |
| Interpersonal Support Evaluation List (ISEL) | Pearson Correlation | .008 | **.110*** |
| | Sig. (2-tailed) | .887 | .038 |
| | N | 354 | 354 |
| Positive Affect (PA) | Pearson Correlation | .054 | **-.196**** |
| | Sig. (2-tailed) | .314 | .000 |
| | N | 347 | 347 |
| Negative Affect (NA) | Pearson Correlation | .054 | .087 |
| | Sig. (2-tailed) | .316 | .107 |
| | N | 343 | 343 |
| Feelings: UNH Best Friends | Pearson Correlation | .086 | **-.162**** |
| | Sig. (2-tailed) | .117 | .003 |
| | N | 338 | 338 |
| Feelings: UNH Good Friends | Pearson Correlation | .032 | **-.127*** |
| | Sig. (2-tailed) | .548 | .017 |
| | N | 352 | 352 |
| Feelings: UNH Acquaintances | Pearson Correlation | -.081 | -.038 |
| | Sig. (2-tailed) | .130 | .483 |
| | N | 349 | 349 |
| Influence: UNH Best Friends | Pearson Correlation | -.025 | **.347**** |
| | Sig. (2-tailed) | .648 | .000 |
| | N | 343 | 343 |
| Influence: UNH Good Friends | Pearson Correlation | -.059 | **.414**** |
| | Sig. (2-tailed) | .268 | .000 |
| | N | 353 | 353 |

**Table 5: Correlations Continued**

| | | Negative attitudes | Positive attitudes |
|---|---|---|---|
| Influence: UNH Acquaintances | Pearson Correlation | -.077 | **.340**** |
| | Sig. (2-tailed) | .147 | .000 |
| | N | 352 | 352 |
| Influence: Parents | Pearson Correlation | -.018 | .071 |
| | Sig. (2-tailed) | .741 | .185 |
| | N | 354 | 354 |
| Influence: High School | Pearson Correlation | **-.171**** | **.314**** |
| | Sig. (2-tailed) | .001 | .000 |
| | N | 349 | 349 |
| UNH Best Friend's Drinking | Pearson Correlation | **-.287**** | **.402**** |
| | Sig. (2-tailed) | .000 | .000 |
| | N | 327 | 327 |
| UNH Good Friends' Drinking | Pearson Correlation | **-.285**** | **.347**** |
| | Sig. (2-tailed) | .000 | .000 |
| | N | 346 | 346 |
| UNH Acquaintances' Drinking | Pearson Correlation | -.081 | **.152**** |
| | Sig. (2-tailed) | .144 | .006 |
| | N | 330 | 330 |
| How Many Drinks is Too Many? | Pearson Correlation | **-.226**** | **.354**** |
| | Sig. (2-tailed) | .000 | .000 |
| | N | 352 | 352 |
| Frequency of Attending UNH Parties | Pearson Correlation | **-.328**** | **.288**** |
| | Sig. (2-tailed) | .000 | .000 |
| | N | 354 | 354 |
| How Often is Alcohol Served at UNH Parties | Pearson Correlation | .062 | **.127*** |
| | Sig. (2-tailed) | .289 | .037 |
| | N | 299 | 299 |

**Table 6: Correlations Continued**

| | | Positive Attitudes |
|---|---|---|
| Negative Attitudes | Pearson Correlation | **-.263**** |
| | Sig. (2-tailed) | .000 |
| | N | 354 |

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Based on the findings from correlational analyses, multiple regression analysis was used to find the unique contribution of each of the following predictor variables/ groups of variables for both positive and negative attitudes: conscientiousness, high school and parent influence, frequency of attending UNH parties, and influence from best friends and good friends at UNH. For positive attitudes, the predictors accounted for 30.1% of the variance; conscientiousness uniquely predicted 8.7% of the variance, high school and parent influence predicted 7.6%, the frequency of attending UNH parties predicted 5.3%, and influences from an individual's best friend and good friends at UNH predicted 8.6 %. For negative attitudes, the predictors accounted for only 18.3% of the variance; conscientiousness uniquely predicted 5.6% of the variance, high school and parent influence predicted 2.1%, frequency of attending UNH parties predicted 10.3%, and influences from an individual's best friend and good friends at UNH predicted a mere .4%. The model summary for the two multiple regression analyses of positive and negative attitudes towards alcohol, are depicted in Tables 7 and 8 respectively.

In order to better visualize the relationship between students' positive and negative attitudes towards alcohol, the z-scores for negative attitudes were plotted against the z-scores for positive attitudes. The scatter plot distribution is shown in Figure 3, and illustrates a fairly even distribution of students across quadrants. Students in the upper left quadrant, quadrant 1, have highly negative attitudes with low positive attitudes towards alcohol. Students in quadrant 2, the lower left quadrant, have both low negative and low positive attitudes towards alcohol, and thus lack a strong opinion one way or another and are termed "impartial". Students in quadrant 3, the lower right quadrant, of the scatter plot possess highly positive attitudes towards alcohol, with low negative

attitudes. Finally, students in quadrant 4, the upper right quadrant of the plot, possess both highly positive and highly negative attitudes towards alcohol, and we have termed them “conflicted” students.

**Table 7: Model Summary- Positive Attitudes**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .294[a] | .087 | .081 | 6.79320 | .087 | 15.468 | 2 | 326 | .000 |
| 2 | .403[b] | .163 | .152 | 6.52505 | .076 | 14.672 | 2 | 324 | .000 |
| 3 | .464[c] | .215 | .203 | 6.32676 | .053 | 21.627 | 1 | 323 | .000 |
| 4 | .548[d] | .301 | .285 | 5.99073 | .086 | 19.626 | 2 | 321 | .000 |

a. Predictors: (Constant), What is your gender?, Conscientiousness

b. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence

c. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence, Frequency Attending UNH parties

d. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence, Frequency Attending UNH parties, Best Friend Total Influence, Good Friend Total Influence

**Table 8: Model Summary- Negative Attitudes**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .236[a] | .056 | .050 | 8.08070 | .056 | 9.627 | 2 | 326 | .000 |
| 2 | .276[b] | .076 | .065 | 8.01672 | .021 | 3.612 | 2 | 324 | .028 |
| 3 | .424[c] | .179 | .167 | 7.56792 | .103 | 40.568 | 1 | 323 | .000 |
| 4 | .428[d] | .183 | .166 | 7.57306 | .004 | .781 | 2 | 321 | .459 |

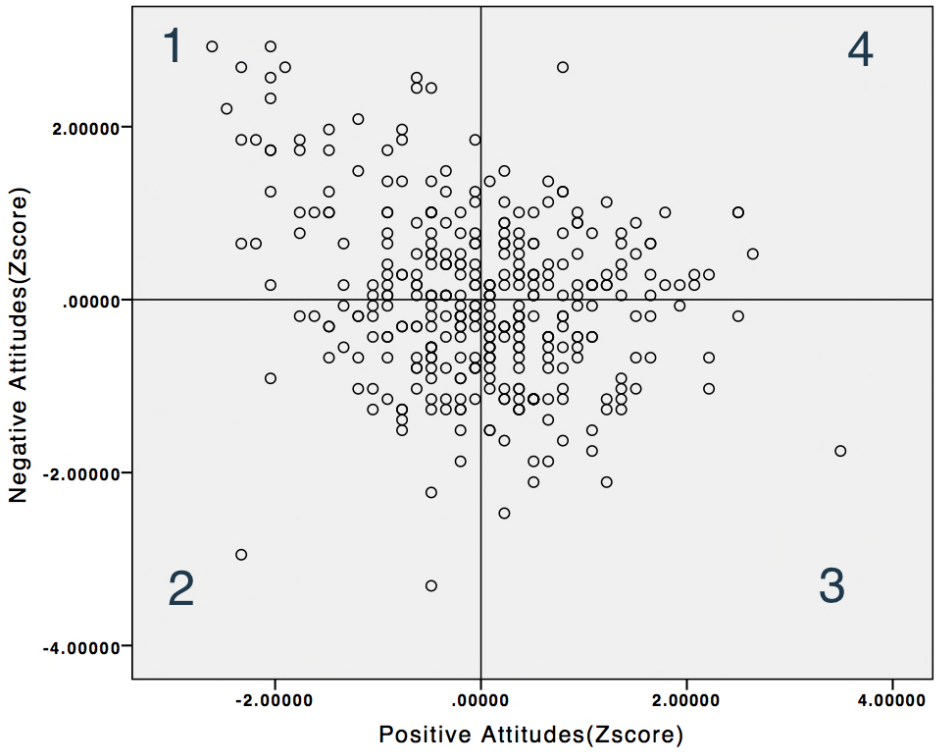
a. Predictors: (Constant), What is your gender?, Conscientiousness

b. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence

c. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence, Frequency Attending UNH parties

d. Predictors: (Constant), What is your gender?, Conscientiousness, Parent Influence, HS Influence, Frequency Attending UNH parties, Best Friend Total Influence, Good Friend Total Influence

**Figure 3: Scatter Plot of Positive Attitudes (Z-score) vs. Negative Attitudes (Z-Score)**



## Discussion

The present study aimed to assess positive and negative attitudes towards alcohol amongst students taking an introductory psychology course at the University of New Hampshire. In addition, the factors that predicted those attitudes were also evaluated. A number of factors were found to be significantly predictive of positive and negative attitudes towards alcohol.

In terms of positive attitudes, influence from an individual's good friends at UNH served as the strongest predictor ($r = .414$, $p < .01$), with an individual's perception of his or her best friend's drinking frequency ($r = .402$, $p < .01$) coming in at a close second. It is of interest that good friends' influence was a stronger predictor of positive attitudes than best friend's influence ($r = .347$, $p < .01$). It is likely that individuals felt less of a sense of peer pressure from their best friend at UNH, as most individuals indicated that they felt quite strongly about their best friend, and thus may have felt less pressured by a best friend to engage in unhealthy behaviors. At the same time, the fact that participants' best friend's drinking frequency was also greatly predictive of their positive attitudes, suggests that participants may be choosing or becoming best friends with individuals who embody similar attitudes towards alcohol; as evidenced by the fact that as an individual's best friend drank alcohol more frequently, he or she was more likely to possess positive attitudes towards alcohol.

Multiple regression analysis demonstrated that conscientiousness, parent and high school influence, frequency of attending parties at UNH, and influence from a best friend and good friends at UNH were quite predictive of positive attitudes towards alcohol, accounting for roughly 30% of the variance. While the personality trait conscientiousness

was negatively correlated with positive attitudes, the remaining factors were positively correlated with positive attitudes. The negative correlation between conscientiousness and positive attitudes towards alcohol is supportive of prior studies, as conscientiousness has been shown to be predictive of less alcohol use and less alcohol related consequences amongst adolescents, as well as later on in life (Martens *et al*., 2009). Also in support of prior research is the finding that upbringing, namely high school and parent influence, are predictive of positive attitudes towards alcohol. Though in combination the two factors are positively correlated with positive attitudes, when examined separately, high school influence is strongly predictive ($r = .314$, $p < .01$) and parental influence is insignificant in regard to positive attitudes towards alcohol. These findings somewhat reinforce the prior research of Schwinn and Schinke (2014) who demonstrated that peer influences can account for 1/3 of the variance in adolescent alcohol use, while parental influence only accounts for 1% of the variance. Furthermore, prior research has demonstrated that parental influences are very dependent on the quality of the child-parent relationship (Thomas & Kelly, 2013), and thus can either influence the child to engage or disengage in drinking behaviors. As the quality of child-parent relationships was not assessed in the current study, no further insight can be given to the role of parental influence on the formation of adolescent attitudes towards alcohol.

The finding that best friend's and good friends' influence was predictive of positive attitudes is likely to result from the mechanism previously described. In addition, the positive correlation between a greater frequency of attending parties at UNH and a positive attitude towards alcohol, is likely to follow a similar rational. As many of the parties at UNH contain alcohol, attending more parties is also likely to result in a greater

exposure to alcohol ($r = .127$, $p < .05$), and thus continued attendance of parties would likely relate to positive attitudes towards alcohol. Furthermore, the previous finding that being offered an alcoholic drink serves as one of the strongest predictors of adolescent alcohol use, provides further support to the rationale that attending more parties (where drinks are likely to be offered) is predictive of more positive attitudes towards alcohol (Schwinn & Schinke, 2014).

In terms of negative attitudes towards alcohol, fewer factors proved to be significantly correlated. Even still, an individual's frequency of attending UNH parties served as the strongest predictor ($r = -.328$, $p < .01$), with an individual's perception of the frequency with which his or her best friend drinks coming in second ($r = -.285$, $p < .01$). All of the significant predictors for negative attitudes towards alcohol were negatively correlated, with the exception of conscientiousness ($r = .203$, $p < .01$). The positive correlation between conscientiousness and negative attitudes towards alcohol provides further support for the finding that the personality trait conscientiousness is associated with a lower likelihood of consuming alcohol during adolescence (Martens *et al.*, 2009).

Multiple regression analysis demonstrated that conscientiousness, parent and high school influence, frequency of attending UNH parties, and influence from a best friend and good friends at UNH were only slightly predictive of negative attitudes towards alcohol, accounting for only 18% of the variance. In fact, the only variable that accounted for a fairly substantial portion of the variance was the frequency of attending UNH parties, which was negatively correlated, and uniquely predicted 10.3% of the variance for negative attitudes towards alcohol. Influence from an individual's best friend and

good friends at UNH was virtually insignificant, accounting for less than 1% of the variance.

The marked difference between the two regression analyses provide support for the fact that positive attitudes and negative attitudes towards alcohol measure different qualities, and are not merely assessing opposite ends of one spectrum. If indeed the two measures evaluated the same qualities, the predictors would account for similar variances in terms of the two attitudes; for one attitude the set of predictors would be positively correlated, and for the other the predictors would be negatively correlated. Alternatively, the results show that the predictors account for 30.1% of the variance for positive attitudes and only 18.3% of the variance for negative attitudes towards alcohol. More concrete support for the fact that our measures assess two different views, that are not mutually exclusive, is evidenced by the fact that negative attitudes are only slightly correlated with positive attitudes ($r = -.263$, $p < .01$). While the direction of the correlation implies somewhat of an opposing relationship between the two measures, the fact that the correlation is far from 1.0 indicates that the measures are distinct, and assess separate views. Furthermore, the scatter plot of students' attitudes (Figure 3) provides additional support for the fact that negative and positive attitudes assess different factors. If indeed the two measures assessed opposite ends of one spectrum, it would not be possible for students in quadrant 4, the conflicted students, to exist. Rather one would observe students with attitudes in one direction or the other, or in the middle.

In fact, the existence of these *conflicted* students is particularly interesting. Such students are fully aware of the negative consequences associated with alcohol, as evidenced by their relatively high negative attitudes towards alcohol. Individuals in this

category acknowledge the negative realities associated with alcohol and are more likely to agree with statements such as “Drinking is likely to lead to health problems later in life” and “Long term heavy use of alcohol kills brain cells.” At the same time, such individuals possess highly positive attitudes towards alcohol. Conflicted students realize and acknowledge the benefits associated with alcohol and are more likely to agree with statements such as, “Drinking provides a short term escape from stress and worry” and “I like the way alcohol makes me feel.” In addition to it being difficult to fully understand the rationale behind these students, they also make it difficult to make statements as to whether alcohol is more strongly associated with positive or negative outcomes. Conflicted students provide support for correlations with more favorable factors such as high levels of social well being (Molnar *et al*., 2009), while still providing support for more undesirable relations. Clearly from the existence of these conflicted individuals, it is evident that the factors that predict negative and positive attitudes towards alcohol are not as clear-cut as may have been originally theorized. Future studies should focus on this group of students, as insight into their attitudes as well as their actions, may provide a further understanding of how to prevent unhealthy alcohol use, such as binge drinking, or even promote healthier drinking behaviors, such as spacing multiple alcoholic beverages out over time.

In addition it is important to point out some limitations of the current study. All findings were correlational, and thus we can’t determine the causality of our relationships. It may be that predictors, such as stress and parental influence, cause negative or positive attitudes towards alcohol to form; or, the opposite may be true in which case negative or positive attitudes towards alcohol influence individuals’

emotional relationships and satisfaction with life. Furthermore, only students taking an introductory psychology course at the University of New Hampshire were surveyed, making it difficult to generalize our findings to more diverse populations, in terms of majors, age, and even ethnicity. Thus, further research is needed to determine causality, generalize to larger- more diverse- populations, and ultimately better understand the formation of positive and negative attitudes towards alcohol amongst individuals.

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