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Introduction

Despite laws in every State that make it illegal for anyone under the age of 21 to purchase or possess alcohol, young people report that alcohol is easy to obtain and that many high school and college students drink with one goal – to get drunk. Binge drinking is defined as consuming six or more drinks in a row for boys and four or more in a row for girls. In this exploratory research, several articles were gathered in order to integrate previous findings in the current study. One factor that was looked at in the current study was if age of first drink had an impact on college drinking amount and frequency. In a study by Grigar (2002), age when participants first drank and age of first intoxication predicted the level of alcohol related consequences. This research demonstrates as age of first drink decreases, alcohol-related problems such as binge drinking increases.

Rush, Becker and Curry (2009) found elevated rates of comorbidity between binge eating and alcohol related problems. Alcohol use problems and their associations with neuroticism were discussed. Using the Five Factor Model, the authors assessed comprehensive personality factors and style of impulse control, a personality style defined by different combinations of neuroticism and conscientiousness. Those who were in the binge drinkers and eaters group reported a higher level of neuroticism than others. This finding supports the suggestion that neuroticism is positively related to amount and frequency of binge drinking.

Student's perception of the number of friends who drink and college drinking amount and frequency were also investigated in the recent study. In a study by Miley and Frank (2006), investigated whether there was a relationship between the amount of alcohol students drank themselves and the amount they believed other students drank. Results indicated students who drank more than five drinks at a setting believed other college students drank more than students who drank less. In particular, male college students, on-campus students, and sorority students perceived other college students drinking more than they actually did. This shows that, as proportion of friends who drink increases, college drinking amount and frequency increase.

In a study by Jones, Oeltmann, Wilson, Brener and Hill (2001) the relationship between miscellaneous substance use and binge drinking was investigated. Results showed that students who binge drank more often were more likely to have used cigarettes, marijuana, cocaine, and other drugs. These students were also more likely to report current use of cigarettes and marijuana. This demonstrates a positive relationship between binge drinking and experimental drug use.

Drinking to cope in relationship to quantity and frequency of alcohol intake was discussed in a study by Stewart, Morris, Mellings, and Komar (2006). Correlational analyses (controlling for gender) revealed that: (a) social avoidance and distress was significantly negatively related to drinking frequency; (b) fear of negative evaluation and social avoidance and distress were both significantly positively related to drinking to cope with negative emotions and to conform to peer pressure; and (c) fear of negative evaluation was also significantly positively related to drinking to socialize and to drinking problems. This study supports the suggestion that the more reasons a person has to use substances as a coping mechanism the more often and in higher amounts will they drink.

The current study examines binge drinking amount and frequency as they relate to proportion of friends who drink, neuroticism, use of substances to cope, experimental drug use and age of first drink between genders. The purpose of the study is to examine the relationship between these potential predictors and how and to what extent they affect male and female college binge drinking amount and frequency.

Method: Procedures

Undergraduate psychology students volunteered to participate in the study via Experimetrix, a website students use to sign up for experiments that allows researchers and instructors to track participation. Criteria for inclusion was drinking 6 or more drinks in a given evening for males and drinking 4 or more drinks in a given evening for females. All participants gave informed consent prior to completing the questionnaire battery and received research credit for participating.

Table 1.
Summary Statistics, correlations and results from regression analysis.

Variable	Mean	SD	Correlation with college drinking amount & frequency	Significance within the multiple regression	Multiple Regression Weights b	β
FEMALE						
Neuroticism	34.164	1.404	0.061	0.027	-.063	-.237
Proportion of friends who drink	4.836	0.472	0.009	0.436	0.244	0.082
Substance use to cope	6.178	2.740	0.127	0.861	-.010	-.019
Age of first drink	16.164	1.951	0.000	0.000	-.313	-.435
Drug Experimentation	14.480	1.237	0.004	0.030	0.275	0.242
MALE						
Neuroticism	33.147	33.147	0.397	0.648	1.106	0.372
Proportion of friends who drink	4.840	0.436	0.000	0.001	0.121	0.235
Substance use to cope	6.267	2.517	0.014	0.033	-.054	-.062
Age of first drink	15.920	1.487	0.054	0.608	.097	0.097
Drug Experimentation	14.600	1.294	0.053	0.421	-.014	-.050

Method

Participants

Participants in this study included college students from a large Midwestern university. These participants ranged in age from 17 to 22 years old. Within the sample, there were 81 males and 88 females with a mean age of 19.93. The majority of the participants were identified as non-Hispanic White (88.2%). The remaining participants self-identified as Asian American = 7 (4.1%), African American = 5 (3.0%), Hispanic = 2 (1.2%), Native American = 2 (1.2%), Middle Eastern = 2 (1.2%) and Other = 2 (1.2%).

Measures

Alcohol Use Disorder Identification Test

Drinking frequency and amount was determined using the Alcohol Use Disorder Identification Test (AUDIT; Saunders et al., 1993). The AUDIT is a 10-item screening questionnaire that was developed by the World Health Organization to identify persons whose alcohol consumption had become hazardous or harmful to their health.

Canadian Campus Survey

A modified version of the Canadian Campus Survey (CCS; Adlaf, Demers, & Gliksman, 2004) was used to assess *age of first drink, proportion of friends who drink* and *drug use.* The CCS is used to measure alcohol consumption and patterns, heavy episodic drinking, hazardous and harmful drinking, non-medical drug use, psychological distress, and gambling problems in college students via self-report.

Eysenck Personality Questionnaire

Neuroticism was measured using the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975). The EPQ consists of 90 true-false items and yields scores on Eysenck's 3 personality dimensions: extraversion, neuroticism, and psychoticism (lying).

COPE Questionnaire

The COPE questionnaire (Carver, Scheier, & Weintraub, 1989) drug and alcohol disengagement subscale was used to measure the use of alcohol/drugs as a way to cope with problems. The drug and alcohol disengagement subscale of the COPE consists of 4 items that are part of the 56-item full questionnaire.

Results

The present study analyzes bivariate correlations among five factors and college drinking amount and frequency separately with correlations, as well as together with multiple regression analysis and its findings. Correlations among the five predictors and college drinking amount and frequency are shown in Table 1.

Bivariate Correlations

In describing the results, significant bivariate correlations between critical item variables and college drinking amount and frequency are reported, followed by significant correlations between list variables and college drinking amount and frequency. To determine these values, each of the critical items and list variables were entered into a regression equation as the sole predictor of college drinking amount and frequency. All five of the variables were significantly correlated ($p < .05$) with college drinking amount and frequency: *experimental drug use, substance use for coping, neuroticism, age of first drink* and *proportion of friends who drink alcohol.*

Simultaneous Multiple Regression Analysis

Multiple regression analyses were conducted to examine the relationship between genders for college drinking amount and frequency and various potential predictors.

For males, the multiple regression model with all five predictors produced $R^2 = .238$, $F(5, 69) = 4.303$, $p = .002$. For significant predictors, *proportion of friends who drink* and *substance use for coping* have positive regression weights, indicating college males with higher amounts of friends who drink and increased use of substances for coping were expected to drink more frequently in higher amounts, after controlling for other variables in the model.

For females, the same model produced $R^2 = .356$, $F(5, 67) = 7.397$, $p < .001$. It can be seen that among the significant predictors, *neuroticism* and *age of first drink* have negative regression weights, indicating college students with lower neuroticism and a younger age of first drink were expected to drink more frequently and in higher amounts, after controlling for other variables in the model. On the other hand, *drug experimentation* had a positive regression weight, indicating that college females with increased *drug experimentation* were expected to drink more frequently in higher amounts than those who did not experiment with drugs.

Discussion

The purpose of the present study was to explore predictors of college binge drinking amount and frequency between genders. Results showed that for males, proportion of friends who drink and substance use to cope were significant predictors. For females, neuroticism, age of first drink and experimental drug use were significant predictors.

Strengths of the present study include the fact that there are several significant results. Results are consistent with previous findings that as age of first drink decreases college binge drinking amount and frequency increase (Grigar, 2002), as experimental drug use increases college binge drinking amount and frequency increases (Jones, 2001), as proportion of friends who drink increases college binge drinking amount and frequency increases (Miley, 2006), and as substance abuse for coping increases college binge drinking amount and frequency increases (Morris, 2006). Results from the present study provide further support for these relationships because of the similar findings in the current study. Also, this study examined the differences between genders rather than for the entire population which is something that has been investigated less than merely looking at the entire population. Limitations of the current study were identified. First, the results do not generalize to all ethnicities and age groups. Also, although not a limitation, the result that neuroticism was negatively correlated to college binge drinking amount and frequency was an unexpected result. In previous research (Rush, 2009) the relationship between neuroticism and binge drinking amount and frequency is positive.

Future research using a larger, more diverse sample (e.g., across ages and ethnic groups) is needed to establish generalizable results. Additionally, further research addressing the association between neuroticism and binge drinking is needed to investigate and validate the relationship between these variables.