

## Abstract

The present research examines the relationship between binge drinking and anxiety, binge drinking and depression, and whether gender moderates these relationships in emerging adults. This study is a secondary analysis of the data collected through the National Survey on Drug Use and Health (2013). The subsample utilized in this present study consisted of 12,750 participants between the ages of 16 and 20 years old. Participants were selected through a stratified sampling method of dwellings in various regions in the United States. According to multiple chi square analyses, significant relationships were found between binge drinking and anxiety in participants, as well as between binge drinking and depression. Regarding gender, significant relationships were found between binge drinking and depression in females, as well as binge drinking and anxiety in females. Although these relationships were found to be significant, they were each deemed a weak relationship by a Phi statistic. Once we obtain a better understanding of factors that may influence alcohol use behavior in emerging adults, we will be able to develop tailored intervention and prevention strategies to target this high-risk population.

## Introduction

### Significance of Study

Among individuals 12 to 20 years of age, the National Survey on Drug Use and Health (2017) report notes that there are 7.4 million alcohol users and 4.5 million current binge alcohol users (60.6% of current alcohol users).

### Research Questions

1. What is the relationship between binge drinking and mental health among emerging adults?
2. Does gender moderate the relationship between binge-drinking and mental illness?

### Hypotheses

- ❖ It is hypothesized that there is a relationship between emerging adults who binge drink and report having depression.
- ❖ It is hypothesized that there is a relationship between emerging adults who binge drink and report having anxiety.
- ❖ It is hypothesized that the strengths of the relationship between binge drinking and depression differ by gender in males.

## Literature Review

### Binge Drinking

- ❖ Individual risk factors for binge-drinking include personality traits and negative reinforcement.
- ❖ In a study of alcohol consumption and impaired driving among US adults 18 years and older, 84% of alcohol-impaired drivers were binge drinkers and that 88% of alcohol-impaired motor-vehicle incidents involved binge drinkers (Flowers et al. 2008).

### Mental Health

- ❖ Risk factors in the literature that have been identified for depression and anxiety specifically include gender, familial predisposition, exposure to adversity in childhood, and temperament.
- ❖ Anxiety disorders are found to be strongly associated with suicidal ideation and attempts (Boden, Fergusson, & Horwood, 2007).

### Binge-Drinking and Mental Health

- ❖ College student drinkers with poor mental health were more likely to meet the criteria for alcohol abuse than their counterparts (Weitzmann, 2004).
- ❖ Individuals who drink and have poor mental health were more likely than their counterparts to report drinking-related problems, such as academic difficulty, risky sexual behaviors, alcohol overdosing, and facing five or more issues from drinking alcohol (Weitzmann, 2004).

### Coping Theory

- ❖ Lazarus & Folkman's theory (1984) views coping as a process where situations are cognitively appraised as stressful and then, cognitive and behavioral efforts are made to reduce or tolerate the stress.

### Gaps and Limitations

- ❖ Many studies' samples consisted of mostly Caucasian participants and recruited from specific settings such as college campuses (Cranford, Eisenberg & Serras, 2009; Larimer & Neighbors, 2004).

## Methodology

### Research Design and Data Collection Procedures

- ❖ The current study is a secondary analysis of the data from the National Survey on Drug Use and Health (2013) conducted by RTI International, in Research Triangle Park, North Carolina.
- ❖ In the original study, field interviewers visited each selected sample address to determine the eligible individuals at the address, to select the sample individuals to be interviewed, and to conduct the interviews.
- ❖ For the purpose of this secondary analysis, 16-20-year-olds were chosen as the subsample, in order to investigate binge drinking and mental health patterns among individuals who are underage drinking.

### Sampling and Sampling Method

- ❖ The original study's sample size was n= 55,160 and consisted of 26,331 males and 28,829 females.
- ❖ The first stage of sample collection began by identifying census tracts within each state; each census tract had a minimum of 150 dwelling units (urban areas) or 100 dwelling units (rural areas).
- ❖ For this second stage of sampling, each census tract was partitioned into adjacent census blocks, or segments. They selected 48 segments based on the probability proportionate to size.

### Measures

- ❖ Four items were used to measure the independent and dependent variables.
- ❖ The question utilized to measure binge drinking was "Binge alcohol use in past 30 days?", to which participants either responded "yes" (1) or "no" (0).
- ❖ The question that measured anxiety was, "Had anxiety in past year?", to which participants responded "yes" (1) or "no" (0).
- ❖ The question that measured depression was "Had depression in past year?", to which participants responded "yes" (1) or "no" (0).
- ❖ Respondents identified their gender as either "male" (1) or "female" (2).

## Results

### Chi-Square Test

- ❖ A significant association was found between the frequency of binge-drinking and anxiety ( $\chi^2(1)=11.547, p=.001$ ), while a Phi statistic suggested a weak relationship (0.03).
- ❖ A significant association was found between the frequency of binge-drinking and depression ( $\chi^2(2)=12.695, p<.01$ ), while a Phi statistic suggested a weak relationship (0.032).
- ❖ A significant association was found between binge-drinking and anxiety in women ( $\chi^2(1)=15.717, p<.001$ ), while Cramer's v statistic suggested a weak relationship (0.05).
- ❖ Based on the chi-square test, there was no significant relationship between binge-drinking and anxiety in men ( $\chi^2(1) = 3.581, p=.058$ ).
- ❖ A significant association was found between the frequency of binge-drinking and depression in women ( $\chi^2(1)=22.915, p<.01$ ), while Cramer's v statistic suggested a weak relationship (0.06).
- ❖ Based on the chi-square test, there was no significant relationship between binge-drinking and depression in men ( $\chi^2(1) = 1.10, p=.294$ ).

Table 3

Prevalence of Binge Drinking, Depression and Anxiety by Gender

Binge Alcohol Use in the Last 30 Days	Depression in the Last Year % (f)		Anxiety in the Last Year % (f)	
	No	Yes	No	Yes
	Male (n=6,206)		Male (n=6,205)	
Never/no	76.0 (4,527)	73.1 (182)	76.1 (4,558)	70.4 (150)
Binge alcohol use	24.0 (1,430)	26.9 (67)	23.9 (1,434)	29.6 (63)
	Female (n=6,279)		Female (n=6,278)	
Never/no	82.3 (4,708)	74.1 (415)	82.2 (4,733)	75.1 (390)
Binge alcohol use	17.7 (1,011)	25.9 (145)	17.8 (1,026)	24.9 (129)

Table 1

Descriptive Statistics: Sample Demographics (N = 12,750)

Characteristics	f	%
Sex		
Male	6,380	50.0
Female	6,370	50.0
Age		
16-17 years old	6041	47.4
18-20 years old	6709	52.6
Ethnicity		
Non-Hispanic White	6,986	54.8
Non-Hispanic Black or African American	1,871	14.7
Non-Hispanic American Indian or Alaska Native	190	1.5
Non-Hispanic Asian	552	4.3
Non-Hispanic Native Hawaiian or other Pacific Islander	68	.5
Non-Hispanic more than one race	584	4.6
Hispanic	2,499	19.6
Total Family Income		
Less than \$20,000	3,550	27.8
\$20,000-\$49,999	3,777	15.8
\$50,000-\$74,999	1,921	15.1
\$75,000 or more	3,502	27.5
Education Level		
Less than high school	1,655	13.0
High school graduate	2,946	23.1
Some college	2,099	16.5
College graduate	9	.1
12-17 years old	6,041	47.4

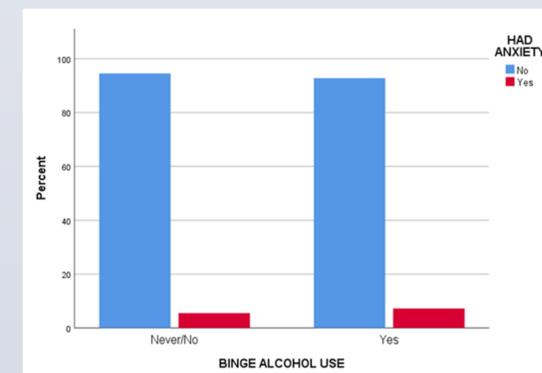


Figure 1. Percentages of binge alcohol use by had anxiety among participants

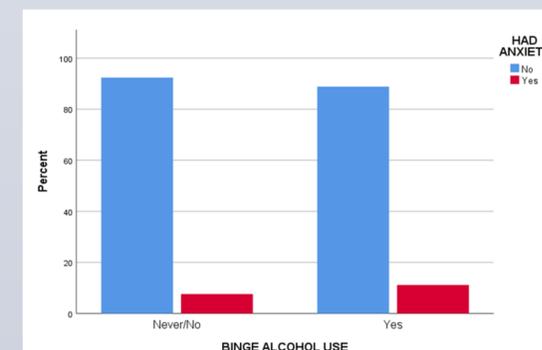


Figure 3. Percentages of binge alcohol use by had anxiety in females

## Discussion

### Summary of Findings

- ❖ The findings indicate significant associations between depression and binge drinking, as well as anxiety and binge drinking. The findings appear to be consistent with previous literature regarding the relationship between binge drinking and depression; Adolescents who engaged in binge drinking were more likely to indicate feeling "always or almost always depressed" and were more likely to report feeling "very anxious in the last 30 days". (Mason-Jones & Cabieses, 2015).
- ❖ The results of the present study show that the relationship between binge drinking and depression was significant for females, but not for males. Similarly, Cranford, Eisenberg, & Serras (2009) analysis revealed that the association between MDD and binge drinking was significantly weaker for males compared to females, indicating a moderating effect of gender.
- ❖ Another interesting outcome of this study is the finding that the relationship between binge drinking and anxiety was significant for females, but not for males. This also may suggest a moderating effect of gender on binge-drinking and anxiety. Cranford, Eisenberg, & Serras (2009) also posit that gender has a moderating effect on the relationship of binge-drinking and anxiety. In their study, positive associations between binge drinking and anxiety were significantly stronger in males than females (Cranford, Eisenberg, & Serras, 2009).

### Implications

- ❖ This knowledge is important for social work practice because mental health clinicians can tailor their intervention strategies when working with emerging adult clients.
- ❖ Understanding more about the relationship between binge drinking and mental health can also help inform the creation of prevention programs that can target binge drinking, anxiety, and depression in emerging adults.

### Strengths & Limitations

#### Strengths

- ❖ There were large groups of each gender.
- ❖ There were diverse demographics of participants.

#### Limitations

- ❖ The present study used one simple yes or no question as a measure for each variable (binge drinking, depression, and anxiety), which makes it difficult to determine whether these measures were valid and reliable.
- ❖ The present secondary analysis examined data from a cross-sectional survey, which decreases the ability to make a causal inference of findings.

## References

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