Proceedings of The National Conference
On Undergraduate Research (NCUR) 2013
University of Wisconsin La Crosse, WI
April 11 – 13, 2013

Gender Differences In Alcohol-Related Negative Consequences

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Abstract

Alcohol-related negative consequences (e.g., blackouts, vomiting, getting into fights, etc.) represent an increasingly problematic issue on college campuses and require the development of interventions for students. Moreover, individuals consuming similar amounts of alcohol differ in their likelihood of experiencing negative consequences [8]. Therefore, factors other than quantity of alcohol consumption might also contribute to the experience of the consequences. Additionally, individuals vary in their ratings of consequences as positive or negative; if individuals consider consequences more positive than negative, they are more likely to consume a greater amount of alcohol at an increased frequency[10]. Researchers have yet to examine gender differences as a predictor of the experience of alcohol-related consequences. This is surprising given recent evidence of a narrowed gender gap in heavy alcohol consumption and alcohol problems suggests the importance of targeting heavy drinking in females[5]. Thus, the objective of this research study is to determine the relationship among gender and alcohol-related negative consequences, so prevention and intervention efforts can be tailored based on gender. College students (n=254; 70.8% female) participated in a cross sectional online study at a midsized, Midwestern university. The survey asked various questions about their alcohol consumption and frequency of experiencing alcohol-related problems. Males reported a significantly higher frequency of getting into fights while intoxicated, $t(206)=2.37$ p =.019, and going to work or school while high or drunk, $t(88.61)=2.39$, p=.019. In addition, males also reported significantly higher frequencies of experiencing withdrawal symptoms, trying to control their drinking, needing more alcohol than usual to get the same effect, and missing a day of school or work due to alcohol consumption. Knowing that gender differences exist is crucial in protecting and informing students in an effort to prevent and address the dangers of this risky behavior.

Keywords: Gender, consequences, alcohol

1. Introduction

Alcohol consumption among college students continues to represent a dangerous, costly, and popular trend which poses threats to public safety and quality of education. Studies demonstrate an alarmingly high prevalence of student alcohol consumption with 4 out of 5 college students consuming alcohol[4]. Alcohol causes approximately 1,800 deaths, 600,000 self-inflicted injuries, 700,000 assaults, and 97,000 cases of sexual assault in college students annually[3]. In addition, universities consistently experience approximately $500,000 in costs due to alcohol related consequences[9]. Moreover, college student's academic success is negatively correlated with heavy episodic drinking[14]. These dangerous outcomes associated with college student drinking fuel the need to further present research and create more effective prevention and intervention programs.

Alcohol consumption patterns vary among gender with men consuming alcohol more frequently, participating in heavy episodic drinking more often, and consuming a greater total volume of alcohol than women[11]. From 2005-2010, 24% of college men reported participating in extreme binge drinking, defined by consuming 10 or more drinks in the prior two week period, compared to 7% of college women[4]. However, more recently born birth cohorts not

only demonstrate younger cohorts consuming more alcohol as a whole, but specifically an increase in heavy drinking and alcohol disorders among women[5]. The suggested higher rates of alcohol consumption among females is alarming considering women reach higher BAL's than men even at equivalent consumption levels[12]. Moreover, research reports greater health-risks in women with alcohol disorders compared to men[1]. As research demonstrates differences in alcohol consumption patterns among genders, gender differences associated with consequences requires further attention.

Many predictors of experiencing alcohol-related consequences have been identified including a willingness to experience a consequence[8], norms toward consequences[7], and evaluation of alcohol consequences as positive or negative[10]. Rating physical and behavioral consequences as positive occurs at all levels of consumption while rating these consequences as negative is more likely with heavy alcohol use[10]. However, studies also demonstrate a low correlation among drinking quantity and frequency of consequences[6]. Therefore, it is important to consider other factors associated with experience of consequences, such as gender. Gender seems to play a role in predicting consequences, as men experience more anti-social behaviors, such as getting into fights, while females report self-related problems, such as drinking after promising not to[12].

While current literature explores subsets of the Rutgers Alcohol Problem Index, it is important to further examine the independent effect of gender across all alcohol-related consequences measured by the RAPI and what consequences pose the most risk to specific gender. Despite knowledge of predictors of alcohol-related consequences, prevention and intervention efforts continue to struggle in solving the alcohol problem on college campuses. Because of the proposed increase in heavy drinking in females, it is important to consider if genders differ in their prevalence of consequences associated with their drinking. Therefore, the purpose of this study is to determine whether genders differ in their experience of alcohol related consequences by controlling for alcohol consumption.

2. Methods

2.1 Participants

The sample consisted of 254 students from a midsized, Midwestern university. Participants were on average 20.36 years old (*SD*-3.309) and in their sophomore year of college (26.3%, *n*-251). The majority of students were female (70.8%, *n*-250) and Caucasian (90.2%, *n*-254). Most participants were non-athletes (86.2% n-247) and unaffiliated with Greek Life (52.8% n-248). Annual family incomes of $80,000 or greater were reported by 51.4% (n-243), indicating participants from middle to upper class backgrounds.

2.2 Procedure

Participants were recruited to participate on a voluntary basis in an online survey housed by Prezza Checkbox. The email invitation was sent out through a snowball method. All procedures were approved by the Institutional Review Board of the primary author. SPSS statistical survey software was used to run paired sample t-tests and univariate analysis of variance.

2.3 Measures

2.3.1. demographics.

Participants responded to questions regarding demographics such as year in school, age, gender, ethnicity, affiliation with Greek life, and family income.

2.3.2. alcohol consumption variables.

Provided with the standard definition of a drink (i.e. 12 ounces of beer, 4 ounces of wine, or a 1-ounce shot of liquor), participants were asked if they ever had an alcoholic beverage to drink, how many days in a typical week they had at least one alcoholic drink, how many alcoholic drinks they consumed on a typical drinking day, the

highest number of drinks they consumed on one occasion in the last 30 days and how many beverages they consumed on average for each day of the week.

2.3.3 rutgers alcohol problem index.

To discover the difference in experience of alcohol-related negative consequences, the Rutgers Alcohol Problem Index was used[13]. The RAPI is a 23 question survey that asks questions regarding the frequency of experiencing 23 different negative consequences. The survey prompted the participant with "Different things happen to people when they are drinking alcohol or because of their alcohol drinking, how many times did the following things happen to you while you were drinking alcohol or because of your alcohol use during the last year?" Respondents ranked the frequency on a scale of 0-4 where 0=never, 1=1 to 2 times, 2=3 to 5 times, 3=6 to 10 times, and 4=more than 10 times. Sample consequences include "got into fights, acted bad, or did mean things," and "felt physically or psychologically dependent on alcohol."

3. Results

3.1 Alcohol Consumption Variables

Surveys indicated 227 participants (94.2%, n-241) had ever had an alcohol beverage to drink. Majority of participants indicated having at least one alcoholic beverage two days of the week (26.4%, n-242) and an average of 4.37 (SD-2.94) drinks on a typical drinking day. For the 30 days prior to the survey, the highest average drinking occasion was 6.82 drinks (SD-5.23). Most drinking occurred on Saturday with 76.8% (n-254) of participants reporting consumption of at least one drink.

3.2 Alcohol-Related Consequences

All significant differences in the experience of alcohol related negative consequences among genders were associated with higher reports by males (Table 1). Males reported a significantly higher frequency of getting into fights while intoxicated, $t(206)=2.37$ p =.019, and going to work or school while high or drunk, $t(88.61)=2.39$, p=.019. In addition, males also reported significantly higher frequencies of experiencing withdrawal symptoms, t(72.27)= 2.45, p=.017, trying to control their drinking t(83.07)=2.23 p=.028, needing more alcohol than usual to get the same effect t(84.30)=1.99 p=0.05 and missing a day of school or work due to alcohol consumption t(84.9)=2.44 p=.017.

After controlling for alcohol consumption, reporting the experience of withdraw symptoms was significantly higher in males, F(1,204)=5.23, p=0.023. No additional significant differences in reporting alcohol related consequences among genders were present after controlling for alcohol consumption (Table 1). The difference in total RAPI score reported by men (11.59±13.78) and women (7.78±8.38) was not significant, F(1,195)=0.76, p=0.39.

Table 1. mean RAPI Scores among males vs. females

RAPI Item	Male Mean RAPI Score ± S.D.	Female Mean RAPI Score ± S.D.	Covariate	f
Got into fights, acted bad, or did mean things	1.89±1.10	1.55±0.88	F(1,204)=56.78, p<0.001	F(1,204)=0.38, p=0.54
Went to work or school high or drunk	1.57±0.90	1.27±0.67	F(1,203)=50.18, p<0.001	F(1,203)=1.15, p=0.28
Felt you needed more alcohol to get the same effect	1.80±1.15	1.48±0.81	F(1,203)=53.93, p<0.001	F(1,203)=0.40, p=0.53
Tried to control your drinking	1.90±1.32	1.48±0.92	F(1,203)=18.59, p<0.001	F(1,203)=2.36, p=0.13
Had withdrawal symptoms	1.31±0.72	1.08±0.35	F(1,204)=10.74, p=0.001	F(1,204)=5.23, p=0.023
Missed a day or work or school	1.77±1.04	1.42±0.72	F(1,204)=63.80, p<0.001	F(1,204)=1.09, p=0.30
Felt physically/ psychologically dependent on alcohol	1.20±0.55	1.06±0.27	F(1,203)=5.28, p=0.02	F(1,203)=3.27, p=0.07
Suddenly found yourself in a place you could not remember getting to	1.70±1.07	1.56±0.91	F(1,204)=44.93, p<0.001	F(1,204)=0.45, p=0.50
OVERALL RAPI Score	11.59±13.78	7.78±8.38	F(1,195)=69.52, p<0.001	F(1,195)=0.76, p=0.39

4. Discussion

The gender gap may be narrowing but males tend to experience more alcohol-related negative consequences. This means if women are indeed consuming similar amounts of alcohol as men and achieving similar BAL's, they may report less experience of negative consequences. This could pose a problem because experience of positive consequences, as opposed to more negative consequences, is correlated with high rates of alcohol consumption in the future and may lead women to consume even more alcohol[10]. As birth cohorts are experiencing more and more alcohol disorders due to heavy episodic drinking and lifetime prevalence, this pattern of male dominated experience of negative consequences could lead to women surpassing men in alcohol related disorders. This also may indicate the narrowing gender gap could be due to males experiencing more alcohol related consequences and therefore taking the initiative to decrease their alcohol consumption.

However, after controlling for alcohol consumption the difference in experience of alcohol related negative consequences among genders was much less prominent. The experience of withdraw symptoms was the only item with a significant difference among genders, with higher reports by males. This shows that the covariant, gender, was significantly related to withdraw symptoms after controlling for amount consumed. All other RAPI items which showed a difference among gender were instead dependent on the amount of alcohol consumed, rather than gender. Thus, the greater frequency of alcohol-related consequences among men is correlated with their volume of alcohol consumption, rather than their gender. But, if women are indeed increasing their alcohol consumption to that of their male counterparts as prior research suggests[5], they are at risk for experiencing more negative consequences associated with their predicted higher drinking rates. Thus, women's experience of alcohol-related negative consequence may be on the rise in most recent birth cohorts.

Knowing gender differences exist in the experience of alcohol-related negative consequences on the basis of alcohol consumption levels supports and adds important considerations to previous research. For example, prior research found willingness to experience a consequence and general alcohol consumption were both significantly correlated with consequences[8]. While this supports the results of this study since alcohol consumption levels were a predictor of consequences, it also introduces the consideration that perhaps women are less willing to experience consequences, and are therefore attempting to better control their alcohol consumption levels. Furthermore, males tend to report a higher frequency of participation in risky activities and alcohol intoxication is correlated with risk

taking[2]. Thus, the results of this study could be interpreted as the higher volume of alcohol consumption by males has an effect on cognitive processing that increases their likelihood of risk taking

While previous literature demonstrated males were more likely to go to work or school high or drunk and damage property while females were more likely to develop tolerance and blacking out even after controlling for alcohol consumption, these consequences were measured over a 30-day period[12], which may include bias due to heavy episodic special occasion drinking. The present study examines RAPI items over a one year period, which provides a broader understanding of how individuals differ in experiencing consequences over the long term. Also, measuring over a longer period is more likely to include individuals who may adapt their drinking behavior throughout the year due to academic coursework and workload. In addition, the present analysis determined how frequent the individuals experienced the consequence, which expands upon prior observation that genders differ in simply indicating the experience of consequences with no indication of frequency [12]. Considering the results of the present study and prior research indicate that genders may differ in whether they experience a consequence, but not necessarily how frequently once controlling for alcohol consumption.

The results of this study establish the importance of directing attention towards predictors of alcohol related negative consequences beyond gender differences. Additionally, prevention and intervention efforts should increase emphasis on addressing the volume of alcohol consumption, as this is a better predictor of the experience of alcohol related consequences. The study also introduces other possible sources of covariance, such as individual's frequency of consumption and consumption across different days of the week. Moreover, future studies should explore gender differences in the experience of alcohol-related positive consequences. This may explain the low frequency of reported alcohol-related negative consequences in women if they are actually experiencing more positive than negative consequences.

Several limitations were present in this study. First, the sample represents students from a single university with little ethnic or economic diversity. In addition, the sample size limits us to make assumptions of a broader population. The distribution of surveys to college students poses several possibilities of bias. Women are much more likely to complete surveys, and students in courses promoting the survey may have felt pressure to complete the survey. Responding to questions regarding alcohol consumption creates the possibility students may not accurately remember all details of their drinking experience. In addition, questions were based only on the last year prior to the survey which may exclude some of the negative consequences experienced or exclude individuals who have changed their alcohol consumptions patterns due to experience of consequences within the year. Also, admitting to participation in illegal activity can create dishonest answers in some participants.

In conclusion, the findings of this study contribute important information that can be used to tailor prevention and intervention techniques. The diminished relationship among gender and the experience of consequences once controlled for alcohol consumption demonstrates the amount of alcohol consumed is a better predictor for experience of consequences than gender. Therefore, future studies must decrease focus on gender differences in consequences and increase studies on quantity of alcohol consumption and consequences.

5. Acknowledgments

The author wishes to express appreciation to Dr. Rose Marie Ward for her tremendous support and guidance throughout this study. She also would like to thank the Miami University Honors Program and Miami University's Undergraduate Presentation Award for funding this study.

6. References

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