The Examination of Personality Traits in Relation to Alcohol Consumption Among College Students

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Abstract

Alcohol abuse is among the most preventable contributors to morbidity and among the biggest public health concerns in America[1]. Among the American public, the population of college students has the highest rates of binge drinking and are at a higher risk for alcohol abuse[1]. Both individual differences and contextual variables can affect alcohol consumption[2]. Studies have indicated that individual personality characteristics may affect alcohol consumption[2]. Peterson[2] shows that extraverted sensation seekers are associated with a heavier alcohol consumption. These studies tend to examine one personality characteristic in isolation (e.g., extraversion and alcohol use). Moreover, the relationship between a comprehensive measure of personality and alcohol consumption is unknown. The purpose of this study is to examine the relationship between multiple personality traits and alcohol consumption among college-aged students. Approximately 434 Miami University students participated in this study. The average age was 20.37 years old. The majority of the participants were females (61.7%). A significant amount of participants were affiliated with a Greek organization (41.2%). Data was collected through an online survey. The personality scale used in the survey was the Zuckerman-Kuhlman Personality Questionnaire which is a 50-item cross cultural questionnaire including five personality scales of impulsive sensation seeking, neuroticism-anxiety, sociability, aggressive-hostility, and activity[3]. Results indicate that there is a significant correlation among the personality scales of impulsive sensation seeking, sociability, and aggression-hostility and weekly drinks consumed. Research has indicated that there is a need for universities to implement interventions to reduce alcohol misuse[4]. Personality traits associated with high-risk alcohol consumption may be a potential mechanism for tailoring interventions.

Keywords: Personality Traits, Alcohol Consumption, College Students

1. Introduction

Alcohol abuse is among the most preventable contributors to morbidity and among the biggest public health concern in America[1]. Consequences of excessive college drinking includes missed classes and lower grades, sexual assaults, injuries, cognitive deficits, blackouts, and deaths[4]. Data from the National Survey on Drug Use and Health suggests that approximately 65% of college students drink, and Harvard's College Alcohol Study suggests that a large portion of college students drink in excess[4]. According to Champion and others, excessive alcohol use has caused significant problems on college campuses[10]. In addition, studies have indicated that certain personality traits are associated with alcohol problems and disorders[5]. Past research has suggested that variables such as individual personality, coping strategy, and an individual's thought process about drinking are correlated with college drinking[6]. However, these studies tend to isolate one personality characteristic for examination. Therefore a comprehensive examination of personality and alcohol consumption is needed. The purpose of this study is to examine the relationship between personality traits and the consumption of weekly drinks among college-aged students.

There are several measures of personality. The scale used in this study was the Zuckerman-Kuhlman Personality Cross-Cultural Questionnaire (ZKPQ-50-CC), which is a scale with a 50-item version consisting of five personality

scales (Impulsive Sensation Seeking, Neuroticism-Anxiety, Aggression-Hostility, Activity, and Sociability) with 10 items on each scale. The ZKPQ-50-CC[8] has been shown to be a valid measure of personality across cultures.

Emerging adulthood is a name used to classify the developmental status of people aged 18 to late 20s[11]. Emerging adulthood theorists assert that the factor delaying transition to full adulthood among this population is changing attitudes about work and family life[11]. In addition, this adolescence period is a time of increased risk-taking, reflected by increased experimentation in alcohol and drug use, unsafe sex, and reckless driving[7].

Previous research suggests that personality traits such as sensation seeking are strong predictors of risk-taking behaviors during adolescence[7]. Sensation seeking is a trait that leads individuals to seek out intense experiences[8]. Another personality trait associated with risky behaviors is impulsivity. Impulsivity is the tendency to enter situations, or respond to cues for potential rewards, without planning or deliberation and consideration of potential punishment. Zuckerman and Kuhlman[8] suggest that risky activities associated with sensation seeking include reckless driving, sexual behavior, and heavy drinking. Research also suggests that neuroticism plays a role in risk-taking behavior in the usage of alcohol and drugs for self-medication among anxious and depressed people[8]. Other studies report that young adults show predictability of substance abuse in sensation seeking, but no correlation with anxiety or neuroticism. Zuckerman and Kuhlman[8] suggest that the variables of aggression, sociability, and impulsivity relate to risk taking behavior including drinking.

However, it is unknown how these personality variables relate to an estimate of blood alcohol concentration. Estimated blood alcohol concentration is calculated based on amount, alcohol consumption, length of time alcohol was consumed, and gender. Estimated blood alcohol concentration provides more information about alcohol consumption beyond the amount of alcohol consumed. It potentially provides information about the level of impairment that is typical for the participant.

Furthermore, personality characteristics, can be associated with higher levels of alcohol consumption among college-aged students. In most cases, initiation into alcohol use and excessive drinking occurs in adolescence and is crucial to establish prevention efforts[9]. Notably, the purpose of this study is to examine the relationship between personality characteristics, number of weekly drinks, and estimated blood alcohol concentration among college-aged students. The data findings could suggest improvement in intervention and prevention strategies in alcohol education and educational programs towards college-aged students[9].

2. Methodology

2.1 Procedure

Participants were recruited at a Midwestern university through an online survey via emails sent though various campus organizations and psychology classes. Participants completed a lengthy online survey regarding demographics, alcohol consumption, sexual assault, personality traits, and other questions. Participants were able to opt out of the survey at any point in taking it. Upon completion of the survey, participants were entered into a drawing for a $50 gift card.

2.2 Participants

There were a total of 449 participants in this study. The majority (64%) of the participants were female. In terms of class standing, about 19.2% of the participants were freshmen, 19.6% were sophomores, 28.3% were juniors, and 28.3% were seniors, with about 1.4% being graduate students. A large portion of the participants (28.1%) were of the age of 21, with an age range from 18-24 years of age. Approximately 95.4% of the participants identify as single and the majority of the participants identify as Caucasians (98.7%). Among these participants, 41.2% participated in a Greek organization.

2.3 Measures

2.3.1 alcohol consumption

Participants were provided with the definition of a standard alcoholic drink and were asked how many standard drinks were typically consumed daily, weekly, and at their peak drinking consumption within the past 30 days.

2.3.2 estimated blood alcohol concentration

Using information from the Matthews and Miller's formula, the eBAC of the participants was calculated by the formula: eBAC=[(Number of drinks/2) x (gender constant/weight0]-([0.017g/dl] x drinking duration in hours). The gender constant was 9 for females and 7 for males. 0.017 is the metabolism rate of alcohol per hour.

2.3.3 Zuckerman-Kuhlman Personality Questionnaire 50 item Cross-Cultural (ZKPQ-50-CC)

This scale is a 50-item cross cultural questionnaire involving five personality scales of Impulsive Sensation Seeking, Neuroticism-Anxiety, Aggression-Hostility, Activity, and Sociability with ten items on each scale. Participants answered whether statements of these personality scales were "true" or "false" according to their personal behaviors.

3. Results

In a sample of college students from a medium sized Midwest university, the relationship between personality scales and weekly drinking consumption were examined. The Pearson correlations between the variables of personality scales and weekly drinking showed mixed results. Results showed that the average number of drinks consumed weekly was 1.81 drinks ($SD = 1.38$). The results indicate that there was a positive significant correlation between weekly drinks consumed and the personality scale of impulsive sensation seeking, r (277) = .23, $p < .001$. There was a negative significant correlation between weekly drink intake and the scale of neuroticism-anxiety, r (274) = -.14, $p = .03$. Other significant correlations between weekly drinks consumed and personality scales include aggression-hostility, r (276) = .15, $p = .01$ and sociability, r (272) =.20, $p = .001$.

There was no significant correlation between weekly drink consumption and the personality scale of activity. Further research could examine the relationship among daily drink consumption and personality scales. In this study, there was a significant correlation between daily drinks consumed and the personality scales of impulsive sensation seeking, r (279) = .22, $p < .001$, aggression-hostility, r (278) = .22, $p < .001$, and sociability, r (274) =.21, $p = .001$. Results for the Pearson correlations can be found in Table 1.

Table 1. Correlation of weekly alcoholic drinks consumed and personality scales

Personality Characteristic	Correlation	Significance Level
Impulsive Sensation Seeking	$r = .23$	$p < .001$
Aggression-Hostility	$r = .15$	$p = .01$
Neuroticism-Anxiety	$r = -.14$	$p = .03$
Activity	$r = .09$	$p = .15$
Sociability	$r = .20$	$p = .001$

Average eBAC was calculated ($M =.07$, $SD = .07$). There was a strong positive correlation among personality traits of impulsive sensation seeking and aggression-hostility and higher eBAC levels, respectively, $r(276)=.16$, $p = .01$, $r(275) = .16$, $p = .01$. There was also significant positive correlation among the personality trait of sociability and higher eBAC levels, $r(271) = .22$, $p < .001$. The personality traits of neuroticism-anxiety and activity did not have a significant correlation with eBAC levels.

4. Conclusion

The results display positive and negative significant correlations between personality characteristics and number of alcoholic drinks per week among college-aged students. Moreover, eBAC, as a measure of typical impairment level, was related to the personality variables. The importance of this study reveals the correlation of personality characteristics that could be related to excessive drinking. Furthermore, these results could display a way to improve intervention and prevention strategies for individuals with certain personality traits. College drinking has become a major concern for morbidity rates and negative consequences. Because of this, prevention and intervention strategies are essential for healthy alcohol consumption practices.

The results of this study indicate that the personality scales of impulsive sensation seeking, aggression-hostility, and sociability are significant and positively correlated with college students' weekly alcohol consumption. This means that people who endorse higher levels of these personality traits also report high levels of alcohol consumption and higher levels of impairment due to their alcohol consumption. The data supports findings of Ward et al.[3] which suggests that alcohol use is correlated with sociability and that these drinking motives are related to extraversion. Also, aggression-hostility was found to be positively correlated with weekly number of drinks consumed by students. This finding is consistent with Ward and colleagues'[3] research which displays that anger is a motivator of excessive drinking and that there is evidence for "angry drunks." This study extends the research and indicates that the higher levels of some personality traits are also related to higher levels of typical impairment from alcohol.

This study is not without limitation. The study had a majority of the participants being Caucasian. Ultimately, this could have skewed the results in a biased way. Also, this study was not evenly represented among genders; a majority of the participants were female. Additionally, this study used self-report responses. Although this method of data collection has many advantages, variability and honesty among participant responses are among the disadvantages of this method of data collection.

The personality scales correlated to weekly alcohol consumption and estimated blood alcohol concentration.. This information could guide strategic prevention and intervention strategies for alcohol education on college campuses. Although this study found significant results, this is a topic that needs further research and examination.

5. Acknowledgments

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