

DEPRESSION AND ALCOHOL MISUSE AMONG COLLEGE STUDENTS

By

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Abstract

Young adults suffer from high rates of depression and alcohol consumption. From 2005 to 2019, the rate of a Major Depressive Episode (MDE) almost doubled among adults ages 18 to 25. In addition, young adults had the highest rates of binge drinking at 34.3% with 8.4% reporting heavy alcohol use within the past month. As a result, this paper reviews key studies on depression and alcohol misuse in college students in order to outline the extent of the relationship as well as any current gaps in the current literature. Overall results suggest that alcohol misuse and depression is mixed. Some studies observed an association between heavy alcohol consumption and depression, but other studies did not observe this association. Some studies identified an association between depression and other alcohol-related variables, such as alcohol-related problems. Though many studies researched gender differences, there is only extremely modest evidence for modification of the relationship between alcohol and depression by gender. Overall, longitudinal studies are necessary to further understand the relationship between alcohol and depression.

Introduction

Depression and alcohol consumption are major public health topics. Since 2005, the rate of depression, measured as a Major Depressive Episode (MDE), has increased from 8.8% to 15.2% among young adults.¹ In 2019, the rate of MDE for young adults was almost twice the rate of MDE for 26 to 49-year-olds (15.2% vs 8.9%) and more than three times the rate of MDE for individuals 50 years and older (15.2% vs 4.7%).¹ Currently, people view that there is a relationship between depression and alcohol. Though alcohol consumption among young adults in the United States has been decreasing, the rates remained high compared to other age groups from 2002 (60.5%) to 2017 (56.3%).¹ In addition, young adults had the highest rates of binge drinking (≥ 5 drinks consecutively, based on male drinking patterns) in 2019 (34.3%) when compared to other age groups. Furthermore, 8.4% of young adults reported heavy alcohol use, compared to 5.8% of all individuals ages 12 and older.¹ These data indicate that young adults are at risk for excessive alcohol consumption.

Due to the high rate of MDE and alcohol consumption among young adults between the ages of 18 to 25, it is important to understand whether a relationship exists between alcohol misuse and depression within this age group specifically. Therefore, the purpose of this paper is to briefly review key, current studies on depression and alcohol misuse in college students to outline 1) the extent of the relationship between college students, alcohol misuse and depression, and 2) any current gaps in the literature.

Assessment of Alcohol Misuse and Depression Risk

Among the studies reviewed, there were significant differences in how the researchers assessed depression and alcohol consumption. For instance, Orui and colleagues combined alcohol use and depression variables and obtained three different groups among university students based on levels of risk.³ The group labeled "high-risk comorbid" had students who have high and stable rates of depression and alcohol misuse. The group called "moderate-risk depression-only" also had high rates of depression but low alcohol misuse, which decreased over time. For the last group, "low-risk normative," the depression and alcohol risk were lowest, and this group had decreasing rates of alcohol misuse.³

Another study by Geisner and colleagues observed four different groups among students who were already considered high-risk drinkers and depressed.⁴ High-risk drinking was assessed by two measures: the student's alcohol consumption (≥ 4 (women) or ≥ 5 drinks (men)) and the Alcohol Use Disorder Identification Test score (AUDIT; ≥ 8). Depression was assessed through the Beck Depression Inventory-II score (BDI-II; ≥ 14).⁴ Students were then grouped based on two main factors, depression (based on the Patient Health Questionnaire-9 (PHQ-9) scores) and drinking levels, but other variables were further assessed within each group.⁴ As a result, the first two groups had mild depression with one group being heavy drinkers and the other being severe drinkers. The next two groups were categorized as having moderate depression with one group being heavy drinkers and the other being severe drinkers.⁴

The studies reviewed above grouped participants based on the various levels of depression and alcohol misuse.^{3,4} The study by Powers and colleagues differed from the two studies above.⁵ In this study, the researchers only grouped participants (ages 16 to 21) based on their binge drinking patterns (frequency of consuming, within one occasion, ≥ 5 drinks). For

instance, females were categorized as either ““very infrequent bingers,”” ““fluctuating infrequent bingers””, ““frequent bingers,”” ““very frequent bingers,”” or ““extremely frequent bingers.””⁵”

Within some studies, the researchers did not examine subgroups. Pedrelli and colleagues examined the rate of Major Depressive Disorder and heavy episodic drinking and peak blood alcohol concentration (pBAC) for alcohol consumption.⁶ Furthermore, for the variable heavy episodic drinking (HED), the researchers analyzed the frequency and the number of drinks.⁶ In addition, Acuff and colleagues researched alcohol consumption, alcohol problems, depressive symptoms and substance reinforcement.⁷ They compared scores for each variable to observe their relationship.⁷

These studies demonstrate significant heterogeneity in the measurement of alcohol use and depression. As a result, assessment issues must be considered when examining the relationship between depression and alcohol misuse.

Depression and Alcohol Relationship

The majority of studies reviewed observed that college students who consume high amounts of alcohol were at an increased risk of depression. For instance, O’Donnell and colleagues found that the odds of being categorized as having a “high level of depressive symptoms” (BDI score of ≥ 8), significantly increased with being a heavy drinker with 14 or more drinks.⁸ Also, they observed that there was no significant relationship with being a moderate drinker and consuming between 5 to 13 drinks with having a BDI score of ≥ 8 . Interestingly, there was also a relationship between depression and being a non-drinker.⁸ Therefore, drinking large amounts of alcohol or being a non-drinker increases the risk for

depression compared to individuals that drink alcohol moderately.⁸ In addition, Pedrelli and colleagues found that within college students, major depressive disorder (MDD) was significantly associated with the frequency of heavy episodic drinking (≥ 4 drinks consecutively).⁶ This result infers that having MDD may increase the risk for heavy drinking.⁶ However, no directionality of the relationship can be observed in either study due to both study designs being cross-sectional.^{6,8}

The relationship between alcohol and depression can also be identified by looking at alcohol-related problems. For instance, Soltis and colleagues researched undergraduate students that had a past history of binge drinking, or having ≥ 4 or 5 drinks consecutively.⁹ They did not find an association between typical consumption of alcohol on a weekly basis and symptoms related to depression or stress.⁹ However, Soltis and colleagues observed a significant association between alcohol-related problems (e.g., impulsivity or drinking and driving) and depression, stress and typical drinks per week.^{9,10} Their findings suggest that alcohol-related problems need to be considered when looking into the relationship between alcohol and depression.⁹ Due to the relationship between alcohol-related problems and typical drinks per week, alcohol-related problems could be another variable that can be used as an indicator for heavy drinking.⁹

Despite the evidence above, there are some articles that did not find a relationship between heavy alcohol consumption and depression. Kenney and colleagues examined the association between depression and heavy episodic drinking as well as depression and problems related to alcohol consumption.¹¹ They wanted to investigate how coping through alcohol consumption affected these associations between college and non-college students (ages 18 to 25). The researchers found no relationship between heavy episodic drinking frequency and

depression for both college students and non-college students.¹¹ Similar findings were observed in the study by Nourse and colleagues.¹² One of the objectives within the study conducted by Nourse and colleagues was to research if there was a relationship between binge drinking, a form of heavy episodic drinking and measured as hazardous alcohol use, and both depression and Anxiety.¹² Though the researchers found that binge drinking and depression were positively correlated, the relationship was weak and nonsignificant.¹²

Together, these findings suggest that there is moderate evidence for the association between heavy alcohol consumption and depression. Other studies contradict these findings and indicate that depression may be more strongly associated with alcohol-related problems. Due to these inconsistencies in findings, continued research should be carried out in this area to further understand the relationship between alcohol and depression among college students.

Gender Differences

Research suggests that gender may have an extremely modest moderating effect on depression and alcohol consumption. For instance, Pedrelli and colleagues found that the frequency of heavy episodic drinking was significantly associated with gender; however, no gender differences were observed between MDD and HED.⁶ In contrast, the study found that MDD has a stronger correlation with pBAC among females more than males, which is indicative of higher levels of intoxication.⁶ In another study conducted by Orui and colleagues (2020), the researchers observed that men had higher depression and alcohol misuse than women.³ Though these two articles support gender differences between depression and alcohol consumption, it is still uncertain whether the relationship is stronger in males or females.

Gaps

One current gap in the literature is the lack of a standard measure of alcohol use. Alcohol-related problems are not necessarily associated with the amount of alcohol consumed; yet alcohol problems seem to be uniquely associated with depression.⁹ Though some articles found that alcohol consumption was related with depression, it is unclear which alcohol-use variables are the best measures to use.⁹ Therefore, further studies should identify which alcohol-related measures are best able to understand the relationship between depression and alcohol. Another gap in the literature is a lack of longitudinal studies.⁸ Most of the studies reviewed used a cross-sectional research design to study the association between depression and alcohol.^{6,8,9,11} Longitudinal studies may help to identify which alcohol-related variables are best associated with depression as well as to better understand other factors that may impact the relationship between alcohol misuse and depression as well. In summary, further research should focus on study design and measures to help clarify the relationship between alcohol misuse and depression among college students.

Conclusion

Despite many studies examining alcohol consumption and depression among college students, the relationship is still unclear. Currently, researchers have identified that there may be a relationship between heavy alcohol consumption, both binge drinking and consuming ≥ 14 (females) or 15 drinks (males), and depression among college students. However, there is evidence also contradicting these findings. In addition, the use of alcohol measures varies

between studies with some articles examining alcohol consumption, while others use different measures, such as alcohol-related problems. Lastly, two studies were reviewed that examined gender differences; results were mixed for whether the relationship between depression and alcohol use was stronger for men or women. In summary, longitudinal research is needed to understand the complex relationship between depression and alcohol use variables within college students.

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