The Effect of Alcohol Use on Academic Performance of College Students
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# TABLE OF CONTENTS

| PAGE |
|------------------|------------------|
| TITLE PAGE | 1 |
| ACKNOWLEDGEMENT | 2 |
| TABLE OF CONTENTS | 3 |
| TITLE PAGE | 4 |
| ABSTRACT | 5 |

## CHAPTER

### I. INTRODUCTION

- Background
- Statement of the Problem
- Significance of the Study
- Purpose of the Study
- Definitions of Terms

### II. REVIEW OF LITERATURE

- College students’ nights of drinking in relation to GPA
- College student alcohol use and GPA- binge drinking
- Drinking motives and factors influencing alcohol use
- Consequences of alcohol use
- Interventions to reduce alcohol use in college students
- Summary

### III. CONCLUSIONS AND RECOMMENDATIONS

- 19

### IV. REFERENCES

- 21
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Abstract

This paper examines the correlation between alcohol consumption and academic performance of college students. Analysis of the variables shows there was a negative correlation between grade point average (GPA) and frequency of alcohol consumption, meaning as the nights per week that a participant consumed alcohol went up, grade point average went down. The findings also revealed that, although there is a positive correlation, there was not a strong correlation between number of drinks per occasion and GPA. This research also explored drinking motives and factors influencing alcohol use, consequences of alcohol use, and interventions to reduce alcohol use.

Keywords: alcohol use, substance abuse, GPA, academic performance, college students, consequences, binge drinking, sleep disturbances.
Chapter One: Introduction

College is a time that gives students their first opportunity to make their own decisions and sometimes it is synonymous with drinking. Factors such as independence, social pressure, academic stress, availability of alcohol and drugs, and the overall culture may make the consumption of alcohol a prominent aspect of college life. Regardless of age, sex, or interest in school, most college students have had some encounter with alcohol. Whether individuals choose to drink alcohol varies from person to person, but alcohol consumption has always been thought of as a large part of the college culture. This research focuses on the effect of alcohol use on college students’ academic performance.

College students may engage in alcohol use to help cope with stress, negative emotions, or to make them look mature. Students may also use or abuse alcohol as a coping mechanism. Students that use alcohol as a coping mechanism tend to indulge more in the use of alcohol and may also apply defense mechanisms by engaging in denial and rationalization (Martens, Rocha, & Serrao, 2008). No matter why college students use alcohol, it is a very common and serious problem on college campuses. Alcohol use is negatively affecting some students and families by causing potential dropouts and failing classes (Qi, Matthew, & Hustad, 2014).

Gentile, Librizzi and Martinetti, (2012) in their study indicated that, “drinking appears to be a normal part of the college experience and can be associated with high-risk behavior, such as driving under the influence, risky and unplanned sexual behavior and fighting”. The authors also indicated other negative consequences of these behaviors which are “legal actions, poor academic performance, injuries, sexual assault, and pregnancies” (Gentile et al, 2012).

Not all students appear to be negatively impacted by using alcohol in college. Some college students seem to be able to use alcohol responsibly. Some students know how to
balance their academic work with their social life and not let social drinking affect their academic performance (Collins, Kirouac, Taylor, Spelman, Grazioli, Hoffman, Haelsig, Holttum, Kanagawa, Nehru, & Hicks, 2014).

**Statement of the Problem**

Alcohol use among college students is a significant concern. Alcohol use has been linked to a variety of negative consequences, including decline in academic performance, accidents and injuries, aggression and violence, and risky sexual behavior (Devos-Comby & Lange, 2008). Heavy drinking episodes in college communities may have even more negative effects on academic performance and may negatively impact student’s health. Students may spend their valuable time drinking that could be used for studying, which in turn can lead to missing classes, blackout, fights, and assaults which affects their performance in school. Studying the effect of alcohol use on college student’s academic performance will lead to suggesting ways in which alcohol use can be reduced among college student drinkers.

**Significance of the Study**

College student alcohol use poses a significant problem associated with many negative consequences such as: decreased academic functioning, unintended physical injuries, assaults, fines, arrest, and even death. An estimated 37.4% of college student in the United States have reported high alcohol use and the number increases by the day according to Martinez, Sher, and Wood (2014). High alcohol use was defined as drinking 5 or more drinks in one setting in the previous two weeks (Liguori, 2015).

**Purpose of the Study**
This research is aimed at examining the link between alcohol use among college students and its effects on their academic performance. Other negative consequences of college student alcohol use will also be examined. Drinking motives of students and factors encouraging the continued use of alcohol by college student despite the negative consequences will be addressed in this literature review. In addition, interventions to reduce alcohol use will be explored.

**Definition of Terms**

**Alcohol:** “Alcohol is a colorless, volatile, flammable liquid which is intoxicating constituent of wine, beer, spirits, and other drinks, it is no ordinary commodity but a drug that can be depended upon while alcohol use is the drinking of beverages containing alcohol” (Idoki, Muyiwa, & Agoha, 2015).

**Academic performance:** “Academic performance is the extent to which a student has achieved his/her educational goals. It is commonly measured through examination or continues assessment, performing presentations, turning in homework, and participating in class activities” (Gentile, et al., 2012).

**Binge drinking:** Binge drinking is defined as attending a blood alcohol concentration (BAC) of 0.08 or more, corresponding for five or more bottles (more than four for females) in about 2 hours (Howland, Rohsenow, Greece, Littlefield, Almeida, Heeren & Hermos, 2010).

**College student:** “College student refers to any person who is enrolled in a higher educational institution which provides continuing education” (Gentile, et al., 2012).

**Grade Point Average:** “Grade point average (GPA) is a calculated average of the letter grades earned in school following a 0 to 4.0 scale” (Idoki, et al., 2015).
Hypothesis

There will be a significantly lower academic performance between college students who consume alcohol more frequently and in higher quantities compared to individuals who drink occasionally. There will be a correlation between GPAs and amount of alcohol consumed.

The null hypothesis for the research is college students who consume alcohol frequently and in heavy quantities are no more likely to perform worse in their academics compared to students who do consume alcohol frequently and in large quantities.
Chapter Two: Review of Related Literature

While many studies have examined the effects of drinking on a student’s schoolwork, it should be noted it is difficult to directly assess the effects of alcohol use on academic performance. In examining the two, one big problem is that there may be other variables explaining both poor student performance and drinking such as mental health issues. Many researchers have reported evidence to show that alcohol use affects student’s academic performance.

College students’ nights of drinking in relation to GPA

A number of prominent research studies have been conducted on the relationship between college students’ number of nights of drinking and academic performance. Researchers have found that as the number of nights of drinking increase the academic performance decreases significantly (Matt, Shannon, & Oliver, 2012). Singleton and Wolfston (2009) examined alcohol consumption and the negative impact on academic performance. They interviewed 236 college students in their study of liberal art colleges and found that excessive alcohol use decreased students’ academic performance because it also reduces the amount of time and sleep students have to study. The authors found a relationship between alcohol use and sleep, alcohol use and academic performance, and sleep and academic performance. They hypothesized and concluded that students who drink more alcohol maintain poor sleep patterns, which negatively affects academic performance.

Idoko, Muyiwa, & Agoha, (2015) examined the effect of alcohol consumption on the academic performance of undergraduate college students. The researchers carried out a survey with 200 college students testing three hypotheses. The first hypothesis was that there will be a
significant positive relationship between alcohol consumption and academic performance. The second hypothesis was that there will be a significant difference in academic performance between users and non-users of alcohol, and the third hypotheses was that there will be a significant effect of alcohol consumption on academic performance. Results from the study revealed that 66% of students reported missing classes or that they had failed a test due to a hangover as a result of drinking. An additional 39% of student’s reported being sanctioned for alcohol use by the university. The study shows there is a significant relationship between alcohol consumption and academic performance, significant difference between the performance of users and non-users, and there is a significant effect of alcohol consumption on academic performance.

Matt, Shannon, & Oliver, (2012) agreed with previous research findings on the use of alcohol related to academic success. The researchers examined the correlation between alcohol consumption and academic performance of 76 undergraduate students at Northeastern University. Results showed that there was a negative correlation between GPA and frequency of alcohol consumptions. This meant that as the nights per week that a student consumed alcohol went up, GPA went down. In the study, 57% of students who participated in the research reported missing classes and not turning in homework due to alcohol use.

Tembo, Burns, & Kalembo, (2017) investigated the association between levels of drinking, mental health problems and academic performance among university students. Data was collected on levels of alcohol consumption, mental health, and academic performance of 2518 participants in the online survey. Forty-four percent of students reported consuming alcohol at hazardous or harmful levels. In the study, 95% of students reported being late for classes, or missing classes, or did not turn in homework as a result of alcohol use. Students
who consumed alcohol at harmful levels were 1.2 times more likely to report psychological distress. The study showed that alcohol consumption was associated with poor academic performance and negative mental health outcomes.

**College student alcohol use and GPA - binge drinking**

Several researchers have found that there is a link between binge drinking and lowered academic performance including lowered GPA. Binge drinking may be so prevalent in college campuses because students have responsibility for their own schedules and decisions and often choose to drink only on the weekends. Weekend drinking is prevalent on college campuses (Matt, Shannon, and Oliver, 2012) reported because students choose to spend free time drinking instead of studying on the weekends. For some students, weekends may start on Thursday night (Iwamoto, Takamatsu & Castellonos, 2012) depending on their class schedule.

Piazza-Gardner, (2016), conducted a study to assess whether alcohol consumption was negatively related to GPA, using a national representative sample of college students. Her research revealed that respondents with lower GPAs consumed a greater number of drinks compared with those with higher GPAs. In this study, 22,424 college students were interviewed on their alcohol use and then asked to self-report their GPA. The results showed that 51% of college student who drank more reported having lower GPAs while 40% of students experienced blackout after alcohol use.

A 10-week study of college students in a dairy program at a large Midwestern university by Martinez, et al., (2014) found that an estimated 37.4% of college students in the study reported “binge” drinking in the two weeks leading up to their assessment by the researchers. Binge drinking was defined in this study as drinking four or more drinks in a three-hour time period. Students reported negative results from their heavy drinking including:
decreased academic functioning, decreased cognition functioning, relationship difficulties, unintended physical injuries, assault, property damage, arrest, fines, and unwanted sexual experience (Martinez, et al., 2014).

In a research study by Howland, et al. (2010) the researchers found that binge drinking is correlated with lowered academic performance. In the study, they interviewed 196 college students and found out that drinking alcohol affects mood, attention, and reaction time the next morning leading to a decrease in test-taking performance.

Osain & Alekseevic, (2016) conducted a study to determine the extent of alcohol use on academic performance of college students. The researchers interviewed 46 college students. Result showed that a higher rate of academic performance was noted among non-alcoholic users. Researchers also found that college students who drank alcohol four or more nights and or college students who binge drank on the weekends, had lower GPA than students who were more moderate drinkers or who did not drink at all. These research studies were examining the number and kinds of drinking behaviors of college students, while other researchers examined student’s motives that influenced their drinking decisions.

**Drinking motives and factors that influence college students’ drinking**

Research has shown that there are many factors that influence student drinking and students may have different drinking motives. The pattern or reasons for drinking is associated with various risk and social problems.

In a research study by O'Hara, Boynton, Scott, Armeli, Tennen, Williams & Covault (2014), the researchers found in their interviews with 462 African American undergraduates from historically black university that students who reported higher mean level of episode-specific coping motives, on average consumed more alcohol on drinking evenings. Mean
episode-specific coping motives predicted average level of alcohol use and men consumed more alcohol in both social and nonsocial context. The researchers identified drinking motive as an important predictor of student drinking behavior. Drinking to cope was associated with a higher number of drinks consumed and a higher likelihood of heavy episode drinking.

A study by Villarosa, Madson, Zeigler-Hill, Noble & Mohn (2014), concurred with earlier studies and found that college students with higher level of social anxiety symptoms drank for enhancement, to be accepted by peers, and to increase positive mood experienced negative consequences. Students thought that drinking helped them fit in with their peers. In their study with 532 undergraduates who completed measures of social anxiety, drinking motives, alcohol use, harmful drinking patterns, negative consequences of alcohol use, and protective behavioral strategy use; results showed that students who drank to increase their positive mood were participating in more problematic drinking patterns.

Another study found that students were more likely to drink when substances were inexpensive, acceptable, and easily available. Skidmore and Murphy (2011) studied the effect of drink prices and next day responsibility on college students drinking. Their behavioral economic theory predicted that drug use is most likely when drugs are readily available and inexpensive, and when there are few substance-free alternative reinforcements to compete with drug use. Since college student alcohol use is so widely practiced, it may be viewed as an acceptable way of coping with transitions and difficulties in college. College student alcohol use has led to some consequences that affect particularly those who use alcohol excessively.

**Consequences of alcohol use among college students**

College students’ alcohol consumption has received considerable attention for its negative impact on students and the college community. Alcohol use has led to a wide range of
negative consequences including lowered academic performance, alcohol abuse, alcohol dependence, death, memory blackout, and changes in brain function (White, 2013).

Barnett, Merrill, Kahler, and Colby (2015) conducted a longitudinal investigation with 679 first- and second-year college students. The researchers interviewed students each week regarding the students’ perceptions of positive or negative alcohol consequences. The researchers wanted to see if students reported positive consequences after drinking alcohol if the students were then more likely to continue or increase their drinking behavior. They linked the review of consequences with behavioral learning and cognitive theories. The results of the research found that if the students reported a higher number of positive consequences and evaluated them positively each week then the students also reported that they would be more likely to drink in the future.

Liguori, (2015) in a study with 820 college students concurred with Barnett, et al (2015). Ligouri conducted a study to identify the relationship between alcohol use and college student retention. He had 820 college students complete an online assessment at four separate time points including questions related to alcohol consumption. He reported academic impairment, failure and dropouts, and alcohol dependency were consequences associated with alcohol use. In addition, his study found that 62% of students reported drinking alcohol during the semester while 52% of student reported high episode drinking.

In their study with 760 college students (Collins, Kirouac, Taylor, Spelman, Grazioli, Hoffman, Haelsig, Holttum, Kanagawa, Nehru & Hicks, 2014) reported advantages and disadvantages of alcohol use and provided some interesting perspectives on college student alcohol use. The researchers found that students reported that alcohol was helpful primarily for enjoyment particularly in social situations, as well as to cope with stress and social anxiety.
The researchers also found that students reported some disadvantages such as physical side effects, expense (financial), and interference with academic goals. The study by Collins et al, (2014) enhances our understanding of college student perceived advantages and disadvantages of alcohol use. The study shows that the advantages of alcohol serve as motives for drinking to students. Also, it shows alcohol use affects academic performance. Students who used alcohol reported physical side effects, expense, and interference with academic goals as some of the disadvantages of alcohol use.

The vulnerability of college students to misusing and abusing alcohol as well as the consequences of alcohol use is widely documented by researchers (Sugarman & Carey, 2009). Reducing alcohol use among college drinking students may help in reducing consequences of drinking such as hangovers, missed classes, accidents, injuries, and poor academic performance. The many reported negative consequences have led to the development of research on ways to reduce college student alcohol use.

**Interventions/ways to reduce alcohol use among drinking college students.**

The negative consequences of alcohol use led to the discovery of several interventions/ways to reduce alcohol use among college student. Researchers have carried out studies showing that there are other interventions which are efficient and do not necessarily require barlab with actual alcohol consumption.

The research by Fried and Dunn, (2012) looked at reducing college students’ alcohol consumption without requiring a barlab model of having the students consume alcohol. The Expectancy Challenge Alcohol Literacy Curriculum (ECALC), by Fried and Dunn, (2012) is a single group delivered program designed to modify alcohol use among children and young adults. The single group program with students is designed to demonstrate the effectiveness of
Alcohol use and college student’s performance

the ECALC in reducing alcohol use in a single session with a four-week follow up. The objective of the study was to demonstrate the effectiveness of the ECALC in reducing risky alcohol use among heavy drinking college men. Results demonstrated significant changes on five of the seven subscales (social control, tension reduction control, liquid courage control, cognitive behavioral impairment, risk and aggression control, and self-perception control) of the comprehensive effects of alcohol scale among students who received the ECALC when compared with the control participants.

The study by Fried and Dunn, (2012) presented two important advances. First, was the significant reduction in risky alcohol use produced by a single session group-delivered program since 86% of students reported reducing their alcohol. Second, was the success in changing expectancy process without using impractical elements common in previous expectancy challenge method (e.g. “bar lab” environment and actual alcohol administration).

Other researchers, Butler & Carreia, (2009) investigated the efficacy of face-to-face and computerized delivered interventions related to an assessment-only control condition in decreasing alcohol use among heavy-drinking college students. In their research study, 84 college students were assessed before and four weeks after the delivery of the intervention. Result suggested that both face-to-face and computerized interventions were equally successful in reducing alcohol use in relation to the control condition. Results from the four-week follow-up study confirmed that personalized feedback is an effective way of reducing alcohol use among at risk college student drinkers and it was highly rated by students. The study also adds to the growing literature on the effect of computerized interventions in reducing alcohol use.

Another study by Hester, Delaney, & Campbell, (2012) found similar results. They evaluated the effectiveness of computer-delivered intervention (CDI) to reduce heavy drinking
and alcohol related problems. They used two random trials and evaluated 144 college students. Results showed that 82 students during follow-up had reduced alcohol use. This report supports the effectiveness of the CDI with college students in clinical settings. Result from the study showed that the health services on campus could be effective in administering this intervention.

The ECALC can be used in most university counseling services since counselors typically already provide solution focus therapy and try solving students’ problems within a shorter time frame. This program appears to have significant positive benefits since it may reduce risky alcohol use after a single session. These interventions could be applied in any college campus and results could be seen within a short period of time.
Chapter Three: Conclusions, and Recommendations

In summary, a link was found between alcohol use among college students and its negative effects on their academic performance. College student use of alcohol is complex and connects to a number of factors related to student’s own motives and their knowledge and recognition of the consequences of their alcohol use and abuse.

Based on the existing literature, the following conclusions were drawn. The most negative consequences were reported from students who binge drank three or more settings and for students who used alcohol four or more nights.

The factors that appeared to have the most influence on student’s amount of drinking and lowered academic performance were students who reported low self-esteem. Findings also suggest that heavy drinking in particular context (personal/intimate and negative emotion) played an important role in drinking problems among socially anxious students. Research studies have showed that social anxiety more than quadruples the risk of developing an alcohol use disorder (Terlecki, Ecker, & Buckner, 2014), Education on the relationship between alcohol use and social anxiety could be an important next step in treating and preventing risky drinking.

The research found that there were effective interventions to help students stop drinking excessively. A number of the traditional interventions involved bar labs and actual drinking experiences while ECALC did not. ECALC appeared to have much more positive benefits than other interventions. ECALC was able to reduce alcohol use after only an 8-hour-long intense session by a counselor.
Based on these conclusions, it is recommended that colleges and universities provide more substance abuse free activities to help students adjust to the transition to college. In addition, college counselors should provide counseling informational services to all students to help them be aware of the negative consequences of alcohol use and to inform them of the ECALC program as one way to be more successful in college by reducing their alcohol use and increasing their academic performance.
References


