

Alcohol consumption and academic performance among higher secondary students in Thimphu, Bhutan

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ABSTRACT

Introduction: Despite known alcohol abuse among adolescence, precise information on the prevalence and pattern of drinking in Bhutan remain sparse. This study, therefore, assesses the pattern of alcohol drinking and consequences including its effects on academic performance among high school students in Thimphu. **Methods:** Multistage random sampling was employed and a survey was conducted in November 2014 using a self-administered semi-structured questionnaire. A total of 403 students were invited, however, 3 students were absent during the time of survey and 13 respondents were rejected due to incompleteness of the questionnaire. Thus, the findings are based on a sample size of 387. **Results:** Prevalence of long term alcohol drinkers were 38.8% and 26.6% were current drinkers. The mean age of onset of alcohol use was 15.5 (\pm 2.6). Binge drinking (\geq four times a week) and GPA (Grade Point Average) were significantly correlated ($p \leq 0.01$, $r = -0.120$). Therefore, students involved in binge drinking \geq four times a week are likely to obtain less GPA. **Conclusions:** Students, comprising both males and females, drink alcohol and those who are involved in frequent binge drinking are more likely to have lower GPA.

Keywords: Alcohol; Consequences; Higher secondary students; Thimphu.

INTRODUCTION

Alcohol has pharmacological and toxic effects on the mind and on almost every organ system in the human body¹. Yet, people from diverse cultures not only drink alcohol but abuse it². Globally alcohol is a major contributing factor to death, disease and injury³. In Bhutan, no social stigma is attached to drinking⁴, it is rather a part of everyday life in communities. Some villagers begin their day with alcohol and end with it too. Alcohol is deeply rooted into the Bhutanese culture and traditions⁵. According to WHO, Bhutan has the highest per capita alcohol consumption in the South Asia⁶.

The cost of treatment of alcohol-dependent cases could cause a major financial burden to Bhutan's health care system. On average, the cost for medical and health care services for an alcohol-dependent case was estimated to be as high as Nu. 120,000, while the cost for alcohol-dependent rehabilitation was Nu. 48,000 per case⁷. The Bhutanese government spends over Nu. 30 million every year for referrals to treat alcohol-related patients⁸.

In Bhutan, students are not encouraged to abuse alcohol but schools are never immune to its impacts. The impacts of alcohol can be seen by learning institutions which undermines their academic visions.

The Royal Government of Bhutan has reported that 30.8% of students are current drinkers⁹. Moreover, drinking

alcohol among high school students in Thimphu is reported as a common phenomenon⁷. Of the 5500 bars in the country, 700 of them were in the capital alone⁵. That being said, relatively very limited scientific studies are available on the subject matter.

Thus, to fill this research gap, the present study was undertaken with the objective to assess the pattern of alcohol consumption and related consequences including its effects on academic performance among high school students in Thimphu.

METHODS

There are a total of 4,293 students (classes 11 and 12) in Thimphu¹⁰. The sample size of 403 was determined using Yamane formula $n = N/(1+Ne^2)$ while $e = 5\%$ with 10% inflation on determined sample size of 366. The survey was conducted in November 2014. Responses from 13 participants were rejected since they had not responded to more than 90% of the questions, while 3 other students were absent during the time of survey. Therefore, the finding is based on 387 respondents out of the 403 invited to participate in the survey. Multistage random sampling was used to identify the participants. Primary units involved selection of 4 out of 8 high schools, secondary units involved selection of sections in the 4 selected schools, and tertiary units involved selection of participants from the respective sections. Proportionate sampling was maintained to ensure representation in each school. The proposal was approved by the College Academic Committee and selected school authorities. Upon receiving consent from the students, pre-tested self-administered semi-structured questionnaires were distributed on an agreed date and time. Students were assured that their responses would be kept confidential. Descriptive and inferential statistical computation were done using SPSS version 16.0.

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RESULTS

As shown in Table 1, the respondents comprised more women (52.5%) than men (47.5%). The ages of the respondents ranged between 14-25 years, with the mean age being 18-24 years (± 1.59). Majority (69.8%) of the respondents were within the age group of 17-19 years. More than half of the students (59.9%) indicated that they lived with both their parents.

Table 1. Demographic profile of the sample

Variables	Categories	n (%)
Gender	Male	184 (47.5)
	Female	203 (52.5)
Living Arrangement	Father/Mother	232 (59.9)
	Mother	41 (10.6)
	Father	14 (3.6)
	Sister/Brother	51 (13.2)
	Uncle/Aunt	27 (7)
	Alone	3 (0.8)
	Others	19 (4.9)
Age (Years)	14-16	40 (10.3)
	17-19	270 (69.8)
	20-22	70 (18.1)
	23-25	7 (1.8)

As shown in Table 2, 38.8% of the students drank at least one type of alcoholic beverages in their lifetime and 26.6% were current drinkers (drank alcohol in the past 30 days prior to the survey). Among the current drinkers 59.2% were binge drinkers (five or more drinks in one setting). About 25% of the current drinkers reported the use of alcohol nearing the examination (before 1–7 days) or on the same day of examination. Male students were more likely to drink alcohol than female students during or nearing the examination (19.4% vs. 3.9%). Among current drinkers, the commonly consumed alcohol was Spirit (30%). A majority (55.4%) of the students reported drinking alcohol in bars and restaurants. As many as 94.7% students reported the onset of drinking alcohol at the age of < 18 years, and the mean age of onset was 15.5 years (± 2.6). Majority of the students (50.0%) had first received alcohol from friends and parents (30.7%), bars and restaurants (12%), while 7.3% of students were not sure who first gave them alcohol.

Special occasions was reported as the leading reason for the onset of drinking. Other reasons for onset are given in Table 3.

The top 3 consequences of drinking alcohol experienced by the students were hangover (63.1%), nausea and vomiting (53.4%), and been hurt or injured (34%). Figure 1 presents the other consequences of drinking alcohol.

Association between binge drinking and GPA was tested with Spearman's correlation. The analysis revealed that there is a negative and significant relationship between binge drinking \geq four times a week and GPA ($p \leq 0.01$, $r = -0.120$) as shown in

Table 2. Information on alcohol drinking among Bhutanese students

Variables	n(%)
Long term alcohol drinkers	150 (38.8)
Current drinkers	103 (26.6)
Binge drinkers*** among current drinkers	61 (59.2)
Drinking during or nearing exam time among current drinkers	24 (23.3)
Commonly use alcohol among current drinkers	
Spirit	31 (30.1)
Wine	27 (26.2)
Beer	16 (15.5)
Whiskey	14 (13.6)
Local**	5 (4.9)
Not stated	10 (9.7)
Place for drinking alcohol among current drinkers	
Bars	39 (37.9)
Home	30 (29.1)
Restaurants	18 (17.5)
Friend's house	10 (9.7)
Party	2 (1.9)
Not stated	(43.9)
Age of alcohol onset among lifetime drinker	
7 -8	4 (2.7)
9-10	6 (4)
11-12	11 (7.3)
13-14	13 (8.7)
15-16	61 (40.7)
17-18	47 (31.3)
19-20	8 (5.3)

** All type of locally brewed alcohol such as Ara, Bangchang, Singchang etc.

***Consuming five or more drinks in one setting.

Table 3. Reasons for the alcohol onset among Bhutanese students

Reasons	Male n(%)	Female n(%)
Influence of Adult	0 (0.0)	2 (5.1)
To Relieve Stress	4 (3.6)	0 (0.0)
Peer Pressure	9 (8.1)	4 (10.3)
Pleasure	26 (23.4)	2 (5.1)
Curiosity	34 (30.6)	16 (41.0)
Special Occasions****	38 (34.2)	15 (38.5)

****Social gathering such as ceremonies, rituals and festivals)

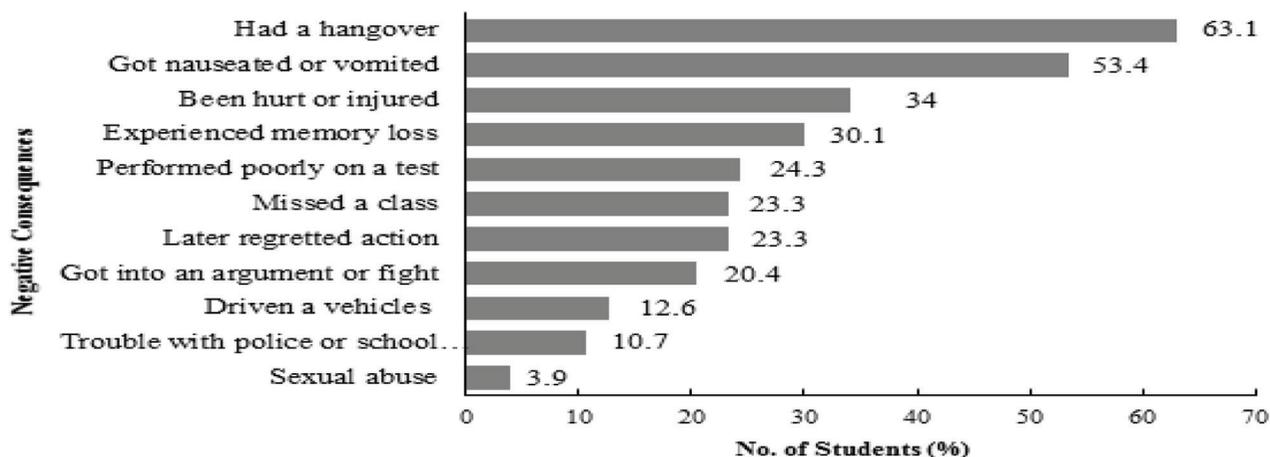


Figure 1. Consequences experienced by the current drinkers in the past 1 year

Table 4. Relation between binge drinking and GPA

	Once a week	Twice a week	Thrice a week	≥four times a week	GPA
Once a week	1	-.018	-.007	-.013	-.072
Twice a week		1	-.006	-.011	-.083
Thrice a week			1	-.004	-.101
≥four times a week				1	-.120*
GPA					1

* Significant at $P \leq 0.01$ level.

Table 4. Therefore, students involved in binge drinking \geq four times a week are likely to obtain less GPA. Although there is a negative relationship with binge drinking once a week to thrice a week, the association is not significant.

DISCUSSION

The respondents in the current study comprised of more women than men. More women respondents were observed in another study as well⁴. Similar to the result obtained by one of the studies in Thimphu¹¹, majority of the respondents in the current study were within the age group of 17-19 years. More than half of the students included in the current survey indicated that they live with both their parents which is similarly reported in Ghana¹².

The current study showed that 38.8% were long term drinkers and 26.6% were current drinkers. However, more than half of the students had never consumed alcohol as of the time of the survey. It was reported among high school students in Ethiopia that current drinkers were dominated with males (68.3%) against females (31.7%)¹³. Current drinkers were dominated by males in the current study as well.

The concern here is that while the legal drinking age in Bhutan is 18 years, 57% of the binge drinkers were found between ages 17-19 years indicating the existence of underage binge drinkers. Academic institutions, Ministry of Education and other stakeholders are trying to deter students from drinking alcohol in Bhutan. Although, serving alcohol to underage youth is illegal in Bhutan, it appears that underage alcohol use is seen in the country. This finding, therefore, is a wakeup call for all the relevant stakeholders for necessary actions. A study in USA also reported that majority (32%) of the students drank alcohol in bars¹⁴. Students preferring to drink alcohol outside their homes were reported in Australia as well¹⁵.

Drinking alcohol during or nearing examinations was reported, however, motivation to drink alcohol during or nearing examination was not explored in this study. Thus, this study paves a road for future research. In agreement with the current finding (Table 2), students in Australia also reported that the most commonly consumed alcohol among current drinkers was Spirit¹⁵. For some unknown reasons, 10% of the students have not specified the type of alcohol they drank.

The mean age of onset of alcohol use was 15.5 years (± 2.6) which is in agreement with a prior study conducted in Bhutan¹⁶, indicating that preventive measures should be taken when students are young at schools. Similar to the current finding, evidence of males experiencing their first drink at a younger age than females was also reported by Coleman¹⁷. Introduction of alcohol to students by their parents or relatives reveals the permissive cultural practices of alcohol use in the Bhutanese society. Similar to the finding of the current study, another study in Thimphu also stated that curiosity was the leading reason for the onset¹¹, whereas in Tanzania, social norms was the motivating factor for the onset of drinking among majority (35.3%) of the students¹⁸.

Consuming alcohol is linked to many harmful consequences¹⁹. For many years, alcohol abuse has been reported as a potential threat to the well-being of society²⁰. Thus, current

drinkers were asked to indicate the various alcohol related consequences they had experienced in the past 30 days. The consequences of drinking alcohol experienced by the students as shown in Figure 1, was similar to a study in the US mirroring the pattern of the top 2 negative consequences i.e. hangover followed by nausea and vomiting¹⁴.

In a study, binge drinkers were more likely than both non-drinkers and current drinkers who did not binge drink to report poor school performance²¹. Therefore, this study also looked into the relationship between the frequency of binge drinking and GPA. The current study found a significant and negative relationship between binge drinking \geq four times a week and GPA (Table 4). Therefore, as the frequency of binge drinking increases beyond 4 times a week, students are likely to obtain a lower GPA. The National Centre on Addiction and Substance Abuse at Columbia University also reported that alcohol is responsible for 41% of academic problems²². On the other hand, as reported by DeSimone & Wolaver, drinking that does not involve bingeing had no detrimental impact on GPA²³.

Data for the current study were based on students' self-reported data, therefore, results could be slightly flawed.

CONCLUSIONS

Students comprising both males and females reported drinking alcohol. However, both prevalence and frequency of alcohol use was higher among males than females. They also face related consequences including lower GPA in exams when students frequently binge drink.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

TD: Concept, design, literature search, data collection and analysis, manuscript writing and review.

Author agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

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