

Impact of Alcohol Consumption on Cognitive and Academic Performance of Students at David Livingstone College of Education

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Abstract: The paper attempted to establish the impact of alcohol consumption on cognitive and academic performance of students at David Livingstone College of education. The study used a qualitative type of research based primarily on materials collected by researchers from various literatures and the observation method was used to elicit data pertaining to student's characteristics, behaviour and attitudes towards the academic performance. This study revealed that alcohol consumption by students at David Livingstone College of education has a direct adverse effect on the cognitive and academic functioning of the students as well as other characteristics of their social life. The study has also revealed that students who come from homes where parents drink alcohol are more likely to abuse alcohol than those whose parents do not drink and are very strict with their children when it comes to beer drinking.

Key words: alcohol, cognitive, academic performance

Public Interest Statement

Peer pressure and influence leads to many students abuse alcohol during the teen years. There is no doubt that some reasons that students use alcohol and other drugs are curiosity and desire to feel good, reduce stress and relax. It is very clear that excessive drinking of alcohol has a direct effect on the cognitive and academic functioning of the students

I. BACKGROUND

The paper examines the impact of alcohol consumption on cognitive and academic performance of students. Cognitive performance refers to mental processes such as thinking, knowing and memory. Cognition allows us to engage ourselves in selective attention, perception and decision making (Kassin, 1998). In looking at alcohol consumption and cognitive performance, this study will take into account views held by scholars such as Lindstrom (1992), who suggests that terms such as 'alcoholic' and 'alcohol abuser' may be misleading as they seem to support an incorrect assumption that there exist clear set limits on what would be classified as harmful and harmless consumption of alcohol. They much rather support the idea that virtually all alcohol consumption has potential effects related to it that require investigation (Lindstrom, 1992, p. 61).

Alcohol abuse is a significant problem throughout the world particularly now that more school going children and students in colleges and Universities are all getting involved. According to World Health Organization (2004) states that, there are about two billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable. World Health Organization (2018) further explains that, more than three million people died as a result of harmful use of alcohol in 2016 and two billion people are current drinkers. In Africa, especially in the Sub-Saharan region, a sharp increase in per capital consumption of alcohol was estimated and there was a worrying trend among school children and students in Colleges and Universities. Alcohol abuse is a worldwide problem and affects all sectors of society. Alcohol affects the freedom and development of youths who are the world's most valuable asset. The gravity and characteristics of this problem vary from region to region and country to country. In the recent past, drug and alcohol abuse among young people has risen to unprecedented levels.

According to the World Drug Report, a total of 180 million people abuse drugs and alcohol worldwide and the majority of these are youths. In addition, research indicates that alcohol, tobacco and marijuana are the most commonly abused substances by adolescents across the globe (Bourne, 2005). World Health Organisation (2018) estimates that, about 2.3 billion people are currently drinkers and this is mainly among young people and is a global phenomenon. Consequently, almost every country is affected and it is difficult to authenticate the actual extent and nature of abuse amongst students.

However, Africa like any other continent in the world, alcohol is so far the most abused drug, causing the most harm to families and communities. Although alcohol abuse may take place at any stage, many people come to experience alcohol use during their adolescence and early adulthood stage. It is during this transitional stage that a good number of boys and girls get engaged in risky behaviour like unsafe sex, alcohol abuse, cigarette smoking and other risky activities. During this stage the idea of reward and impression making becomes eminent and leaves adolescents more vulnerable to risk behaviour. The risk taking is a normal aspect of adolescent

development into adulthood although there are variations emanating from personal characteristics. According to Swahnet al. (2010) explains that alcohol use in Africa has been found to be associated with road traffic accidents, unprotected sex and mental disorders. Correlates of alcohol use include demographic factors such as gender, age, monthly income, living arrangement, but also attitudes toward alcohol use, perceived susceptibility of alcohol use, perceived self-efficacy, peer drinking, relatives drinking, accessibility of alcohol, and exposure to either anti-alcohol campaigns or to alcohol advertising as well as ownership of alcohol promotional items (Swahm et al., 2011a, 2010).

In colleges and university students, alcohol abuse is related to a wide range of physical, mental and social harm. Swahm et al. (2011), Ellickson et al. (2003) and Hingson et al. (2003, 2000) argued that pre-teen alcohol use is of paramount concern to public health as it has been associated with alcohol dependence, substance use and criminal activity, unintentional injuries, unplanned and unprotected sex, involvement in physical fights, and suicidal ideation and attempts. A critical aspect of alcohol use in pre-teen alcohol initiation worsens adverse health outcomes among youth. Over the years several studies have identified several patterns of risks and protective factors contributing to alcohol abuse in high school children.

According to Needle et al. (2006) explainsthat, alcohol use can lead to serious problems such as poor academic performance; loss of friends, problems at home, teen's death or injury related to car crashes, suicides, violence and drowning. But then, not all school children drink and among those who do, not all do so in a harmful way. However, certain drinking patterns and general risk behavior among students and school children might place them at a considerable risk for harm. This calls for many stake holders such as parents, teachers, peer-support groups, organizations and communities to unite and find a solution together such as coming up with clear and firm alcohol related policies. Early use of alcohol and the increased frequency of experimentation of alcoholic beverages and its abuse among high school boys and girls justify the need for studies to identify factors contributing to alcohol abuse.

Furthermore, according to World Health Organisation (2004) there are guidelines which are issued by government and public health entities to advise on levels of alcohol consumption that are considered 'safe', responsible, or low risk. The official standard drinks or units generally contain between eight and fourteen grams of pure ethanol although the measure may vary among countries. Notwithstanding, it is still a useful tool because although strengths of different types of alcohol vary significantly, using the standard measure allows for uniformity. Thus in terms of the alcohol content, a standard drink/unit will be more or less the same regardless of whether it contains beer, distilled spirits, wine or a mix of the beverages (WHO, 2004). One identified problem associated with long-term heavy alcohol use encephalopathy, which is characterized by neurological problems such as global

confusional state, ophthalmoplegia, nystagmus, ataxia and polyneuropathy. Another condition associated with alcohol abuse is alcoholic Korsak off syndrome which is characterized by significant memory impairment. It is characterized with an onset of severe thiamine deficiency which when combined with alcohol consumption may result in the acute death of cells in the basal forebrain and a subsequent loss of cholinergic input to the cortical and limbic structures involved in memory (Ibid).It is also well established that alcohol-induced cognitive impairments for heavy drinker's ranges from mild to moderate deficits in neuropsychological testing to severe disorders of alcohol induced persisting amnesia disorders such as Korsak off syndrome and alcohol-induced dementia (Scheurich, 2004).

In Zambia, according to the World Health Report (2004), lagers or bottled beers, are mostly preferred by working men and male university students. This beverage is most associated with persons with a secure socio-economic status. Low socioeconomic status individuals tend to consume many opaque beer of different types such as Chibuku, Kantobo, and Shake-Shake. It is brewed from grain and cassava and has an alcoholic content of 4%. Another common alcoholic beverage among low-economic status individuals is a distilled spirit known locally as Kachasu, Tujirijiri made mainly from sorghum and maize it is homebrewed using water, sugar and yeast and is ready for consumption within 24 hours. Furthermore, it has been observed that in Zambia, social drinking is widely accepted and have even been incorporated into many important ceremonies. Zambia is said to be amongst nations with the highest levels of alcohol drinking in Africa. It has also been noted that alcohol is not thought of as a drug because of its use for cultural and social purposes. This could explain why despite efforts by The Drug Enforcement Commission (DEC) in Zambia through its National Educational Campaign Divisions to reduce the demand for substance abuse it has nevertheless, been observed that alcohol use is on the increase surpassing all other drugs. Given the prevalence of alcohol use in Zambia and its related consequences, it was deemed necessary that an investigation be instituted in this area with regard to how social drinking impacts on cognitive functioning. This would be useful in determining the premorbid cognitive functioning of individuals who consume alcohol when they seek neuropsychological assessment.

Alcohol abuse by adolescents does not only confine itself in homes but also in colleges where students for the first time experience independence from the authority of their parents. Within recent times colleges have been struggling with issues of discipline which takes away a lot of learning time in many institutions of learning. The reported frequencies of riots in the colleges, schools, universities and also public reports of underage patronage of bars, students suicide attempts, illegal abortions, suspensions and expulsions due to noncompliance to college rules and drunken misbehavior while attending lesson could be pointing to the assumption that some students indulge themselves in alcohol abuse (Magnani, 2000;

Mukuka, 2000; Zambia Global School Health Survey, 2004; ZCCP, 2006).

The proliferation of alcohol outlets creates even a higher temptation for students 'involvement in alcohol abuse. Although drinking of alcohol by students is socially unacceptable in Zambia. Many studies especially those carried out in the United States of America have shown how the use of alcohol in early ages is associated with general health problems in adulthood, where high consumption in adolescence is linked to a substantially lower level of adult physical and mental health, higher reliance on monetary support from social services, higher rates of criminal convictions and higher premature deaths (Stenbacka&Stattin, 2007; Larm, Hodgins, Molero-Samuelsson, Larsson &Tengstrom, 2008). Consequently, the regular use of alcohol during the adolescence stage can be seen as a risk factor or an indicator of possible future health and social problems. It is for this reason that a concerted effort is needed to try and find workable prevention and intervention solutions to this problem.

Research Objectives

- To establish the factors that contribute to alcohol consumption by students at David Livingstone College.
- To ascertain whether there are differences in the way alcohol is related to cognitive functioning.
- To investigate the impact of alcohol consumption on the cognitive functioning of students at David Livingstone College of Education.

II. METHODOLOGY

Research design

The study employed both qualitative and quantitative methods to collect data. This research design is a case study as it looks at a classified and specific population. A case study according to Mills et al (2010), is a report about a person, group or situation that has been studied. It can also be defined as an in depth investigation of an individual, group, institution or phenomenon (Mungenda & Mungenda, 1999). According to Akrofi and Whittal (2011), the popularity and necessity of case studies lie in the fact that they are one of the best bridges between qualitative evidence and deductive research. Case studies allows in-depth, multi-faceted explorations of complex issues in their real life settings (Yin, 2009). For the purpose of this study, a case study design was used as the study sought to bring out a better understanding of the impact of alcohol on the cognitive and academic performance to students at David Livingstone College of Education.

The study used a qualitative type of research and is based primarily on materials collected by researchers from various literatures written by scholars within and outside Zambia. However, much of its data was sourced from observation from student's characteristics, behaviour and attitudes towards the academic performance. A case study was conducted in which

students were identified and selected through purposive sampling through their character and behaviour. A total of 100 participants were selected to take part in the study. Among them 91 students who were given questionnaires to fill in, 8 lecturers from the disciplinary committee and 1 matron were selected and interviewed to elicit data from them. Data was also collected from the College Library where unpublished primary documents such as Newspapers, Magazines and other correspondence of the Ministry of General Education were consulted and this yielded conclusive results. The data collection method was complimented by information from written materials, which includes published and unpublished sources such as articles in journals, books, thesis and dissertations from University of Zambia Repository.

Site Selection and Target Population

This study was carried out at David Livingstone College of Education among the full time students. The study was carried out between January and April 2021 academic term. The target population was 91 students, 8 lecturers who are members of discipline committee and a matron. The study used purposive sampling to select 91 students. The matron and hostel counsellors provided a list of known beer drinking students who were frequently punished due to beer drinking and a simple random criteria was used on students who have never been punished for beer drinking.

Data Collection

Data collection for the study was based on the following research instruments. These were a test, observation and structured questionnaires, administered to students, and oral interviews schedule administered to college disciplinary committee and the matron. The questionnaires comprising of open ended questions and a composite test from one major course and administered to the selected students while interview schedules were used on 8 lectures who are members of disciplinary committee and a matron for the institution.

Data Analysis

The study employed statistical package for the social sciences to carry out an analysis of questionnaire data in order to establish the impact of alcohol consumption on the academic performance of learners. Processing of the interview data included the descriptive analysis and putting themes and sub headings in categories

III. RESULTS OF THE FINDINGS

The results from the questionnaire revealed that students who normally drink alcohol during the period under review, had poor academic performance in their studies as compared to those who do not drink alcohol. This justifies the acute and chronic effects that beer has on areas of the brain that corresponds to learning. According to the National Institute on Alcohol Abuse and Alcoholism (2015), alcohol can impair memory. Most studies have shown a close connection on frequent drinking to poor academic performance among students.

Drinking has also been associated with poor academic performance. In one study by Kabuba (2012) revealed that college students who drank had less motivation to do well in school and cited poorer academic performance compared to their peers, particularly if they practiced heavy episodic drinking.

Table1 Students scores who drink beer

SCORES					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	35.00	1	2.5	2.5	2.5
	40.00	8	20.0	20.0	22.5
	42.00	3	7.5	7.5	30.0
	45.00	11	27.5	27.5	57.5
	50.00	8	20.0	20.0	77.5
	55.00	5	12.5	12.5	90.0
	60.00	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

Table 1 shows the descriptive statistics for students' performance in a test administered. The mean score was 47, 2750 with a standard deviation of 6.64093. There scores are tilted within the mean score.

Table 2 Students scores who do not drink beer

SCORES					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	40.00	5	9.8	9.8	9.8
	45.00	6	11.8	11.8	21.6
	50.00	8	15.7	15.7	37.3
	55.00	10	19.6	19.6	56.9
	58.00	2	3.9	3.9	60.8
	60.00	7	13.7	13.7	74.5
	65.00	1	2.0	2.0	76.5
	66.00	3	5.9	5.9	82.4
	70.00	1	2.0	2.0	84.3
	72.00	1	2.0	2.0	86.3
	74.00	1	2.0	2.0	88.2
	75.00	2	3.9	3.9	92.2
	78.00	1	2.0	2.0	94.1
	80.00	1	2.0	2.0	96.1
	82.00	1	2.0	2.0	98.0
	90.00	1	2.0	2.0	100.0
	Total	51	100.0	100.0	

Table 2 shows the descriptive statistics on the scores obtained by students who do not drink beer. The mean performance was 57.1569 and the standard deviation was 11.93880 as compared to those who drink beer whose standard deviation is 6.64093. The inferential statistics indicate that there is a statistical significance difference in academic performance

between students who drink beer regularly and those who do not drink beer.

To further validate the results from the questionnaire, a test was administered to 40 students who drink beer and 51 students who do not drink beer. The analysis of their scores in the test for Theory and Practice of Education course revealed that students who drink beer had very low performance as compared to their friends who do not drink beer. The course in which the test was administered was purposefully due to the fact that all students study the course. Therefore due to the effects of alcohol, students who drink beer had intermittent attendance to lectures whereas the non-alcohol drinking students were very consistent with attendance to lectures and this had an effect when the test was given. Other than the effects of attendance to lectures, alcohol damages the brain of an individual who excessively drink alcohol on a regular basis and this has a negative impact on academic performance of an individual.

Failing the examinations by students who drink alcohol is another effect of beer drinking among students as observed by the National Institute of Alcohol Abuse of 2015. Alcohol also causes ill health of an individual, which consequently has a bearing to the poor academic performance of an individual.

The institution in mention has a matron, who oversees the welfare of students on a daily basis. She attends to those reported unwell and facilitate there medical attention in short she is a link between students and administration in terms of students welfare. Students reported drunk by fellow students (leaders) to the matron, are then reported to tutors on duty that facilitates the charges of disciplinary in collaboration with the college disciplinary committee. The disciplinary committee takes record of such cases ad once the student is found guilty, they recommend to the administration for implementation of college standards. Depending on the extent and frequency of the student found drunk on campus, the student is either given manual punishment or sent on leave of absence. This procedure is taken as punitive measure to inhibit beer drinking among students. Consequently students miss lectures and less time working on their continuous assessments, which eventually affects their overall academic performance.

The results obtained from lecturers from the disciplinary committee indicate that alcohol consumers have a negative impact on the academic performance such as absenteeism, health problems, missing of classes as a result of punishments and expulsion. The performances differ from the non-drinkers in terms of cognitive functioning and academic performance. However, there appear to be marginal differences in the performance when they are compared to non-drinkers. The drinking group appears to have performed less well on the Verbal Episodic Memory test when compared with the non-drinking group. There seem to be differences in the way alcohol consumption affects cognitive functioning. It should however, be noted that although the results obtained in this study are statistically significant they are not clinically

significant. This is because both groups are within the normal range of cognitive functioning.

In order to determine whether there is a difference in the cognitive functioning of alcohol consumers and non-alcohol consumers, Class test results and end of term examination results were analysed and results showed that there appear to be major differences overall, in the academic performance of the two categories of the respondents. On male and female's abuse on alcohol, it was found that males drink more alcohol as compared to females. This can be attributed to the fact that in African homes girls are usually closely watched by their parents, are restricted when it comes to the time they should reach home and going out. As a result they have less opportunities to drink alcohol without their parents getting to know the question of who drinks the most, based on the findings of the study between male and female. The males drink more as compared to females. Although the findings also indicates that the majority of those that stated that males drink more than females and the majority pointed out that these day both about it. Males on the other are usually given for lack of a better term more freedom which enables them to have access to alcohol and even without their parents knowing that they drink as they can even sleep out and claim they slept at a friend's place.

On the subject of how often student drink, based on the findings the majority of the participants pointed out on special occasions. Special occasions to these students included birthdays, weekends, sports day, closings day, inter schools, getting a boyfriend or girlfriend or getting heart broken. On the number of bottles that college students drink, the majority pointed out five, although it was revealed that quantify of alcohol intake by number of bottles was a challenge due to the different packaging as well as the fact that students usually share alcohol as was put by one of the respondents in the study: "When it comes to students they usually drink in groups and share with each other making it hard to know how many bottles one drinks. Students usually drink the cheap alcohol locally known as "tujilijili/ or junta" and they make „bombs. Which is a mixture of different alcohol so that they could get drunk faster, (Source, FGD data). The study failed to come up with the exact number of bottles of alcohol that male and female students take due to the fact that there is a verity of alcohol on the Zambian market that comes in different bottles and with different alcohol concentration (Kangwa, 2019).

In addition, these students usually shared alcohol which contributed to them failing to point out how many bottles they each took as according to them they drunk till they could not drink anymore or they did not have money to buy more alcohol. Based on the findings the majority of college students drink alcohol and they usually start drinking between the ages of 15 to 18 years (grade ten to twelve). The study also revealed that there are instances where students start drinking even before they reach the age of fifteen. On the question of who drinks the most among college male and female students

at David Livingstone College, the findings revealed that males drink the most, although some of them felt that females drunk alcohol equally as much as males. The study further revealed that the majority of college students consumed alcohol on special occasions, although a good number also pointed out that students drink alcohol on a daily basis. In addition, what was considered by these students as special occasions included; Friday, sports day, parties, weddings as well as getting a boyfriend or girlfriend.

Further, the findings also revealed that the majority of students drunk five or more bottles of alcohol per occasion (binge drinking), although there was a challenge when it came to quantifying alcohol consumption using number of bottles as the research revealed that usually male and female students drink in groups meaning that they share alcohol, and that they usually mix it with other staff and put in juice bottles making it hard to know the actual amount of alcohol they took. The other factors that presented a challenge when it came to quantifying alcohol intake by male and female students was the fact that bottles came in different sizes (Small and big bottles with high alcohol content), and usually when male and female students drunk they would drink like there was no tomorrow as they did not know the next time they will be able to drink alcohol again.

On family factors that contribute to alcohol abuse among students, the findings revealed the major factors that contribute to alcohol abuse among students were; having parents and family members that drink as was pointed out to be more. With the list contributing factors being having parents that are not strict, having parents that are harsh disciplinarians and being given more than enough pocketed money.

In addition, the study revealed stress and depression is another personal factor that contribute to alcohol abuse among the students. The findings revealed that students drink alcohol because as they are stressed by their parents who constantly pressure them to do well at school and become better than them.

In addition, the study revealed that most females are stressed by relationships especially when they are going through a breakup which forced them to abuse alcohol as it helped them sleep and that boys usually drink because they needed courage especially with matters to do with girls as was put by one of the respondent: "Girls usually drink after being heartbroken as it helps them sleep at night and deal with the depression Heart break is really hard on us girls especially if you have really fallen in love with the guy. The findings also revealed that pupils drunk because they wanted to enjoy life and feel good.

IV. IMPLICATION

The implications of alcohol abuse by students or people in general have long and short lasting effects. Alcohol abuse affects the brains communication pathways and these can influence the mood for an individual, behavior and other cognitive functions. The other effect of alcohol abuse on

women is that the alcohol is likely to affect the brain of the unborn baby in case of the expecting mother, causing what is known as alcohol fetal syndrome disorder. This disorder affects the physical and cognitive performance of the child

Further still, alcohol abuse has the potential to impact negatively on the academic progression of a student. Most students who abuse alcohol have difficulties with their academic work due to inability to manage their time appropriately. To other people with underlying health conditions such as diabetes, alcohol can worsen their health conditions.

Alcohol consumption also affects the behavior of an individual, slurred speech, meaning that a person cannot speak properly; it also affects the motor ability of an individual (motor impairment). An individual is also characterized with confusion and memory difficulties. One cannot recall exactly what happened before and after taking alcohol and this aspect significantly affects the academic performance of most students who are in the habit of drinking alcohol. Risky sexual behavior such as unprotected sex can result into unwanted or unplanned pregnancies and contraction of sexually transmitted infections due to excessive alcohol consumption. The effects of such are unsafe abortions and ill health due to (STI).

The advent of COVID 19 has also worsened the risky factors of alcohol consumption in the sense that persons who drink alcohol excessively, have become the vectors of spreading the virus to others in their drinking places and homes. This is because of the fact that when one is drunk, the behavior is impaired such that the observance of COVID 19 protocols are not adhered to and hence spreading the virus and putting others at risk.

V. CONCLUSION

This research revealed that alcohol consumption has a direct effect on the cognitive and academic functioning of the student, be it male or female though the extent of the effects vary considerably due to the differences on how alcohol metabolism takes place in males and females. Female are more vulnerable than males. Students who drink alcohol usually showed most of the effects discussed in this research such as engaging into fights with friends and not doing their assignments on time and generally poor academic performance as compared to their non-drinking counter parts. At David Livingstone college of Education, most of such students who excessively consume alcohol are most of the time on disciplinary punishments, failing in their examinations and spending more years in school before completing their studies.

The findings of this research cannot be restricted to David Livingstone College of Education alone, the trend is almost similar in other tertiary learning institutions in Zambia. Therefore it is important that effective policies are put in place in order to deter students from excessive alcohol drinking as this has a negative effect on their social and academic life.

FUNDING

This research received no external funding.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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Martin Chabu was born in 1979 in Chipata district, Eastern of Zambia. He did his primary school teacher training at Chipata Teachers training college where he was awarded a Primary teachers certificate. He later went to Rusangu University in Zambia in 2009-2013 for his Bachelor's degree in History. He later did his Master of Arts degree- History at Zambian Open University in and graduated in 2017. He is currently lecturer of History at David Livingstone College of Education. He is also studying for his PhD degree with the Zambia Open University. Martin has written a number of articles to various international journals.

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