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SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

ALCOHOL CONSUMPTION AMONG UNIVERSITY OF GHANA STUDENTS ON LEGON CAMPUS

BY

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THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER OF PUBLIC HEALTH DEGREE.

JULY, 2016

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DECLARATION

I declare that this dissertation is a result of my own hard work and effort. I conducted the research myself and have appropriately cited all authors of reference materials used for this work.

_____ _____

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DEDICATION

I dedicate this project to the Almighty God and my mother, Clare Adwoa Owiredua Boateng whose unflinching support both spiritually and financially has helped me through this course smoothly.

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ACKNOWLEDGEMENT

I wish to express my profound gratitude to God for giving me the strength, knowledge and grace to carry out this work without problems. I am grateful for the strength and determination He granted me to persistently undertake this research and for bringing it to a successful end.

I also want to extend my heartfelt appreciation to my supervisor, Dr. Anthony Danso-Appiah, whose constructive criticisms, time, patience and relentless direction helped shape this research work to a successful end.

I am also grateful to Dr. Samuel Sackey and Dr. Bismark Sarfo, whose advice helped me right from the beginning of this research.

I want to say a very big thank you to my entire family for being there for me at all times throughout my Master of Public Health (MPH) program.

I am particularly grateful to Sydney, Abraham, William, Sandra, Alberta, Christiana and Frempomaa.

To all my friends, I say I'm overwhelmed by your support. God bless you all.

INTEGRI PROCEDAMUS

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ABSTRACT

Background: Alcohol consumption is a major problem worldwide accounting for more than 3 million deaths each year from injuries and accidents, most of which are preventable. The prevalence of alcohol consumption in Ghana is estimated to be 26.8%.

Objectives: This study was conducted to determine the proportion of University of Ghana students who consume alcohol and assess the factors and levels of alcohol consumption among University of Ghana students.

Methods: This study used a cross-sectional design. The dependent variable was alcohol consumption and independent variables were demographic, cultural and social factors. Data were collected using a structured questionnaire and analyzed with STATA version 13.

Results: A total of 403 students from level 100 to 400 comprising 202 males and 201 females were interviewed. The proportion of students who currently consumed alcohol was 25.81%. More males (33.67%) consumed alcohol compared to females (17.91%), and the average age at first consumption of alcohol was 18.67 years. The study further showed that students who smoked were more likely to consume alcohol.

Conclusions: Students whose parents consume alcohol or those who smoke are more likely to consume alcohol than those who do not. Also, males consume more alcohol than females.

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LIST OF ABBREVIATIONS

AUDIT	-	Alcohol Use Disorder Identification Test
GDHS	-	Ghana Demographic and Health Survey
GSS	-	Ghana Statistical Service
IRRGA	-	International Research Group on Gender and Alcohol
NCD	-	Non Communicable Disease
UG	-	University of Ghana
WHO	-	World Health Organization

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DEFINITION OF TERMS

Alcohol consumption: This refers to the act of taking in a beverage containing an amount of alcohol.

Availability: This term is used to define access to alcoholic beverage. This may refer to a person's ability to buy an alcoholic beverage or the distance between the consumer and a source of alcoholic beverage.

Beers: All drinks with the average pure alcoholic percentage as 5 according to set standards in Ghana. This includes club beer, Guinness, stone lager beer and others.

Binge drinking: This is defined as a pattern of alcohol consumption that raises the blood alcohol concentration level to 0.08% or more. This pattern of drinking usually corresponds to 5 or more drinks on a single occasion for a man or 4 or more drinks on a single occasion for a woman, generally within about 2 hours.

Heavy drinking: This is defined as consuming an average of more than 2 drinks a day for a man and an average of more than 1 drink a day for a woman.

Level of alcohol intake: This describes how much alcohol an individual consumes over a period of time

Moderate drinking: This is defined as having up to 1 drink per day for a woman and up to 2 drinks per day for a man Spirits: This includes distilled beverages of at least 40% of pure alcohol content

Standard drink: This refers to 12 ounces of regular beer, usually about250mls of 5% alcohol 5 ounces of wine, typically about 150mls of 12% alcohol, 1.5 ounces of distilled spirits, about 44mls of 40% alcohol.

Wines: An alcoholic beverage made from grapes (mostly fermented) which is typically about 12% of pure alcohol

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CHAPTER ONE

INTRODUCTION

1.1 Background

Alcohol consumption is a growing global problem as it leads to unnecessary injuries and deaths from major and minor accidents that are preventable. Alcohol consumption accounts for about 3.3 million deaths every year. This number represents 5.9% of all deaths worldwide and contributes 5.1% of the global disease burden. Alcohol is known to have a causal relationship with about 200 health conditions.

In order to understand the problem posed by heavy or continuous intake of alcohol among people, it is relevant to know the meaning of the term 'alcohol'. The term 'alcohol' was derived from the Arabic word, "al kohl" (Hajar, 2000). The substance was originally used as pulverized antimony which Arab women used to make their eyelids dark. It has since then seen a dramatic transformation to become a widely used substance for all manner of activities. An alcoholic beverage is a drink which contains alcohol (ethanol) and is meant to be drunk. Most alcoholic beverages are fermented while others like spirits are distilled. Beers are mostly made from wheat, barley, rice, etc whereas wines are made of fermented grapes and berries. Alcohol or alcoholic beverages can be grouped for the purpose of this study generally under beers, wines and spirits. Beers mostly contain 5.5% pure alcohol content, wines, 13% and spirits, usually 40% (Gill, 2002). The beers are often brewed, wines fermented and spirits distilled. Some spirits are even double or triple distilled to get a very high quality of ethanol.

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Many people in the world consume alcoholic beverages of different kinds for different reasons with younger people engaging in dangerous forms of alcohol consumption than older people. Europe is the continent with the highest alcohol consumption and Belarus has the highest alcohol per capita of 17.5 litres followed by Moldova (WHO, 2014). Alcohol consumption is very high among high school students (Milleret al, 2007) with 44.9% in Columbia who reported to have consumed alcohol in the past 30 days of which 28.8% engaged in binge drank (Miller et al., 2007) . In the United Kingdom, teenagers have high levels of intoxication and binge drinking (identified as more than five drinks at a sitting or in a row) compared to their other European counterparts.

Binge drinking is notable among adolescents and leads to a number of behavioural and health problems. In the United Kingdom, binge alcohol consumers as well as their friends have suffered problems ranging from immediate personal effects to secondary effects. Personal problems included influences on sexual health, behaviour consequences and evidence of impairment of academic performance. Secondary binge effects were put in terms of broken friendships as a result of post drinking incidents which had been suffered by 8.5% males and 3.5% females. 16.8% males and 5.5% females had neglected their obligations due to loss of memory from binge drinking (Gill, 2002). Another study by (Miller et al., 2007) in the United States of America also showed that 90% of binge drinkers are between the ages of 12 and 17 years. 73.1% of all adults aged 18-29 years in Columbia were also shown to have consumed alcohol in the past year. 39% of these people reported heavy episodic drinking, 21.1% also reported heavy drinking once a month and 11.1%, heavy drinking once a week. These figures correspond to 54.3% for any episodic drinking which is very high (Dawsonet al, 2004). The pattern of alcohol consumption shows high levels from 12 to 17 years, reduced levels from age 17-22 and again high levels from age 24 upwards (Grant et al, 2015).

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There is a trend that indicates that countries in Africa consume alcohol in rising levels. Most African countries tend to consume more locally brewed alcoholic beverages, which are not internationally recognized and classified, than other alcoholic beverages such as beer, wine and spirits. Only South Africa and a few other countries in Africa consume more beer than locally brewed beverages (WHO, 2014). Comparing the rates of alcohol consumption in 2011 and 2014, almost every country has grown in terms of the proportion of their populations which consume alcohol(WHO 2011; WHO 2014). South Africa and Namibia are in the medium consumption group worldwide. The leading consumer of beer in Africa is Angola followed by South Africa and then Kenya in third. Most African countries consume beer in large quantities as compared to wine and spirits (WHO, 2014). Substance use is associated with many risk behaviours especially among the youth (Young & Klerk, 2009).

Students and youth in the reproductive stages tend to consume a very high amount of alcohol. Alcohol consumption has also been seen to increase with employment and sex but did not show any relationship with income levels and types of occupation. Students from the high schools through to the university levels are identified to have increased sexual activity as well as sexual risk behaviours with increased alcohol consumption (Palen et al., 2006). Alcohol consumption is also a leading cause of many injuries resulting from major and minor accidents. It also damages the health of patrons and causes many health conditions (Singh & Mail, 2014). Although African countries are not seen among the very high consumers, the consumption and use of alcohol is very predominant and even dangerous as African countries are the most noted for unrecorded alcohol (STATISTICS, 1992). The level of unrecorded alcohol consumption is high in Sub-Saharan Africa but some countries as South Africa, Kenya and Angola are also high consumers of beers and wines (WHO, 2014).

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Ghana is among the lowest consumers of alcohol with alcohol per capita (APC) of about 5 litres. The prevalence of alcohol consumption in Ghana is 26.7%. Men have a prevalence of 35.8% with women, 17.5% (GSS et al., 2009). The rate of the 2011 global status report was lower than that of the 2014 global status report on alcohol. The growing trends of alcoholic beverage production and increasing level of advertisement are known to be contributory factors. The use of alcohol to reduce stress, improve appetite and enhance sexual performance which are encouraged by advertisement are major reasons for the rising levels of alcohol consumption among most Ghanaians.

Some of the spirits consumed in Ghana are mixed with certain herbs to cure certain diseases as hemorrhoids and menstrual pain. Ghana is one of the countries with the highest consumption of unrecorded alcohol (Tampah-Naah & Amoah, 2015). This has enhanced the patronage of the youth and therefore aggravated the use of alcohol especially among the youth of reproductive age.

Some of the locally brewed alcoholic beverages in Ghana are pito, palm wine, akpeteshie, etc (Tampah-Naah&Amoah, 2015). Some beers, lagers and stouts are brewed in Ghana. Examples of these are 'club' 'star' 'root extra, etc. There are also hard drinks which are high in alcohol content as, 'pusher', 'opeimu', 'alomo', 'joy dadi', etc. It is also relevant to look at the consumption of alcohol on students' risk of sexual behaviours and academic performance. The pattern of alcohol consumption in Ghana is such that unrecorded alcohol (57%) is consumed highest followed by beer (30%) and wine (10%), with the least consumed being spirits (3%) (WHO, 2014).

University campuses from across the world, as studies have shown have a high rate of alcohol consumption (Miller et al., 2007; Palen et al., 2006; Prendergast, 1994). The development of certain behaviours which are detrimental to health, academic performance

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and problem behavior begin at a stage when there is allowed a certain level of autonomy (Oppong Asante et al., 2014). The university level is a point in the life of a Ghanaian adolescent when for most, autonomy or independence is experienced for the first time. At this stage, students make most decisions on their own and often dictate the activities they engage in. Peer influence at this stage also plays a very huge role in determining which way the life of the students may go. Most students also have access to huge amounts of money as they often do not live with their parents or guardians anymore.

Cultural background of the students may also play a role as they may have been exposed to alcohol consumption from their cultural backgrounds. Most cultures use alcohol frequently for many functions and students are exposed to these practices and tend to carry it on as a practice of their own (Perkins & Berkowitz, 2009). Advertisement of alcoholic drinks is also seen to play a major role in the consumption of alcohol by students. The alcohol producing companies win customers through attractive branding, persuasive advertisement and promotion. The alcoholic beverages are made to suit the demands of customers and these are also mentioned in advertisements to reinforce the interest of consumers. Companies also sponsor many attractive programs ranging from entertainment to sports to aid its promotion (Snyder et al., 2006). This has very telling effects on the general public and leads them often to accept the brand.

1.2 Problem statement

Alcohol consumption is a major problem in Ghana and it is a major risk factor for many liver-related diseases, as well as many other communicable and non-communicable diseases. Binge alcohol consumption is also a risk factor for many preventable deaths from accidents, homicides and suicides. It also facilitates risky sexual behaviours as

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highly intoxicated individuals often do not have sound judgment to take precautionary measures to protect themselves.

Global harmful alcohol consumption accounts for about 3.3 million deaths every year (5.9% of all deaths) as well as 5.1% of the global disease burden. There is also extended knowledge on alcohol causal relationship with about 200 health conditions. Alcohol is also known to be significantly related with the incidence and clinical outcomes of certain infectious diseases such as tuberculosis, HIV/AIDS and pneumonia. Alcohol consumption also accounts for a very high amount of social and economic losses to individual consumers and nations as a whole.

It is expected that educated people would rather engage in less harmful forms of alcohol consumption as well as those who are young since they do not have economic independence. However, studies have shown that young people engage in more harmful forms of alcohol consumption. This gives reason to look into what the situation is on the University campuses and what factors drive their actions.

1.3 Justification

The issue of excessive alcohol consumption is a major problem especially in relation to health. The number of deaths each year resulting from alcohol related causes is overwhelming. However there is little information on the factors that influence alcohol consumption in our Ghanaian university. Information from WHO over the years have shown a trend of increase in harmful alcohol consumption in most countries for which Ghana is included.

This research was intended to determine how prevalent alcohol consumption is on University of Ghana campus. The information obtained from this study will be essential

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in equipping government and other policy makers on the level of alcohol consumption on the university campus. Parents and other stakeholders can also be aided with findings from this study to put in the necessary measures to moderate the consumption of alcohol to alleviate its harmful impact. This in addition with other studies on other areas of the nation will enable government have enough evidence to put in the required public health intervention to reduce the deaths and economic burden from harmful alcohol consumption in Ghana. It will also encourage education on the dangers of alcohol consumption and behaviour change.

1.4 Study objectives

1.4.1 General objective:

- To determine the proportion, and factors influencing alcohol consumption among University of Ghana students

1.4.2 Specific objectives:

- To assess the proportion of alcohol consumption among University of Ghana students
- To determine the factors influencing alcohol consumption among University of Ghana students
- To assess pattern of alcohol consumption among undergraduate students in the University of Ghana

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CHAPTER TWO

LITERATURE REVIEW

2.1 Prevalence of alcohol consumption

Men have always been found to consume more alcohol than women. Studies have shown that the consumption rates and frequencies for men always differ with men having the higher consumption rates than women. A study of ten Universities in the UK showed that, 61% of male students and 48% of female students exceeded the safe drinking limits (Young & De Klerk, 2009). According to Peltzer and Ramalgan (2009), in Thailand, the drinking prevalence for men and women were 77% and 47% respectively. In Mexico, it was 77% for men and 44% for women. In the general public of South Africa it was 30%, 40% for men and 16%for women and that of Namibia showed 61% for men and 47% for women. In Ghana, the story was no different in terms of comparing men and women. The drinking prevalence for the population as at 2008 was 26.8% 36.7% for men and 17.5% for women (GDHS 2008). Unfortunately, the GDHS 2014 did not touch on alcohol consumption. This may have shown a different (higher) picture considering the invasion of the local market with both local and foreign alcoholic beverages.

In spite of the generally high rates of alcohol consumption, the pattern varies by countries and even different parts of these countries. Alcohol consumption and related patterns vary from urban to rural areas and also according to level of wealth. The rates of mortality and morbidity per capita alcohol consumption are also high for low income countries as compared to high income countries (WHO, 2014). Pregnant women have also been found to consume alcohol with a prevalence of 20.4% (Adusi-Poku et al., 2012).

Alcohol consumption is a very widespread activity and varies across culture, distance and time with respect to the patterns of consumption. According to Young & De Klerk, (2009).

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The time at which people start consuming alcohol is often determined by their respective societies. In USA, people start consuming alcohol at a very early stage. Binge drinking among high school students is very common and accounts for about 90% of the act (Miller et al., 2007). A look at this pattern of alcohol use among the youth is very alarming and calls for immediate measures to be taken.

2.2 Effects of alcohol use on adolescents

Alcohol use, though not an extremely bad practice, has a number of effects on everyone who abuses it. People who abuse alcohol are likely to suffer one or more of a number of consequences. For adolescents, there are medical and psychological consequences as well as social problems.

2.2.1 Medical and psychological consequences

Alcohol abuse is a necessary risk factor for many injuries which can be avoided. When adolescents consume excessive alcohol, it affects their normal childhood growth and development. It goes on to affect their psyche as their memory of past events is derailed. Fighting, unprotected sex and violence are some of the consequences associated with distorted memory resulting from heavy alcohol consumption (Chauke et al., 2015). Intoxication from alcohol poses a lot of dangers to the patron. People have the tendency of sleeping and treading in dangerous places when they are drunk. This poses a huge threat to their lives as they are helpless at the mercy of robbers and other bad people in society; an act which in their right senses they would not have done. Drunkenness is also seen to be associated with low paternal education and is also linked with substance abuse in other forms (Doku et al., 2012).

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2.2.2 Social problems

Many social problems result from heavy alcohol consumption. Bullying, strained relationships, unnecessary squabbles and loss of friends are some of the social issues which result from excessive alcohol consumption among college and high school students (Elisaus et al., 2015). Apart from this, violence and fights could lead to getting into problem which would otherwise cause adolescents to be in situations such as jail or courts for various offences.

2.3 Factors influencing alcohol consumption

Many factors account for alcohol consumption. There are many varying factors depending on the people involved and the locations being considered (Adusi-Poku et al., 2012). Factors which influence alcohol consumption include, economic status, location, accessibility and availability of alcoholic beverages, social influence, sex, etc(Gill, 2002). The role of the media cannot be left out in the promotion and normalization of alcohol consumption. Though there are regulations on alcohol use, there is a wide acceptance for its use. Alcoholic beverages have been portrayed to the public as being capable of curing all manner of diseases, hence luring even disinterested people to join the bandwagon of excessive alcoholism. Alcohol by its nature is addictive just as any other substance and once a person gets used to it, becomes very difficult to stop. The use of alcohol to enhance certain activities as sexual intercourse fuels alcohol dependence. People who get used to alcohol use with the aim of satisfying their partners sexually tend to become alcohol dependent and often need it anytime they engage in sexual activity. Yoon (2015), explains how young people learn how to drink, citing culture and peer influence as predominant. The young Chinese often drank for the first time during family gatherings and their motive was to feel sociable among their peers.

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Economic factors also play a role in alcohol consumption. Alcohol has been found to be associated with wealth (Tampah-Naah&Amoah, 2015). Wealth as a determinant of alcohol consumption shows that richer people are more likely to consume more alcohol than poor people. This can be due to affordability and accessibility. People with more income are more likely to consume more alcohol and engage in harmful hazardous drinking than people with low income (Anyawie, 2013). Most of the time people find prestige in the brand and quality of alcohol that they consume. This leads to them buying very expensive and high content alcoholic beverages to distinguish themselves from low income earners.

Religion and education also affect alcohol consumption to a very great degree. Education and alcohol consumption are inversely related. More educated people consume less alcohol than less educated people. However, it is the opposite for religion. People who have a strong faith and attachment to a particular religion consume less or no alcohol compared to people who are less religious. In spite of this, a study by Gupta et al. (2003), conducted in India showed that alcohol consumption among middle aged men was highest among Christians, 51% followed by Buddhists, 46.6%. Muslims were the least consumers of alcohol with 5.7%. Alcohol consumption is therefore lowest for practicing Muslims and devout Protestants as those who believe strongly in the Bible and study it have high abstention for alcohol.

Age is another factor which affects alcohol consumption. For age, there is a varying prevalence as young people consume so much alcohol. By age 20, the alcohol consumption rates seem to reduce and rise again at age 24. Binge drinking is common to 15-24 year olds (Peltzer &Ramlagan, 2009). It goes on and reduces again as people age. In Ghana, there are various regulations concerning alcohol use but these are not fully implemented as young boys and girls below the cut off age still engage in alcohol

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consumption and even record higher rates of consumption than the entire population (Elisaus et al., 2015).

Another factor variable which affects alcohol consumption is social norms. In most traditional societies, alcohol use is a normal way of life. The use of alcohol in ceremonies such as naming ceremonies makes it an acceptable behaviour if one consumes alcohol. The problem however is not the consumption of alcohol in these communities but the tendency of the youth to do it in excess. This is what makes the practice a harmful one which is dangerous to the health of the people. According to Wallace(2015), sibling substance use correlates to adolescent substance use. Although this is true in most cases, not all siblings were found to be as influential. This was found to be as a result of varying age gap, sex and birth order in certain families.

2.4 Alcohol and diseases

Alcohol consumption which is excessive is linked to non-communicable diseases (NCDs) and communicable diseases directly and indirectly respectively. For NCDs, prolonged alcohol consumption leads to majority of them. Diseases like cirrhosis, alcohol liver disease (ALD), alcohol hepatitis and diabetes will be discussed. Like other substances, alcohol has been found to be addictive and very problematic. Alcohol, when taken is quickly absorbed into the bloodstream and begins to work on the brain like any other psychoactive substance. Its effect is very immediate as a result of that (Belendiuk et al., 2015). Conditions resulting from alcohol abuse can be chronic or acute. Heavy alcohol consumption is also linked with risk behaviour and also maternal accidents and deaths (Asamoah & Agardh, 2012). Alcohol consumption in excess can also ruin friendships as it is closely linked with temperance (Warsh, 2000). Studies have shown that most friendships and relationships break after heavy episodes of drinking. When people are

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intoxicated, they have the tendency to take offence in the slightest things and end up breaking valuable relationships through their actions while in that state.

2.4.1 Alcohol hepatitis

Alcohol hepatitis is an inflammation of the liver caused by excessive intake of alcohol. Alcohol hepatitis is an acute form of alcoholic liver disease which demands early medical attention. It is usually found in association with fatty liver which is an early stage of alcohol liver disease. This may go on to develop into fibrosis and progress into cirrhosis. Patients who are diagnosed of alcoholic cirrhosis are often advised to get screened for alcohol-related cardiac, renal, pancreatic and nervous system diseases (Dugum & McCullough, 2015). Alcoholic fatty liver (steatosis) is the early response of the liver to alcohol abuse. This is characterized by accumulation of fat (mainly triglycerides, phospholipids and cholesterol esters) in hepatocytes. Alcohol consumption has been found to increase the supply of lipids from the intestines to the liver. This leads to deposition of fats in the liver. How prolonged alcohol consumption leads to steatosis is however not fully established (Gao & Bataller, 2011).

2.4.2 Alcohol and hypertension

It has been found out that the risk factors for non-communicable diseases (NCDs) are not monitored routinely. Hospitals are slow to offer advice on the role of risk factors in the development of NCDs (Nelson, Nyarko, & Binka, 2015). This is a responsibility which needs to be strengthened. Alcohol consumption with salt intake is one of the factors linked with high blood pressure (Lore, 1993). Other factors such as obesity, psychological stress, physical inactivity and the likes are all in a way linked to alcohol consumption. Other studies by Bosu (2010), have also found age, over nutrition and alcohol consumption to be associated with hypertension.

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2.4.3 Alcohol and gastrointestinal dysfunction and peptic ulcer

When an alcoholic beverage is consumed, it passes through the oral cavity, through the oesophagus into the gastrointestinal tract. Alcohol tends to affect the proper function of the muscles separating the oesophagus from the stomach. This leads to a person experiencing heartburns. Alcohol causes this by relaxing the sphincter muscles which regulate the movement of acidic contents from the stomach into the oesophagus. When alcoholic beverages with high alcohol contents are consumed, they affect the secretion of gastrointestinal acid in organisms. Studies by Bode & Bode (1997), have shown that this development varies from one organism to another depending on the capacity of the organism's gastrointestinal tract. Peptic ulcer forms when acid erodes the lining of the digestive tract of an organism. Though alcohol intake does not cause peptic ulcers, its abuse has been found to significantly inhibit the ability of the sores to heal (Dakubo, Naaeder, & Clegg-Lamptey, 2009). Alcohol has the tendency of worsening the condition of peptic ulcer patients. It is therefore a requirement for peptic ulcer patients to reduce the amount of alcohol they consume.

2.5 Alcohol and maternal mortality

Many studies have been conducted across the world and in Ghana on the relationship between alcohol use and maternal injury and mortality. The prevalence of alcohol consumption among Ghanaian women has been found to be high (33%). Religion has been found to influence alcohol consumption among Ghanaian women as those who often attended religious meetings consumed less alcohol compared to their counterparts who were less religious (Anyawie, 2013). It is unfortunate that pregnant women are also found to consume alcohol. Chronic alcohol consumption in pregnant women has a number of effects ranging from the mother to the unborn child. Maternal injuries and mortality are heightened when pregnant women engage in this practice. The unborn child may also

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suffer some conditions and deformities as a result of maternal alcohol consumption. With the MDG 5 (which is reduced maternal mortality) fast approaching, it is relevant to look at some of the pertaining factors leading to maternal mortality and alcohol consumption has been found to have a significant association with induced-abortion which is a leading cause of maternal mortality (Asamoah&Agardh, 2012).

2.6 Potential health benefits of alcohol consumption

Though alcohol consumption has a number of dangers associated with it, it may have some advantages. Many prospective studies have shown that the lower your alcohol consumption, the higher your risk of heart attacks (Rimm et al., 1999) . This has been found for both men and women from over 100 studies conducted. Alcoholic beverages, especially wines have been found to be very good for the heart and it's often recommended in the hospitals for people to consume them moderately. Consumption of alcoholic beverages such as red wine not only reduces heart at attack rates but also ischemic stroke, peripheral vascular disease, sudden cardiac death and death from all cardiovascular causes.

Beyond the heart, alcohol also goes on to affect the other parts of the body positively. The reduction of gallstones and type 2 diabetes among moderate alcohol drinkers as compared to non-drinkers is another important role played by alcohol with respect to health (Rehm et al., 2004). This however is limited to moderate drinkers and not heavy drinkers.

It will be incomplete to talk about benefits of alcohol without mentioning the social and psychological aspects. A little alcohol before a meal helps digestion. People who otherwise have the challenge of performing a task in public have an extra boost with a little alcohol taken in. Alcohol can also give a soothing relief to its consumers from a

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hard day's work. Most people take alcohol either for relaxation purposes or as an appetite booster (Hu et al., 2016).

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CHAPTER THREE

METHODS

3.1 Study design

A cross-sectional study comprising undergraduate students resident in any of the halls on the Legon campus was conducted to assess the proportion, and factors influencing alcohol consumption among University of Ghana students.

A room to room survey was conducted based on the selected rooms for registered students using a structured questionnaire. Students from level 100 to level 400 from the halls were interviewed in a sequential order. With this, the rooms were evenly involved in the study as well as students. Students were visited and interviewed in their various rooms for duration of approximately 20 minutes. A quantitative method of data collection was employed using the structured questionnaires.

3.2 Study setting

University of Ghana is located in the Greater Accra region of Ghana. It is the first university in Ghana, established in 1948. It is located 12 km northeast of the center of Accra. It has a student population of 35015. 27391 of these students are undergraduate students (L100 to L400). It has satellite campuses at Korle-Bu, Ghana Atomic Energy Commission, Accra city campus and study centers in the various regions where it runs weekend and short courses.

The university has 13 halls, some of which have annexes for students. There are also graduate hostels (VALCO phase 1&2), international students' hostels, jubilee hostels. There are five (5) traditional halls namely, Legon, Mensah-Sarbah, Volta, Akuafo and Commonwealth Hall. There is also the African Union hall behind which are the Evandy,

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Bani and James Topp Nelson halls which are also situated on the university campus. VALCO phases 1&2 will not be included in the study as these halls are meant for graduate students. The university is a choice for this study as students have been restricted from the SHS level and so given the level of freedom they have in the university, are likely to indulge in such acts.

3.3 Variables

The dependent variable of this study was alcohol consumption and the independent variables were socio-demographic (such as sex, age, marital status, hall of residence, etc.), culture and social influence (such as parents' drinking, peer influence, influence from other people in the community, etc.).

3.4 Study participants

Study participants for this study were undergraduate students from L100 to L400. These participants were resident in one of the halls on campus and belong to one of the faculties. Students were regular students whose studentship had not expired at the time of the study. There was however no age cut off as the study wished to study students once they were undergraduate and resident in one of the selected halls. This notwithstanding, students below the age of 18, which is the legal age for alcohol consumption in Ghana, were going to be used if they were found in the study. This, as identified was meant to assess the proportion of students who are underage drinkers.

3.5 Eligibility criteria

Eligible participants in the study were undergraduate students who were registered with the University of Ghana and belonged to one of the faculties on campus. Willingness to participate in the study through completing and submitting the informed written consent form was one of the criteria for being eligible to participate in the study

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3.6 Sampling

Four halls were balloted for among a list of 11 halls. The researcher labelled 11 pieces of papers with four having 'yes' and seven having 'no'. Eleven research assistants were assigned to 11 halls to pick a piece of paper each. Those halls whose representatives picked 'yes' were used for the study. The number of students in each of the four halls were taken from the senior hall tutor to be used in determining how many students were picked from each of the halls. Depending on the number of students to be used in each hall and the number of rooms available, a random number was generated and the interval for rooms to be used were determined.

Study participants were sampled using simple random sampling of the halls followed by a simple random sampling of students from these halls. A stratified sample was used to identify the halls by their populations to give weights to them. Another reason for the stratified sampling technique will be to make equal the representations for males and females in the case of selecting a single sex hall as one of the sample halls for the study. Following that was a simple random sampling in which the researcher will use a sample generator to generate the room numbers to be used based on the rooms available in the halls.

The sample size was calculated using Kothari, (2004) sample size calculation formula. This is because the University of Ghana as a public institution has a finite population. The prevalence of alcohol consumption among university of Ghana students is unknown and will therefore be assumed to be 50%. This will be calculated as $n = \frac{z^2 pqN}{e^2(N-1)+z^2pq}$ and measured at a 95% confidence interval. Where n=sample size, p=assumed prevalence, N=population of UG students and e=error margin.

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With the assumed prevalence of alcohol consumption among University of Ghana students assumed to be 50%,

$$n = \frac{(1.96)^2(0.5)(0.5)(\mathbf{21472})}{(0.05)^2(\mathbf{21472}-1)+(1.96)^2(0.5)(0.5)} = 377$$

21472 students were used in the sample size calculation because this number represents the undergraduate students who reside in the traditional halls. Other undergraduate students residing in other hostels and their own rented apartments were not included.

Calculating for a 10% dropout rate, a sample of 403 students were used for the study. Pre-tested questionnaires were administered to the samples for the study.

3.7 Data collection procedure/tools

3.7.1 Technique

Data was collected using a pre-tested structured questionnaire. This questionnaire contained questions on the standard Alcohol Use Disorder Identification Test (AUDIT) and International Research Group on Gender and Alcohol (IRGGA) questionnaires. It also solicited information on the culture, socio-demographic characteristics as well as level of social influence on participants. The AUDIT and other aspects of the questionnaire was used to train the assistants in this research. Research assistants were trained on how to ask questions and the level of probing required in order preventing unequal measure of questions for the respondents. Standardized tools were used to train the assistants on questioning to avoid questions which may be personal to respondents. This was also essential to keep respondents at ease. Interviewers were educated on the need to respect the rights of respondents as regards to refusal to respond to certain questions.

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3.7.2 Quality control

Research assistants were recruited and trained to administer pre-tested questionnaires. The skills of these research assistants were developed in probing for further response. Respondents' identity was kept unknown as they did not write their names, student ID numbers or telephone numbers on the questionnaires. There were extra questionnaires in excess of the actual sample size calculated to cater for withdrawal or non-responses. This measure was also to compensate for questionnaires which were for some reasons not returned. Questions from the AUDIT and the IRGGA questionnaires were modified to suit the purpose of the research and to make questions applicable to the respondents. Questionnaires were pre-tested to check for its validity and accuracy after which adjustments were made before being administered to the target study participants.

3.8 Data management and analysis

Questionnaires and other information of respondents were stored in safe and secure places which are a laptop with memory sticks with iCloud backups. Double data entry was done in excel to check for errors and outliers. Excel 2013Software was used for data entry.

The data were cleaned to identify missing values. The data was screened for outliers. The socio-demographic characteristics of the respondents were summarized into frequency tables. These results have been displayed in the form of tables and graphs.

Bivariate analysis was done to evaluate the proportion of the independent variables (categorical and binary). Chi-square was used to test whether respondent characteristics were significantly associated with the outcome variable. The variables which were significant (in terms of association) in the bivariate analysis were incorporated into the logistic regression model.

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Multiple logistic regression models were used to examine whether variables that were statistically significant in bivariate analyses remained significant after controlling for potential confounders. The crude and adjusted odds ratios were reported for the significant variables. The significance level for analysis in the study was set at 5% with a confidence interval of 95%. All analysis was done using the software STATA, version 13

3.9 Ethical consideration

Ethical approval was sought from the Ghana Health Service Ethical Review Committee. Permission was also obtained from the Dean of students given that students will be used as study participants for the study.

The consent of the participants was sought with an informed written consent before the study was conducted. The benefits as well as duration of the study was clearly spelt out in the consent form. Information on requirements of the study was as a matter of fact well explained to the participants before they enrolled into the study. This consent form also provided the name and contact detail of a personnel from the Ghana Health Service Ethical Review Committee so participants can call in for clarification.

Ethical issues in research such as voluntary participation, confidentiality, refusal rights, safety of procedure and benefits were all considered.

3.10 Pre-test of questionnaire

The questionnaires for the study were pre-tested in one of the unsampled halls for the study. This is to identify the strengths and weaknesses of the questionnaire and corrections be made before they were sent to the field for the actual study. It also checked for consistency of the results after the study, provided the pre-test and actual study yielded similar results.

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3.11 Expected outcome

The study was expected to come out with the proportion of University of Ghana students who consume alcohol. This study was also expected to assess the trends of alcohol consumption among students according to levels of consumption. It was however anticipated that the proportion of students who consume alcohol will be greater than the national prevalence of 26.7%.

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CHAPTER FOUR

RESULTS

4.1 Introduction

The study was conducted on the Legon campus of the University of Ghana in four of the halls of residence on campus. The respondents in this study were undergraduate students who were registered and resident in one of these four halls at the time of the study.

Data collection took place over a period of one week with four research assistants who were assigned to a hall each. The structured questionnaire which had forty-seven (47) questions as variables were answered by the students with little explanation by the research assistants. The questionnaire has six sections made up of demographic characteristics, alcohol and substance use, alcohol use disorder identification test, peer influence, socio-cultural factors and indirect effects of alcohol. Responses to the questions ranged from simple binary responses to scaled responses. Four hundred and forty questionnaires were sent out and four hundred and three were returned. The sample size for the study was a minimum of three hundred and seventy-seven hence the sample was enough for the analysis.

The sample was made up of two hundred and two males (50.12%) and two hundred and one females (49.88%). Majority of the participants were between the ages of 20-24 years (65.51%), followed by 15-19 years(17.87%),then 25-29 years and over 30 years respectively(12.90% and 3.27%). The study participants were mostly single (381, 95.25%) and males were on the average older than females. Majority of the students offered Bachelor of Arts and Bachelor of Science (249,133; 61.79%, 33.30%) courses with only few offering Law and Bachelor of Public Health programs (16, 5; 3.97%, 1.24%). Respondents were evenly distributed among the halls with the fewest coming

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from the African Union hall (89). More than half of the respondents spent less than GHC 301 (234, 58.1%) per month.

Table 1: Socio-demographic characteristics of students (level 100-400)

Characteristics	Total Respondents=403	%
Sex		
Male	202	50.12
Female	201	49.88
Age (years)		
15-19	72	7.87
20-24	264	65.51
25-29	52	12.90
30+	15	3.72
Marital Status		
Single	381	95.25
Married	19	4.75
Program of Study		
B A	249	61.79
BPH	16	3.97
BSC	133	33.00
LLB	5	1.24
Hall of Residence		
African Union	89	22.09
Commonwealth	106	26.30
Volta	106	26.30
Alexander Kwapong	102	25.31
Monthly Allowance		
<300	234	58.06
301-600	127	31.51
601-900	17	4.22
901-1200	13	3.23
1201+	12	2.98

Respondents who had ever consumed alcohol out of the sample were 227 (56.33%) and 104 (25.81%) currently consumed alcoholic beverages. The mean age for the onset of alcohol consumption was 18.67 years. More males (125, 61.88%) consumed alcohol than females (102, 50.75%) respondents were aged 20-24(150, 56.82%) the proportion of married respondents (73.68%) who had ever consumed alcohol was compared to single respondents (55.38%). In order of halls, respondents from Alexander Kwapong hall consumed the most alcohol (69.61%), followed by African Union (59.55%) and the Commonwealth and Volta halls (58.48% & 38.68%) respectively. Current drinking showed Commonwealth hall leading with 55.56% and Volta hall still recording the lowest

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consumption proportion. According to income, there was a direct relationship between amount earned and proportion which consumed alcoholic beverages.

Table 2: Socio-demographic characteristics of respondents and alcohol consumption (Ever)

	Number (%)		N=403	
characteristic	**Yes**	**No**	**Total**	**p-value**
Sex				
Male	125(61.88)	72(38.12)	202	0.024
Female	102(50.75)	99(49.25)	201	
Age (years)				
15-19	28(38.89)	44(61.11)	72	0.000
20-24	150(56.82)	114(43.18)	264	
25-29	35(67.31)	17(32.69)	52	
30+	14(93.37)	1(6.67)	15	
Marital Status				
Single	211(55.38)	170(44.62)	381	0.117
Married	14(73.68)	5(26.32)	19	
Program of Study				
B A	140(56.22)	109(43.78)	249	0.465
BPH	12(75.00)	4(25.00)	16	
BSC	72(54.14)	61(45.86)	133	
LLB	3(60.00)	2(40.00)	5	
Hall of Residence				
African Union	53(59.55)	36(40.45)	89	0.000
Commonwealth	62(58.49)	44(41.51)	106	
Volta	41(38.68)	65(61.32)	106	
Alexander Kwapong	71(69.61)	31(30.39)	102	
Monthly Allowance				
<300	119(50.85)	115(49.15)	234	0.004
301-600	73(57.48)	54(42.52)	127	
601-900	14(82.35)	3(17.65)	17	
901-1200	11(84.62)	2(15.38)	13	
1201+	10(83.33)	2(16.67)	12	

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Table 3: Socio-demographic characteristics of respondents and alcohol consumption (current)

	Number (%)		N=227	
Characteristic	**Yes**	**No**	**Total**	**p-value**
Sex				
Male	68(53.97)	57(46.03)	125	0.004
Female	36(35.64)	66(64.36)	102	
Age (years)				
15-19	10(34.48)	19(65.52)	29	0.552
20-24	72(48.32)	77(51.68)	149	
25-29	15(42.86)	20(57.14)	35	
30+	7(50.00)	7(50.00)	14	
Marital Status				
Single	97(45.97)	114(54.03)	211	0.821
Married	6(42.86)	8(57.14)	14	
Program of Study				
B A	64(45.39)	77(54.61)	141	0.536
BPH	8(66.67)	4(33.33)	12	
BSC	31(43.66)	40(56.34)	71	
LLB	1(33.33)	2(66.67)	3	
Hall of Residence				
African Union	23(44.23)	29(55.77)	52	0.193
Commonwealth	35(55.56)	28(44.44)	63	
Volta	14(34.15)	27(65.85)	41	
Alexander Kwapong	32(45.07)	39(54.93)	71	
Monthly Allowance				
<300	53(44.17)	67(55.83)	120	0.573
301-600	32(44.44)	40(55.56)	72	
601-900	6(42.86)	8(57.14)	14	
901-1200	6(54.55	5(45.45)	11	
1201+	7(70.00	3(30.00)	10	

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Table 4: Alcohol and substance use among University of Ghana students

Characteristic	No	%
Alcohol Consumption (ever)		
Yes	227	56.33
No	176	43.67
Alcohol Consumption (current)		
Yes	104	45.81
No	123	54.19
Type of Beverage Consumed Ever		
Beer	64	28.70
Wine	121	54.26
Spirits	21	9.42
Other	17	7.62
Occasion		
Party	113	50.00
Outing	59	26.11
Normal Day	46	20.35
Other	8	3.54
Smoking Status		
Yes	28	6.95
No	375	93.05

Wine is the most consumed type of alcoholic beverage, 121 (54.26%), followed by beer, 64 (28.70%) and the Spirits, 21 (9.42%). 17 respondents representing 7.62% consumed other alcoholic beverages. Respondents spent on the average GHC17.6 on alcohol. Half of the respondents consumed alcohol for the first time at parties whereas those who consumed during outings and normal day were not very different (26.11% and 20.35%). Only 28 (6.95%) of the respondents were current or former smokers.

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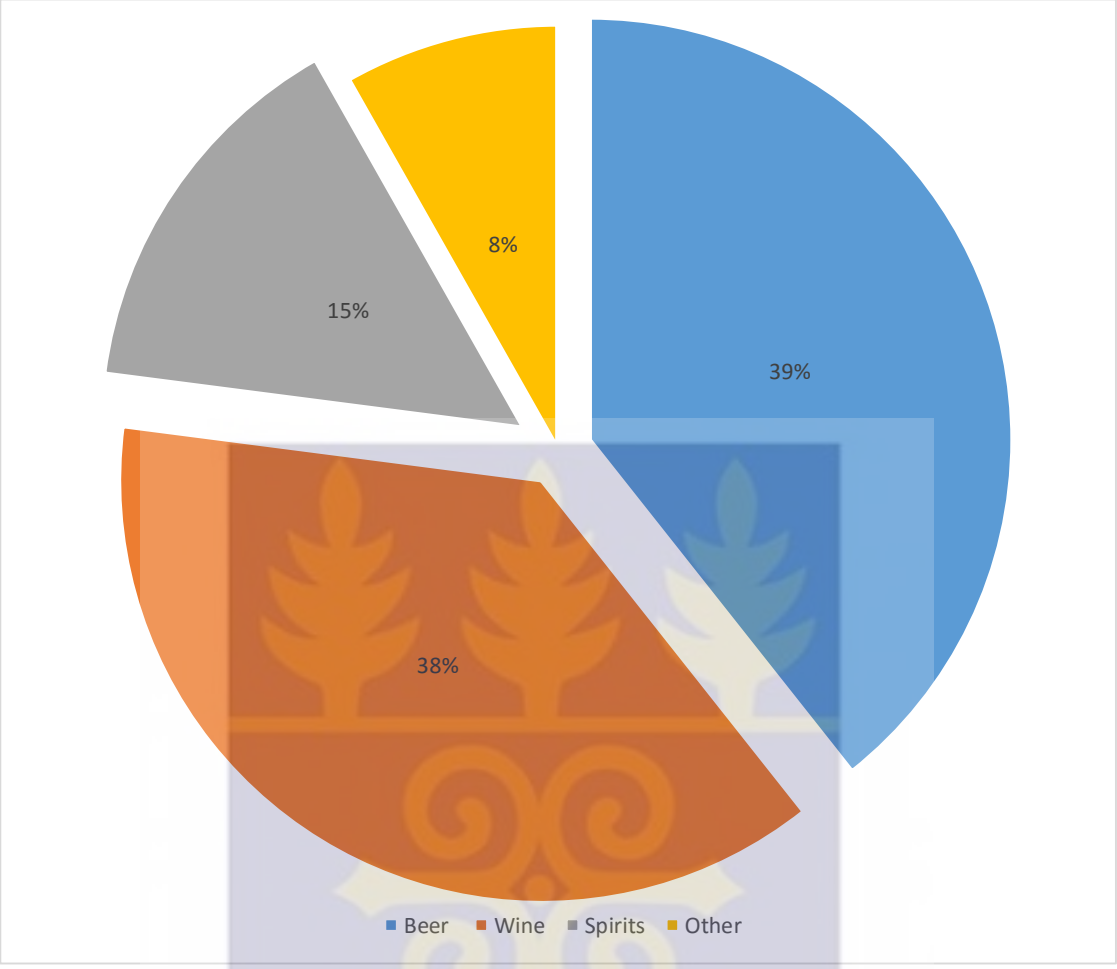
Figure 1: Type of alcohol consumed by respondents currently



4.2 Distribution of factors related to alcohol consumption and AUDIT

Factors related to alcohol consumption as captured in the questionnaire included the drinking status of parents, peer influence, socio-cultural factors and indirect effects of alcohol. Parents of respondents who consumed alcohol were 156 (39.39%) as compared to 240 (60.61%) who did not drink ($p<0.05$).

On the alcohol use disorder identification test analysis, 75 (87.21%) scored low marks and had no serious drinking problems. For medium scores which required some attention, there were 8 respondents representing 9.30%. Only 3 respondents, representing 3.49% fell into the category of hazardous drinking and required immediate attention.

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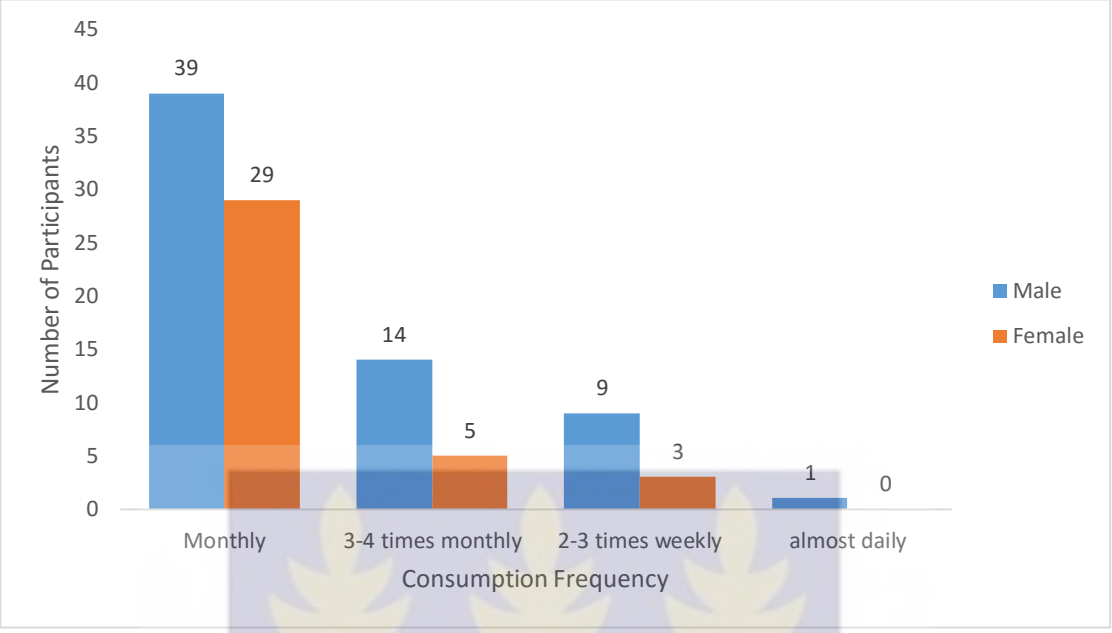
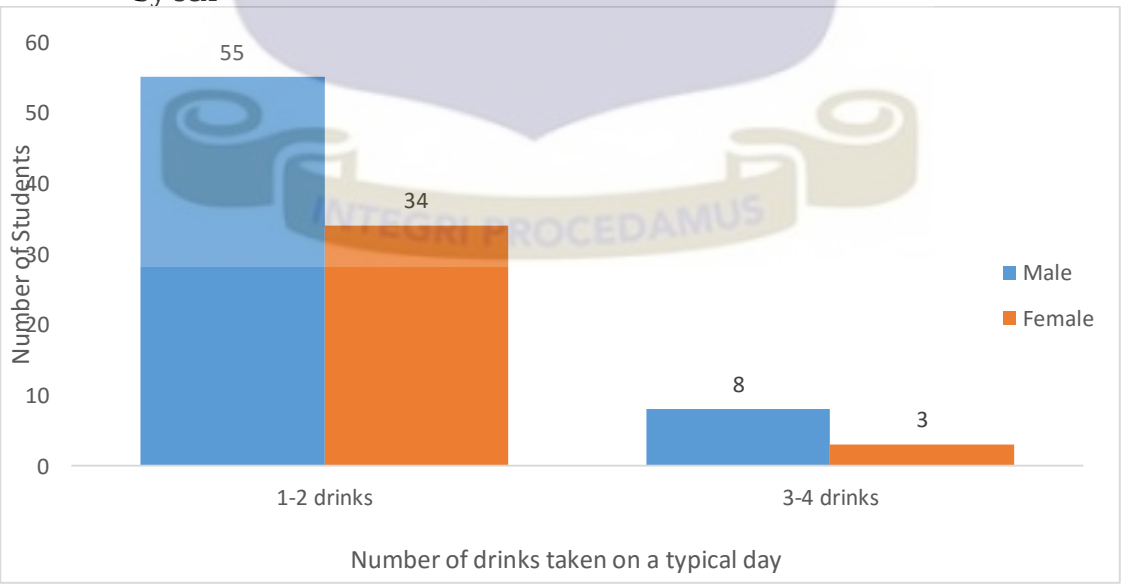
Figure 2. Frequency of alcohol consumption by sex



Majority of the students who consumed alcoholic beverages, 68%, were occasional drinkers who consumed alcohol monthly or longer. 19% of them consumed alcohol 3-4 times monthly and only 1% which was actually 1 person consumed alcohol almost daily as shown in figure 2.

Figure 3: Distribution of number of drinks consumed by students on a typical day by sex



None of the students engaged in binge drinking (5 or more drinks per sitting). Only 11 students representing 11% of those who answered to this part of the questionnaire were

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heavy drinkers. The remaining 89 which represents 89% of those who answered to that part were moderate drinkers who consumed 1-2 drinks per sitting.

Figure 4: Distribution of types of drinks consumed by sex

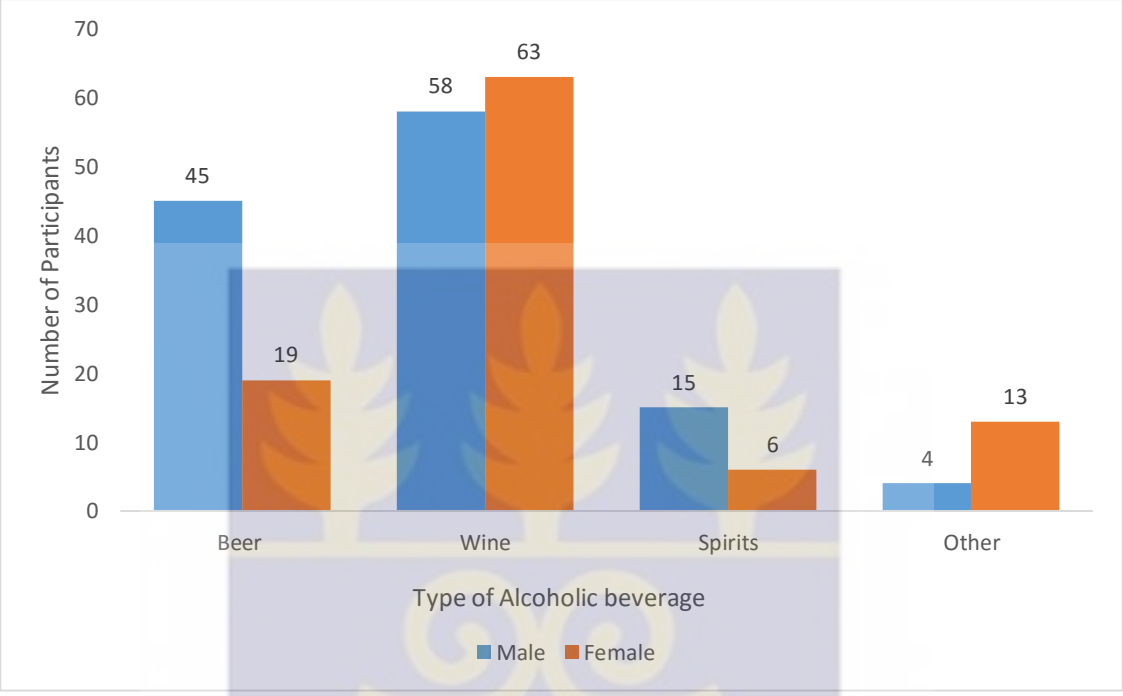

Table 5: Alcohol Consumption (Ever) and Factors

Characteristic	Yes (%)	No (%)	Total	p-value
Parents' Drinking Status				
Yes	100(64.10)	56(35.90)	156	0.012
No	123(51.25)	117(48.75)	240	
Peer Influence				
Low	147(50.69)	143(49.31)	290	0.001
Medium	67(71.28)	27(28.72)	94	
High	13(68.42)	6(31.58)	19	
Socio-cultural Factors				
Low	61(50.41)	60(49.59)	121	0.060
Medium	156(60.47)	102(39.53)	258	
High	10(41.67)	14(58.33)	24	
Indirect Effects of Drinking				
Low	86(45.74)	102(54.26)	188	0.000
Medium	113(64.57)	63(35.43)	175	
High	28(70.00)	12(30.00)	40	

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4.3: Factors significantly associated with the alcohol consumption

Test of association between variables and the dependent variable showed a significant association between some demographic and economic characteristics such as sex, age hall and income.

Majority (65.39%) of current alcohol consumers were male, almost twice the number of females (34.61%). The result shows a significant association between sex and alcohol consumption. Being female reduced by 37% the odds of alcohol consumption and thus was shown to be protective (OR=0.63, 95% CI=0.43-0.94).

Respondents in the 30 and above years' group consumed alcohol the most (50%) followed closely by the 20-24 year group (48.32%). There wasn't much disparity between the percentages as the lowest was the 15-19 year group (34.48) but current consumption was still significantly associated with the age groups.

Parents' drinking status (p-value <0.05), peer influence (p-value <0.005) and indirect effects of alcohol (p-value <0.005) were all significantly associated with alcohol consumption (ever) but parents' drinking (p-value, 0.116) and peer influence (p-value,0.262) was later found not to be significant after adjusting for the other variables. Smoking was significantly associated with alcohol consumption (OR=23.63, 95%CI=3.18, 175.66 before adjustment and OR=12.44, 95% CI=1.56, 99.04 after adjustments were made).

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Table 6: Logistic Regression on Alcohol consumption (ever) and other significant variables

	UNADJUSTED		ADJUSTED	
Variables	**OR (95% CI)**	**p-value**	**OR (95% CI)**	**p-value**
Sex		<0.05		0.679
Male	Ref		Ref	
Female	0.63 (0.43, 0.94)		1.15 (0.59, 2.22)	
Age (years)		<0.01		0.42
15-19	Ref		Ref	
20-24	2.07 (1.21, 3.52)		1.85 (1.02, 3.32)	
25-29	3.24 (1.53, 6.84)		2.47 (1.08, 5.69)	
30+	21.99 (2.74, 176.69)		10.36 (1.12, 95.57)	
Monthly Allowance		<0.01		0.194
<300	Ref		Ref	
301-600	1.31 (0.85, 2.01)		1.11 (0.54, 2.09)	
601-900	4.51 (1.3, 16.11)		4.34 (0.88, 21.32)	
901-1200	5.31 (1.15, 24.50)		2.94 (0.57, 15.20)	
1201+	1		1	
Hall of Residence		<0.001		0.093
Alexander Kwapong	Ref		Ref	
African Union	0.64 (0.35, 1.1)		1.06 (0.54, 2.10)	
Commonwealth	0.62 (0.35, 1.1)		0.87 (0.43, 1.78)	
Volta	0.28 (0.15, 0.49)		0.48 (0.23, 0.99)	
Parents' Drinking Status		<0.05		0.116
Yes	Ref		Ref	
No	1.70 (1.12, 2.57)		1.46 (0.91, 2.33)	
Peer Influence		<0.005		0.262
Low	Ref		Ref	
Medium	2.41 (1.46, 3.10)		1.63 (0.90, 2.95)	
High	2.11 (0.78, 5.70)		0.98 (0.26, 3.70)	
Indirect Effects of Drinking		<0.001		0.033
Low	Ref		Ref	
Medium	2.16 (1.42, 3.30)		1.81 (1.12, 2.92)	
High	2.77 (1.33, 5.77)		2.22 (0.87, 5.69)	
Smoking Status		<0.001		0.017
No	Ref		Ref	
Yes	23.63(3.18, 175.66)		12.44 (1.56, 99.04)	

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CHAPTER FIVE

DISCUSSION

5.1 Demographic characteristics of respondents

The study set out to find out the proportion of University of Ghana students on Legon campus who consume alcoholic beverages. It also sought to identify some of the factors associated with alcohol consumption and determine the differences among males and females and the levels and patterns of consumption among students.

A total of 403 students from 4 different halls participated in the study. There was just one more male than females in the study, representing a fair distribution of respondents according to sex. This could be as a result of a uniform distribution of students in the halls in terms of sex. The distribution of the ages of participants showed fewer people with increasing age. This was consistent with findings by Chauke et al (2015) findings, which conducted among high school students in South Africa even though there were just a few more females than males (206 females, 53.4% and 177 males, 46.6%). The findings of this study also agrees with findings of GSS et al (2009) in terms of the decrease in sample size with increasing age. This could be due to the fact that the University students, especially undergraduates fall mostly into a particular age group and only a small proportion of them are above the age of 25 by level 100. Other studies by Gupta et al (2003) also showed a reduction in number of participants when they did a study on alcohol consumption among middle-aged men in India.

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5.2 Proportion of alcohol consumption

The proportion of students who had ever consumed alcohol was 55.6% and current drinkers was found to be 26%. This number is almost equal to the 26.7% prevalence reported by the GDHS, 2008. Male students were found to have consumed more alcohol ever than female students (61.88% of males and 50.75%of females). In terms of current drinking, 53.97% of males and 35.64% of the females who had ever taken, still consumed alcohol. This represents 33.66% of all males as current drinkers and 17.41% of all females as current drinkers. Peltzer & Ramlagan (2009) found out a similar trend among different countries when they conducted a study on alcohol consumption in which Mexico had 77% males and 44% females. Other countries included, Thailand (77% males, 44% females) and Namibia (61% males and 47% females). The GSS et al (2009) also found out that in Ghana, 36.7% of males consumed alcoholic beverages as compared to 17.5% of females. This could be because of the power society gives to the male gender in terms of autonomy and decision making.

Among the university of Ghana students, 44.4% were lifetime abstainers and had never consumed any alcoholic beverage. This matched the World Health Survey (2011) which reported that an estimated 45% of the adult population had never consumed alcohol. This came as no surprise as the student population is made up of predominantly adults who have their independence and can purchase and consume alcohol on their own without restriction.

5.3 Factors affecting alcohol consumption

Some socio-demographic characteristics were significantly associated with alcohol consumption whereas others were not. These findings were consistent with literature while others contradicted what literature had reported.

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Sex, age, income and halls were found to be significantly associated with alcohol consumption ever. However, halls, income and age were not found to be significantly associated with current alcohol consumption. This finding was inconsistent with findings from the GSS, 2009. Married students however consumed more alcohol than unmarried students in terms of ever drinking but for current drinking, the unmarried had a slightly higher percentage (45.1%) as compared to the married (42.6%). Fewer people participated in the study with increasing age but this didn't really affect the consumption proportions. Current alcohol consumption rose with age up to the 20-24 years group and later declined. This was in agreement with findings by Grant et al (2015) who found the youth to consume so much alcohol up until the age of 22 and then reduced consumption. Though the average age for first time consumers of alcohol was 18.67, there were still respondents who started taking alcoholic beverages as early as the age of 8 up to 11 years. Most such people were still consuming alcoholic beverages and are most likely the ones who engaged in heavy drinking. These figures are similar to the UK as the youth were engaged more in underage drinking (Gill, 2002).

Income was only significantly associated with former drinking but not with current drinking. It was realized that proportions of drinkers increased with an increase in their income but for current drinkers, there was no significant association between income and alcohol consumption. This finding was in consistent with Rehm et al. (2004) who found that and increase in wealth increased alcohol consumption. This saw economically developed countries consuming more alcohol than those who were less developed economically.

Peer influence, smoking and indirect effects of alcohol were all found to be significantly associated with smoking. This was true for both ever smokers and current smokers. This was consistent with findings from studies by Grant et al (2015) who also found peer

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influence to be significantly associated with alcohol consumption. Influence from peers among respondents was significantly associated with alcohol consumption as those who recorded high peer influence were more likely to have consumed alcohol before or still consume alcohol. Many students were found to enjoy the company of their friends and considered parties and other social events as being linked with alcohol consumption. Majority of respondents took their first alcoholic beverage at parties where some form of peer influence is certain to exist. Studies in South Africa also found alcohol consumption to be significantly associated with smoking and risky sexual behaviours(Young & Klerk, 2009) which is an aspect of the indirect effects of alcohol. Socio-cultural factors were however not found to have any significant associations with alcohol consumption from this study. This was inconsistent with studies by (Kyei & Ramagoma, 2013) who conducted a study on the alcohol consumption patterns of South African university students. Tampah-Naah & Amoah (2015) also found culture and social factors to be associated with alcohol consumption among women in Ghana.

Individual independent variables were regressed against the dependent variable to identify those which had significant associations with it. It was realized that thou some variables were shown to have significant associations with the dependent variable, when all such independent variables were put in the model for multiple logistic regression, some of them were no longer significant. Though age as a variable was not associated with alcohol consumption adjusting for other variables, the sub groups in the age variable were significant against the referent group (15-19 years). The odds of consumption increased with increasing age with respondents in the 30+ age group having an odds ratio of 10.36(95% CI=1.12,95.57). Halls of residence were not associated with alcohol consumption against other variables but respondents in Volta Hall had a decreased odd of consumption (OR=0.48; 95%CI=0.23, 0.99). Indirect effects of drinking did have an

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effect on alcohol consumption adjusting for other variables but those who fell in the medium group rather had a significant association (OR=1.81, 95% CI= 1.12, 2.92) as compared those who fell in the 'high' group (OR=2.22, 95% CI=0.87, 5.69). Smoking was found to be associated with alcohol consumption with those who smoke having over 12 times odds of drinking (95% CI=1.56, 99.04) compared to those who do not smoke. The seemingly contradictory nature of the association between the independent variables and dependent variables and the subgroups could be as a result of small sample sizes which is shown by wide confidence intervals. Volta hall however may be significantly associated with low levels of alcohol consumption but have been overshadowed by the lack of association between the dependent variable and other halls (sub groups) within the 'hall of residence' variable.

5.4 Types of alcohol consumed by students

The results of this study showed wine (54.26%) as the most consumed alcoholic beverage by University of Ghana students who took part in the study followed by beer (28.70%), spirits (9.42%) and others (7.62%). This however disagreed with the national consumption of alcohol according to the ("Global status report on alcohol and health," n.d.), 2014. This presented beer as the most consumed alcoholic beverage followed by wine, spirits and then other alcoholic beverages. The GSS et al, (2009) also present a different representation of the type of alcohol consumed by Ghanaians. This discrepancy could be as a result of reports that wine is good for the heart which students may have read of and accepted. Students who otherwise would not have consumed alcohol may tend to choose wine when forced due to the perceived health benefits.

5.5 Levels and frequency of consumption

Levels of alcohol consumption among the study participants were very different from other university students. Binge drinking (5 or more drinks per sitting) was not a problem

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among the participants as only about 3% of the participants engaged in that type of drinking. Majority of the students took 1-2 drinks per sitting on a typical day. This result indicates that students do not engage in harmful drinking of alcoholic beverages and for that matter may not have alcohol related problems. All most all the respondents claimed not to have injured anyone one or been injured as a result of their drinking. Results from studies conducted among South African students showed different consumption patterns as there was a higher rate of binge drinking among students.(Young & Klerk, 2009). Other studies among college students in the United Kingdom associated binge drinking with undergraduate students (Gill, 2002). Students in the United Kingdom were found to have engaged in risky behaviours after drinking which led to injuries to themselves or to other people. Frequency of consumption among students was also not a big issue as majority of the students consumed alcoholic beverages just monthly. This was also inconsistent with findings of other studies among African university students which found rather more frequent consumption patterns as compared to what this study found out (Miller et al., 2007).

5.6 Limitations

Respondents had a problem recollecting the first time they had a drink containing alcohol which may have created some form of recall bias in the study. Respondents were also a little hesitant to talk about their alcohol consumption. This made some respondents either skip important questions or fail to participate in the study altogether. Self-administration of the questionnaires is also a limitation to this study as the respondents may have answered differently if questions were asked by the researcher and well explained to them.

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Most respondents were unwilling to talk about their income/allowance. Reasons to this were very difficult to identify. This may have affected the study in calculating the average amount a student spends.

The cross-sectional nature of the study could have led to missing some vital information regarding behavior which develops over time. The students may also have provided socially desirable answers to questions asked to preserve their image.

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CHAPTER SIX

CONCLUSION

It can be concluded that 55.6% of University of Ghana students on Legon campus have consumed alcohol before out of whom 25.81% currently consume alcoholic beverages whereas 29.79% are former drinkers. The proportion of students who consume alcoholic beverages is close to the prevalence of alcohol consumption in Ghana which stands at 26.7%.

More males than females consume alcoholic beverages. The most preferred beverage type on campus is wine followed by beer, spirits and other alcoholic beverages. Binge drinking is not a problem on campus. Students are mostly occasional drinkers who consume alcoholic beverages monthly or longer.

6.1 Recommendation

6.1.1 Implications for Public Health

- Efforts should be made to reduce the level of alcohol consumption among the youth as this will indirectly reduce the NCD burden of the country given that harmful alcohol consumption is a risk factor for such diseases.

6.1.2 Implications for Policy and Research

- The government through the Ministry of Health should be more committed to educating people, especially the youth on the dangers associated with alcohol consumption.
- Research should be conducted into the rates of alcohol consumption on other university campuses and the factors which affect consumption of alcoholic beverages among other university students.

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- The University authorities could also conduct further research into the factors that drive alcohol consumption and regulate the sale and advertisement of such products on the campus.

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INTEGRI PROCEDAMUS

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APPENDICES

Appendix 1: Consent Form

Title: Alcohol consumption among University of Ghana students.

Principal Investigator: Mr. Oti Boateng Nana Yaw

Qualification: B.A psychology/Political Science

Address: P.O. Box 24, Mampong-Akuapem. Tel.-0243334352 E-mail: otiboatengnana@gmail.com

Introduction:

You are invited to take part in a research on alcohol consumption among University of Ghana students. The site for this study is the Legon campus of University of Ghana for which four halls have been selected. For the purpose of this study, you will be required to provide information on alcohol consumption, frequency of consumption, type of alcoholic beverage preferred to aid in the recommendations for intervention.

The study population for this study will be undergraduate students from level 100 to level 400 belonging to one of the faculties. These participants also should be resident on Legon campus and should have registered with the university. Study participants will be engaged in an interview which will not last beyond 20 minutes.

Participating in this study is a voluntary decision and you are assured that there will be no negative consequences for refusing to continue at any stage.

The process will be a safe one as participants will not be required to do any physical strenuous activity. There will be no in-depth interviews; hence participants can feel free to respond to questions without interference of a third party. However, research assistants

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will on presenting and collecting questionnaires interact with the respondents on how to go about their responses.

Confidentiality will be ensured in a way that will keep questionnaires and informed consent forms safe from other people apart from PI and research assistants. The questionnaires will only be coded for data entry purposes but names, telephone numbers and ID numbers will not be required from participants.

There will be no monetary gains for those who consent to participate in this study. There will rather be pens as incentives and appreciation for acceptance and time spent.

For any clarifications on the study and terms involved, do not hesitate to contact the Principal Investigator (PI) or the Ghana Health Service - Ethical Review Administrator.

Principal Investigator	GHS-ERC Administrator
Oti Boateng Nana Yaw	Hannah Frimpong
0243334352	0507041223

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Appendix 2: Questionnaire for the Study

TITLE- QUESTIONNAIRE ON ALCOHOL USE

Dear Respondent, This is a research being carried out on the levels of alcohol consumption among University of Ghana students. I am a student in the School of Public Health, University of Ghana. I will therefore like you to spend a little time with you to answer these questions. You are assured that the answers you give will be strictly confidential and would not be held against you.

SECTION A: Demographic information

1. Gender

   a. Male [ ] b. Female [ ]

2. Age

   a. 15-19 years [ ] b. 20-24 year's [ ] c. 25-29 years [ ]

   d. 30 years and above [ ]

3. Marriage Status

   a. Single [ ] b. Married [ ]

4. Programme of study……

5. Hall of Residence……

6. What is your average allowance per month (parental allowance and money from other sources)…….

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SECTION B: Alcohol and Substance Use

7. Have you consumed any alcoholic beverage before?

YES/NO

8. What type of alcoholic beverage was it?

a. Beer

b. Wine

c. Spirits

d. Other specify

e. All

9. What was the occasion?

a. Party

b. Outing

c. Normal Day

d. Other specify

10. How old were you at the time?.....

11. Do you currently drink alcoholic beverages?

YES/NO

12. Have you used any form of tobacco before?

YES/NO

13. If yes to Q12, do you currently smoke tobacco?

14. If yes to Q13, what type of tobacco do you currently smoke?

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SECTION C: Alcohol Use Disorder

Read the following questions on drinking frequency carefully and respond to them appropriately.

15. How often do you have a drink containing alcohol?

    1. Monthly
    2. 2-4 times a month
    3. 2-3 times per week
    4. 4+times per week

16. How many drinks containing alcohol do you have on a typical day when you are drinking?

    1. 1-2
    2. 3-5
    3. 5 or more

17. Which of the alcoholic beverages do you drink?

    a. Beer
    b. Wine
    c. Spirits
    d. Other specify

18. How much on average do you pay on particular beverage choices per sitting?

GHC……..

19. Currently, many alcoholic drinks do you have on a typical day?

    1. 1-2
    2. 3-5
    3. 5 or more

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20. How often in the last year have you found that you were not able to stop drinking once you started?

(1) Never

(2) Twice in a month

(3) Monthly

(4) Weekly

(5) Daily or almost daily

21. How often in the last year have you missed your lectures due to a precious drinking episode?

(1) Never

(2) Twice in a month

(3) Monthly

(4) Weekly

(5) Daily or almost daily

22. How often in the last year have you needed a first drink in the morning to get you going after a heavy drinking session?

(1) Never

(2) Twice in a month

(3) Monthly

(4) Weekly

(5) Daily or almost daily

23. How often have you had a feeling of guilt or remorse after drinking?

(1) Never

(2) Twice in a month

(3) Monthly

(4) Weekly

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(5) Daily or almost daily

24. How often during the last year have you been unable to remember what happened the night before due to your drinking?

(1) Never

(2) Twice in a month

(3) Monthly

(4) Weekly

(5) Daily or almost daily

25. Have you or someone been injured because of your drinking?

YES/NO

SECTION D: Socio-Cultural Factors

26. Do your parents drink alcohol? YES/NO

27. Alcohol use is a problem in my community.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

28. Drinking is a major part of my community's way of life.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

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29. It is easier to enjoy the company of friends during a social event if you have had a drink.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

30. Taking a drink or more is perfect for a weekend.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

31. There is nothing wrong with people getting drunk regularly in my community.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

32. Most people with serious drinking problem in my community are stigmatized.

(1) Strongly Agree

(2) Agree

(3) Uncertain

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(4) Disagree

(5) Strongly Disagree

33. A lot of people in my community will think it's odd if I don't drink at all.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

34. My parents don't mind sharing an alcoholic drink with me.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

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SECTION E: Peer Influence

34. My friends could influence me to do almost anything.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

35. I easily accept what my friends accept.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

36. It is difficult to see all my friends take an alcoholic drink and not join them.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

37. I am able to do dangerous or stupid things when dared.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

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38. I have often skipped class because my closest friend was missing class too.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

39. I have felt pressured to have sex after an alcoholic beverage.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

40. I have been influenced to get drunk at a party.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

41. A party without an alcoholic drink is incomplete and not worth attending.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

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SECTION F: Indirect Effect of Alcohol on Both Drinkers and Non Drinkers

42. Alcohol wards off stress and makes you a relaxed person

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

43. Alcohol makes you enjoy sex.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

44. Alcohol as an appetizer makes you enjoy your meals.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

45. Alcohol removes shyness and allows you to “speak your mind”.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

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(5) Strongly Disagree

46. Alcohol makes you acceptable among your peers.

(1) Strongly Agree

(2) Agree

(3) Uncertain

(4) Disagree

(5) Strongly Disagree

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Appendix 3: Ethical Consideration