ALCOHOL CONSUMPTION AMONG STUDENTS IN TERTIARY LEARNING INSTITUTIONS: A CASE OF EVELYN HONE COLLEGE STUDENTS

BY

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A Dissertation Submitted to the University of Zambia in Partial Fulfillment of the Requirements of the Degree of Master of Public Health (Health Policy and Management).

THE UNIVERSITY OF ZAMBIA

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DECLARATION

I, **Bible Mutondo Mumba** do declare that this dissertation represents my work and has not been previously submitted for a degree at this University or any other institution in the world and its findings does not incorporate any published work or material from another written work.

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I, **Bible Mutondo Mumba**, hereby certify that this dissertation is the product of my own work. In submitting this dissertation in partial fulfillment of the requirement of the Degree of Master of Public Health (MPH) programme, I further attest that it has not been submitted to another University in part or whole for the award of any programme.

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APPROVAL

This dissertation of **Bible Mutondo Mumba** has been approved as a partial fulfillment of the requirements for the award of the Degree of Master of Public Health (MPH) of the University of Zambia.

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DEDICATION

I dedicate this paper to my late grandmother Natuseka, my wife Mwaka Siamaimbo, my daughters Joy Wana Mumba and Grace Alumbwe Mumba, my son Eric Kisu Mumba, my siblings, and my parents Mr. and Mrs. Mumba Kayafya.

ACKNOWLEDGEMENT

ABSTRACT

Alcohol abuse and its negative effects among youths is not only a global problem but a Zambian problem too. Evelyn Hone College Management recognized alcohol consumption among students as one of the public health concerns at the institution, and that there has been a lack of research to look at alcohol, especially its effects on students. The World Health Organisation (WHO) in its concern for the use and abuse of alcohol developed a tool to help understand issues surrounding alcohol consumption − the alcohol use disorder identification test (AUDIT). The AUDIT tool was used to understand the theory of planned behaviour and other alcohol consumption issues among students. The study aimed at establishing the levels of alcohol consumption using the alcohol use disorder identification test (AUDIT), and identifying demographic and psychosocial factors associated with alcohol consumption among the 2016 academic year Evelyn Hone College students.

The study design employed was a cross sectional one. An adopted, pretested, structured and self-administered questionnaire was used to collect data. SPSS Version 20 was used for data analysis. Descriptive Statistics, Chi-square test, and Multivariate Logistic Regression were used in data analysis.

Alcohol consumption among students was found to be at 63.5%, i.e., 47/74 Students were likely to be found to be alcohol consumers. Of the 235 students who drank alcohol, 49.4% were males and 50.6% were females. The minimum age of first alcoholic drink, among students was found to be 10 years with 16 years and approximately 17years as the mode and mean ages, respectively. Among 235 alcohol consumers, the minimum, maximum, and mean total AUDIT scores were found to be 1, 27 and, 10.03, respectively, of which 126 (53.4%) of them scored ≥8 on the total AUDIT score scale. Multivariate logistic regression revealed that: students whose mothers, fathers or guardians did not consume alcohol were 79.5%, 71.1% and 70%, respectively, less likely to consume alcohol compared to students whose mothers, fathers, or guardians consumed alcohol. Students who never belonged to any club/association at campus were 6.54 times more likely to consume alcohol than students who belonged to at least one club/association. Attitude towards alcohol, subjective norms, intentions (want/plan) to consume alcohol in the next 30 days, and perceived behavioural control abilities were some of factors also found to positively predict a student's likelihood to consume alcohol.

Consequently, hazardous alcohol consumption was found to be a public health problem among Evelyn Hone College students who were also youths. There is need for formulation and enforcement of holistic anti-alcohol policies and interventions in addressing this problem among youths at the institution and in the general population. Further similar research works in other learning institutions and general populations should be encouraged if comprehensive measures aimed at addressing this public health problem in various health settings are to be found and implemented.

Key words: Alcohol Consumption, Evelyn Hone College Students, Alcohol Use Disorder Identification Test (AUDIT), Theory of Planned Behaviour (TPB).

ACRONYMS

ADH   Adolescent Health

AIDS   Acquired Immunodeficiency Syndrome

AUDIT   Alcohol Use Disorder Identification Test

CAGE   Cut, Annoyed, Guilty and Eye-opener

C.I   Confidence Interval

CVDs   Cardiovascular Diseases

DF   Degree of Freedom

DV   Dependent Variable

ERES   Excellence in Research Ethics and Science

GSHS   Global School-based Health Survey

HIV   Human Immunodeficiency Virus

IRB   Institutional Review Board

IV   Independent Variable

MAST   Michigan Alcoholism Screening Test

NCDs   Non-Communicable Diseases

NKJV   New King James Version – Bible

PBC   Perceived Behavioural Control

PI   Principal Investigator

SPSS   Statistical Package for the Social Sciences

TPB   Theory of Planned Behaviour

TRA   Theory of Reasoned Action

UNODC   United Nations Office on Drugs and Crime

WHO   World Health Organization

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CHAPTER ONE: OVERVIEW

1.1. Introduction

Globally, alcohol is said to be the most commonly and extensively consumed of all the psychoactive substances, and is one of the leading causes of death and disability worldwide [1]. Alcohol consumption is a severe risk factor for chronic diseases and injuries worldwide. Its abuse causes about 3.2% (1.8 million) of all deaths worldwide annually, and also accounts for 4.0% of the global disease burden each year. Nearly 4% of the entire global mortalities are ascribed more to alcohol than to HIV/AIDS, violence or tuberculosis [1, 2]. In fact, though under limited empirical data, studies have shown that low-income and middle-income countries and vulnerable populations within these countries bear an increased disease burden and injury due to increase in alcohol consumption and limited or nonexistent public health and prevention policies and programs [1, 3].

Based on scientific findings, alcohol usage has a lot of negative effects on the wellbeing of a human being. For example, alcohol use is associated with getting involved in criminal activities, unintentional injuries, traffic accidents, physical fighting [1-3], and undesirable effects on productivity such as financial loses, and financial and psychological burdens on families [2-4]. Mental disorders, suicidal ideation and attempts could also be caused by alcohol abuse [1, 2, 7-9]. Alcohol abuse is also said to increase the risk of having most non-communicable diseases, and human immunodeficiency virus (HIV) due to risky unprotected sex [1, 10]. Most of these negative health effects of alcohol are being experienced by young people globally. Africa and other less developed nations are paying the cost more because their populations are young and their future of prosperity depends on having a healthy and productive youthful generation [1-3, 10]. Zambia, a less developed country is not spared from these facts [4-7].

The WHO World Health Report of 2014 reported that the 12-month prevalence of alcohol use disorders among Zambians above 15 years of age, including alcohol dependence and harmful use of alcohol, was 7.9% of the male and 1.0% of the female population with an overall rate of 4.5% which was above the average of 3.3% for the WHO African Region [11]. Whilst in 2011, in Lusaka urban, the overall alcohol consumption prevalence over a period of one year was found to be 26.3% (43.5% among males and 17.7% among females), and in the preceding 30 days it was estimated at 20.7% (37.9% among males and 12.2% among females) [4]. Other studies found that one in every three Zambian adolescents have ever drunk alcohol [9].

It was on the basis on such findings as stated above, claims and other global statistics about health issues related to alcohol consumption that the World Health Organization (WHO) prioritized the global reduction of the harmful use of alcohol. The focus is on monitoring and technical support so as to address this worldwide public health concern. One component of the technical support is through research so as to help policy makers and other stakeholders make informed alcohol policies [1].

Consequently, this research aimed at specifically establishing the levels of alcohol consumption using the theory of planned behaviour and the WHO alcohol use disorder identification test (AUDIT), and identifying demographic and psychosocial factors associated with alcohol consumption among, the then, Evelyn Hone College students in 2016.

1.2. Statement of the Problem

Alcohol abuse has negative consequences on not only the health of the person, but also on the social and economic development of both a person and country. For instance, the health, time, and money of the most productive section of human resource such as students (mostly youths) who are future managers, leaders, and scientists end up being negatively affected by the abuse of alcohol and other drugs [2]. According to WHO, alcohol was a causal factor in 60 kinds of diseases and a constituent cause in 200 other diseases globally across all age groups (youth inclusive) and sex of those that consume alcohol [1]. This demonstrates that alcohol consumption is a prominent etiological factor in many diseases globally. Regardless of these facts, the prevalence of alcohol consumption and other drugs among young people and other groups has continued in many communities, and the situation seems to have risen to unprecedented levels [1, 2]. Furthermore, various studies have claimed that alcohol consumption, especially binge drinking, is common and is on the increase among the youths, especially, college and university students across the globe [5, 12].

The Australian School Students Alcohol and Drugs Survey, for instance, revealed that by the age of 12, around 73% of students had tried alcohol. This increased steadily to around 80% by the age of 13, 86% by the age of 14 and 91% by the age of 15. The proportion of students who reported drinking in the week prior to the survey increased with age, from 10% of 12 year olds to 27% of 14 year olds and 49% of 17 year olds [13]. In Zambia, a study conducted at the University of Zambia, revealed that, generally, 35% female and 33% male students were found to have been

taking alcohol occasionally in the preceding 12 months. This same study cited a study in Malawi which found a high prevalence of hazardous or harmful alcohol use among Malawian University students at 54.1% among males and 16.5% among females, [5]. While another study, the Zambia Global School Health Survey of 2004, in selected primary and secondary schools revealed that alcohol and other drug abuses were on the increase among adolescents and youths [14, 15].

From the few Zambian studies reviewed, it was established that there has been very few research works done in Zambia focusing on alcohol, especially research works utilizing the theory of planned behaviour and the Alcohol Use Disorder Identification Test (AUDIT) Tool. Consequently, the need for more research to close up the huge knowledge gap concerning alcohol in various health settings in Zambia was established too. In fact, scholars have claimed that despite a growing body of research and media attention on alcohol use and abuse during college years in the Western countries, very few studies have been done among College and University students in the African continent [3, 7, 12, 14, and 15]. In Zambia, some scholars have noted specifically that despite alcohol consumption being both a global and local public health problem, little research works, especially those targeting youths, have been done on general populations and learning institutions in Zambia [4-7].

Enquiry with officials at Evelyn Hone College, revealed that there had been no study conducted to try and understand the alcohol consumption levels and the factors associated with alcohol use among students, especially using WHO-AUDIT tool and the theory of planned behavior. They also acknowledged that alcohol consumption among their students seemed to be one of the public health concerns at the institution. The lack of research on alcohol at the institution led to the institution not having scientific information that could serve as a guide for policy making by the administrative body of the College; and other stakeholders that could have had planned to formulate alcohol related policies and interventions targeting students and youths in general. This study, therefore, was conducted to help bridge up the knowledge gap about alcohol consumption among students in tertiary learning institutions.

1.3. Research Rationale/Justification

It was hoped that the publication of this study would help Evelyn Hone College Management, student populous and other stakeholders have scientific knowledge on some of the factors associated with alcohol consumption and consumption levels among students at the institution. It

was hoped that this awareness and knowledge would lead to formulation of appropriate interventions targeting students and possibly communities in which theses students (youths) were usually found, from an informed point of view.

It was also hoped that the publication of the study findings would add to the existing knowledge base so as to steer up more interest for further future research works on the topic at the institution, other learning institutions and general population in Zambia. This in turn would help close up the knowledge gap that Zambia was said to have on the topic of alcohol. The findings could also help concerned stakeholders to formulate holistic and robust policies and interventions aimed at arresting this public health concern in our communities.

The study also hoped to inform the relevant government ministries such as the Ministry of Higher Education, Ministry of Youths and Sports, and Ministry of Gender, for instance, on the its findings. It was hoped that by informing these ministries, and other stakeholders, specific target oriented policies, relevant to the Ministry or bordering Departments, would be formulated to respond to any negative alcohol consumption effects among youths.

1.4. General Objective

To determine the prevalence of alcohol consumption and associated factors among the 2016 academic year Evelyn Hone College students.

1.5. Specific Objectives

  i. To establish the alcohol consumption levels using the alcohol use disorder identification test (AUDIT) among the 2016 academic year Evelyn Hone College students.
  ii. To identify demographic and psychosocial factors associated with alcohol consumption among the 2016 academic year Evenly Hone College students.

CHAPTER TWO: LITERATURE REVIEW

2.1. Alcohol Use Disorder Identification Test (AUDIT)

The AUDIT was developed and evaluated over a period of two decades, and was found to provide an accurate measure of risk alcohol consumption across gender, age, and cultures [16-19]. In 1982, the World Health Organization asked an international group of investigators to develop a simple screening instrument purposed to identify persons with early alcohol problems using procedures that were suitable for health systems in both developing and developed countries. This was part of the WHO collaborative project on the detection and management of alcohol-related problems in Primary Health Care, to identify hazardous and harmful alcohol use [16, 17].

The investigators reviewed a variety of self-report, laboratory, and clinical procedures that had been used for this purpose in different countries. For instance, to identify patients with alcohol related problems in clinical and primary care settings, researchers developed several screening questionnaires like CAGE and Michigan Alcoholism Screening Test (MAST). However CAGE identified patient with alcohol problem but could not distinguish between abuse and dependence. The MAST contained 24 questions, which was not well suited in out-patient and other health settings because of its length. The CAGE, MAST and several other screening instruments developed could be considered fairly short and easily administered, but they tended to detect severe alcohol disorders such as dependence and overlooking hazardous drinking. Because of these short comings in the other alcohol screening tools, this team of investigators then initiated a cross-national study to select the best features of these various national approaches to screening alcohol [16-18].

A comparative field study was conducted in different countries such Norway, Australia, Kenya, Bulgaria, Mexico, and the United States of America. The investigations led to the development of the AUDIT screening tool which demonstrated to have good reliability, concurrent validity, and good to excellent sensitivity and specificity ratings for problem drinking [16]. Several studies on the AUDIT tool have also claimed that unlike other screening instruments, the AUDIT has shown the capability to identify individuals along the full spectrum of problem drinking and hence providing an opportunity for early intervention in non-specialist settings. The diagnostic performance of AUDIT has also shown to be effective and compares favourably with other well-known alcohol screening measurements [18-23].

Studies have claimed that the AUDIT tool is a reliable screening tool and that has shown good concurrent validity with other measures of alcohol abuse and psychosocial difficulties; and it effectively identifies problem drinking in different countries, cultural groups and health settings involving adolescent, adult, and elderly samples [24]. For instance, the AUDIT was said to have produced reliable results in the identification of alcohol problems after being used on primary care patients, emergency room cases, drug users, the unemployed, university students, elderly hospital patients, and persons of low socio-economic status [24-27].

The AUDIT is a widely used instrument globally for identifying risky or harmful and hazardous alcohol consumption as well as alcohol dependence [24]. The 10-item AUDIT includes questions to assess the amount and frequency of alcohol intake (items 1-3), alcohol dependence (questions 4-6) and problems related to alcohol consumption (items 7-10) [27]. Total AUDIT score is defined as the addition of Hazardous Alcohol Consumption, Presence or Incipience of Alcohol Dependence Symptoms and Harmful Consumption of Alcohol scores that an individual participant scored on AUDIT score scale. The total AUDIT Scores range from 0 to 40 because each of the ten questions are scaled or scored from 0 to 4. The generally accepted (recommended but not restricted) cut-off score on the scale to identify potentially hazardous alcohol intake is 8 [17, 18, and 24]. Table 1 summarizes the domains and item contents of the AUDIT tool as illustrated by Babor et al., [18].

Table 1: Domains and Item Contents of the AUDIT Tool

Domains	Question number	Item Contents
Hazardous Alcohol Consumption	1 2 3	• Frequency of drinking • Typical Quantity • Frequency of Heavy Drinking
Presence or Incipience of Alcohol Dependence	4 5 6	• Impaired control over drinking • Increased salience of drinking • Morning drinking
Harmful Consumption of Alcohol	7 8 9 10	• Guilty after drinking • Blackouts • Alcohol related injuries • Others concerned about drinking

Total AUDIT scores of 8 or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence [18]. Technically, higher AUDIT scores simply indicate greater likelihood of hazardous and harmful drinking. In fact, such scores may also reflect greater severity of alcohol problems and dependence, as well as a greater need for more intensive treatment. Furthermore, it is suggested that AUDIT scores in the range of 8-15 represented a medium level of alcohol problems whereas scores of 16 and above represented a high level of alcohol problems [18, 24]. The WHO AUDIT tool also predefines alcohol consumption risk levels and possible interventions based on the AUDIT total cut-off score of 8 [18] as illustrated in Table 2.

TABLE 2: RISK LEVEL ZONING BASED ON THE WHO AUDIT SCORE ZONING SCALE

Risk Level	AUDIT Score	Interventions
ZONE I	0 – 7	Alcohol Education
ZONE II	8 – 15	Simple Advice
ZONE III	16 – 19	Simple Advice plus Brief Counseling and Continuous Monitoring
ZONE IV	20 – 40	Referral to Specialist for Diagnostic Evaluation and Treatment

At the recommended cut-off score of 8 on the AUDIT scale, most studies have found very favourable sensitivity. Nevertheless, some studies have claimed that improvements in detection of alcohol problems could be achieved in some cases by lowering or raising the cut-off score by one or two points, depending on the population and the purpose of the screening programme [18]. Similarly, some studies have observed that male and female clients may require different cut-off scores depending on the population and the investigator's programme [23, 28, and 29].

Since the AUDIT user's manual was first published in 1989, the test has fulfilled many of the expectations that inspired its development. Its reliability and validity have been established in research conducted in a variety of settings and in many different nations. It has been translated into many languages, including Turkish, Greek, Hindi, German, Dutch, Polish, Japanese, French, Portuguese, Spanish, Danish, Flemish, Bulgarian, Chinese, Italian, and Nigerian dialects. It has been used in primary care research and in epidemiological studies for the estimation of prevalence in the general population as well as specific institutional groups, for example, hospital patients, primary care patients [27, 29-36].

It should be noted that the widely usage of the AUDIT in research has also included research in learning institutions [24]. Other researchers have adopted the questions and adjusted them to fit their study and others have just applied the questions and principles of the tool as prescribed and described by the WHO [18]. For example, one study adopted the AUDIT tool and examined alcohol use and abuse among students at the University of Botswana. The study reported a high percentage (75%) of alcohol use among the students. The study reported that only 19.9% of the participants reported low daily alcohol consumption (3-4 units in males & 2-3 units in females) and 10.3% reported drinking heavily though infrequently (binge drinkers) [37].

Another survey of 787 University of Malawi students (481 males and 306 females) using the AUDIT indicated that about 72% of respondents (78% of males and 63% of females) were alcohol consumers. The mean AUDIT score was 3.4 - 5.3 for females and 8.9 - 13.2 for males. Some 54.1% of males and 16.5% of females had the AUDIT score above the threshold level of 8.0. In addition, about 74.4 % of male students and 27.3 % of females reported episodes of heavy drinking. The findings stressed the need for developing of alcohol control policies in the University of Malawi and in the country as a whole [21].

2.2. Demographic and Psychosocial Factors Associated with Alcohol Consumption

One theory that was used in this study was the theory of planned behaviour. Theory of Planned Behavior (TPB) is a re-conceptualization of Ajzen and Fishbien's 1975 theory of reasoned action (TRA). Ajzen proposed four components to the TPB: attitudes (the positive or negative evaluations of a behavior), subjective norms (the perceptions of the social influences to perform or not perform a behavior), perceived behavioral control (PBC) (the perceptions that an individual have the skills and ability to perform a behavior), and behavioral intentions (an individual's readiness to perform a behavior) [38, 39].

The TPB assumes that individuals choose their particular behaviors, that is, one's behaviour is under volitional control within a somewhat complex causal logic. To make a choice, an individual's attitudes, subjective norms, and perceived behavioral controls (PBC) influences the individual's intentions to perform a behavior. Behavioral intentions are hypothesized to be the direct antecedent to behavior, so is PBC hypothesized to be the direct antecedent to behavior. In other words, PBC is the only component of TPB that can directly lead to the performance of a behavior without intention [39, 40]. According to Ajzen [38], PBC is used to deal with situations

where people do not have complete volitional control (i.e., behaviour influenced by outside elements) over the particular behaviour being examined.

Several studies have been conducted to assess the validity and reliability of the TPB in predicting behaviour. Generally, a number of research works on the topic suggest that the TPB, as a whole, has empirical validity in explaining diverse behaviour including alcohol consumption behaviour [41-45]. For instance, a meta-analysis by Armitage and Conner found strong support for TPB. They concluded that TPB accounted for 27% of the variance in behavior and 39% of the variance in intentions. Attitudes, subjective norms, and PBC were found to account for significantly more of the variance than intentions or self-predictions. Specifically, PBC accounted for 27% of the variance across all behaviors [42]. In fact, scholars have retaliated that literature has demonstrated that TPB is important in understanding alcohol consumption [41]. For instance, Conner, et al., [45] used the TPB to explain alcohol consumption in three prospective samples of college students. The researchers showed that attitudes, subjective norms, and PBC explained between 28% and 40% of the variance in intentions to consume alcohol. Similarly, a study by Zimmermann and Sieverding in 2004 revealed that the TPB explained 35% of the variance in men's and 41% in women's alcohol consumption [46].

Several factors, including demographic and psychosocial factors, associated with alcohol consumption or problem drinking have been revealed by several researchers. These factors include gender, age, religion, monthly income, living arrangement [1,2,6,15,47], social factors such as (peer) drinking norms [2, 15], attitudes towards alcohol use, perceived susceptibility of alcohol use, perceived self-efficacy, higher drinking norms, weak beliefs in the importance of limiting alcohol [41, 48]. Others have found that parental lifestyle and peer influence [15, 47, 49, 50] and university-related characteristics such as accessibility of alcohol around the university, accessibility of alcohol around the community, exposure to anti-alcohol campaign, and exposure to alcohol advertising are also factors associated with alcohol consumption [16, 51-53].

CHAPTER THREE: RESEARCH METHODOLOGY AND MATERIALS

This research was cross sectional and employed quantitative methods and principles in its entire process.

3.1. Study Setting

The geographical area of the study was Evelyn Hone Collage, a tertiary learning institution found in Lusaka District, Lusaka Province of Zambia. The community of students was cosmopolitan, that is, one was able to find students of different ethnic, religious, and socioeconomic orientation.

3.2. Participant Inclusion and Exclusion Criteria

All full-time Evelyn Hone College students regardless of age, sex, race, year of study or whether or not they consumed alcohol qualified to be sampled as participants in the research. However, any registered student who students who were critically sick/ill, students who were out of the campus for practical experience/attachment during the time of data collection were excluded from being sampled as participants.

3.3. Sampling Technique

Evelyn Hone College was randomly selected from registered tertiary learning institutions that were Government funded within Lusaka. Lusaka district was purposively sampled based on it having a lot of registered tertiary learning institutions compared to other districts, the convenience, and available resources and time to conduct the research. Stratified random sampling technique was used to sample 370 participants. The latest register of all full-time registered students was solicited for purposes of sampling the participants. Students were stratified based on year of study, which was established to be in the ratio of 5:3:2 for the first, second, and third year students, respectively. This translated into 185:111:74 participants from first, second and third years Evelyn Hone College students, respectively. Students from each year of study were randomly selected proportionally to their population size.

3.4. Sample Size

The sample was calculated as follows: Sample Size = n / [1 + (n/population)] = 384.16/ [1+ (384.16/6140)] = 361.53963 = 362. We then added extra 8 to make a total of 370 for easier

stratification of the sample into the year of study which was found to be in the ratio of 5:3:2 for first, second and third year students, respectively.

In the formula, n = Z * Z [P (1-P)/ (D*D)] = 1.96*1.96[0.5(1 − 0.5)/ (0.05*0.05)] = 384.16

$P = 0.5$ − True proportion of factor in the population, or the expected frequency value

$D = 0.05$ − Maximum difference between the sample mean and the population mean, Or Expected Frequency Value minus (-) Worst Acceptable Value.

Z = Area under normal curve being taken as 1.96 − 95% confidence level.

3.5. Data Collection

Data was collected using a structured self-administered questionnaire prepared in English. The questions contained in the questionnaire were adopted from the alcohol use disorder identification test questionnaire designed for self-administration [18], and from guides designed for developing a questionnaire based on the theory of planned behavior [39, 40]. The questionnaire was pre-tested on ten students from the University of Zambia.

The questionnaires were distributed, and collected by myself, the Principal Investigator (PI). I checked the completeness and fulfillment of all questions in the questionnaires by participants after collection of the questionnaires.

3.6. Data Analysis

The data collected was entered, cleaned, and analysed using SPSS Statistics version 20, package. Chi-square test, multivariate logistic regression, and descriptive statistics were used to analyze the data. Data analysis was performed to determine the levels of alcohol consumptions, alcohol dependence, and harmful usage of alcohol, hazardous usage of alcohol and predictors of alcohol consumption. Furthermore, the scoring, interpretation and recommendations on the AUDIT section of the study was done based on the WHO's guidelines in interpreting the AUDIT findings. This research used a self-reported questionnaire format of the AUDIT tool [18].

3.7. Ethical Clearance

The study protocol was approved by the ERES Research Ethics committee. Permission was sought from Evelyn Hone College management to proceed with the study.

3.8. Variable definitions

3.8.1. Current Alcohol consumption

It was defined as having had consumed alcohol in the last 30 days before the day of participating in the study [4, 18].

3.8.2. Hazardous Alcohol Consumption

It was taken as any score of 1 or more on Question 2 (Typical Quantity on a Normal Drinking Day) or Question 3 (Frequency of Heavy Drinking) of the AUDIT.

3.8.3. Presence or Incipience of Alcohol Dependence

It was taken as any points scored above 0 on questions 4-6 of the WHO AUDIT tool, (especially weekly or daily symptoms).

3.8.4. Harmful Consumption of Alcohol

It was taken as any points scored on questions 7-10 of the WHO AUDIT tool.

3.8.5. Factors associated with alcohol consumption

These variables were measured or presented in nominal and ordinal scales. The psychosocial variables included intentions, attitude, subjective norms, and perceived behavioral control (subdivided into self-efficacy and controllability) based on the theory of planned behavior [39, 40]. Attitude was considered as the positive or negative evaluation of alcohol consumption behaviour one made. Subjective norms were considered as the perceptions of the social influences to consume or not to come alcohol. Perceived behavioral control (PBC) was considered as the perceptions that an individual had the skills and ability to consume alcohol. Behavioral intention was considered as an individual's readiness to consume alcohol.

Intention variable had 3 questions, attitude variable had 4 questions, subjective norms variable had 13 questions and perceived behavioral control variable had 7 questions, that is, 3 questions for self-efficacy sub-variable and 4 questions for controllability sub-variable. The average score of the grouped questions on each individual main variable represented the psychological opinion held by the participant on that particular variable. For example, for the variable intention, each question may be scored (1). Absolutely agree, (2). Strongly agree, (3). Agree, (4). Neutral (1:1 or not sure), (5). Disagree, (6). Strongly disagree, (7). Absolutely disagree. A participant then may have ticked scores (1), (4) and (7) which adds up to 12. Dividing 12 by 3 gives us 4, which mean

the participants intentions are neutral (not sure or 1:1 opinion). During analysis the responses were regrouped to just having three and not seven options, for example, the responses to a question would have only (1). Agree, (2). Neutral (1:1 or not sure), and (3). Disagree. This was done in order to have well-fitting statistical models, which was achieved. For further and more elaborate information on each individual definition of the variables (domains and their item contents), kindly refer to Appendix E.

3.9. Research Challenges/Limitations

The study concentrated on demographic and psychosocial factors. Other factors could have been associated with alcohol use among students at the institution, other than those that were investigated in this study since the study did not exhaustively look at all possible factors. For instance, mental health, depression, and physical and sexual violence could have been other factors associated with students' use of alcohol, yet these factors were not investigated under this study. Therefore, policy makers and other utilizers of the findings of this study should not be limited to these findings only but combine with information from elsewhere when making alcohol related decisions or formulating interventions targeting students at Evelyn Hone College or youths in general.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1. Demographic Characteristics

The study had 370 participants of which 189 were males and 181 were females. The minimum, maximum, mode and mean ages of the participants were found to be 18 years, 30 years, 20 years and approximately 23 years, respectively. The majority, 316 out of 370, of the participants were single, with 185 of them being first year students. In terms of segregation by the residential areas where these students came, the majority came from the medium cost residential areas. Table 3 gives the details of the demographics characteristics of the study participants.

TABLE 3: DEMOGRAPHIC CHARACTERISTICS OF THE STUDY PARTICIPANTS

	Frequency	Percent
Sex		
Male	189	51.1%
Female	181	48.9%
Age Group		
15 – 19	55	14.9%
20 – 24	243	65.7%
25 – 29	60	16.2%
30 – 34	12	3.2%
Marital Status		
Single	316	85.4%
Married	50	13.5%
Separated	4	1.1%
Year of Study		
First Year	185	50.0%
Second Year	111	30%
Third Year	74	20%
Residential Area		
High Cost Urban	62	16.8%
Medium Cost Urban	276	74.6%
Low Cost Urban	24	6.5%
Rural Area	8	2.2%
Religious Affiliation		
Orthodox	172	46.5%
Protestants	90	24.3%
Islam	5	1.4%
Catholic	84	22.7%
Baha'i	3	0.8%
No Religious Affiliation	16	4.3%

4.2. Alcohol Use Disorder Identification Test

Based on the guidelines on how to interpret the AUDIT scores, this study revealed that the minimum total AUDIT score was 1 and the maximum was 27 among those who were found to be alcohol consumers. It further found that 126 (53.6%) out of 235 Evelyn Hone College students who consumed alcohol, scored 8 and above on the AUDIT score scale. Table 4 shows the total AUDIT scores of the 235 Evelyn Hone College students that were found to be alcohol consumers, and their associated classifications/proportions of the levels of alcohol consumption problems.

TABLE 4: TOTAL AUDIT SCORE AND THE LEVEL OF ALCOHOL CONSUMPTION PROBLEMS

	Score(s)	Male (n=116)	Female (n=119)	Total (n=235)	Cumulative Total
(46.4%) Students who showed signs of <u>no to low level</u> of alcohol consumption problems	1	5.2%	7.6%	6.4%	6.4%
	2	6.9%	11.4%	9.4%	15.7%
	3	3.4%	5.0%	4.3%	20.0%
	4	8.6%	5.9%	7.2%	27.2%
	5	12.1%	2.5%	7.2%	34.5%
	6	10.3%	1.7%	6.0%	40.4%
	7	4.3%	7.6%	6.0%	46.4%
(29.8%) Students who showed signs of <u>medium level</u> of alcohol consumption problems	8	6.0%	6.7%	6.4%	52.8%
	9	0.9%	2.5%	1.7%	54.5%
	10	1.7%	2.5%	2.1%	56.6%
	11	0	2.5%	1.3%	57.9%
	12	7.8%	0	3.8%	61.7%
	13	2.6%	9.2%	6.0%	67.7%
	14	0.9%	4.2%	2.6%	70.2%
	15	7.8%	4.2%	6.0%	76.2%
(23.8%) Students who show signs <u>high level</u> of alcohol consumption problems	16	0	0.8%	0.4%	76.6%
	17	9.5%	2.5%	6.0%	82.6%
	18	0.9%	5.9%	3.4%	86.0%
	19	3.4%	5.0%	4.3%	90.2%
	20	0.9%	5.0%	3.0%	93.2%
	22	5.2%	3.4%	4.3%	97.4%
	26	0	0.8%	0.4%	97.9%
	27	1.7%	2.5%	2.1%	100.0%
	Total	**100%**	**100%**	**100.0%**	

Based on the predefined alcohol risk levels guidelines of the AUDIT tool, this study further investigated the risk level categories to which the 235 alcohol consumers fail in. The study revealed that as one moved from Zone I to Zone IV of the alcohol consumption risk levels (from the low level to the high level of alcohol risk symptoms and/or experiences), the total number of Evelyn Hone College students that were found to consume alcohol at a high risk level decreased or rather, the higher the alcohol consumption risk level, the fewer the students who were likely to be found to fall in that risk level category as illustrated in Table 5.

TABLE 5: STUDENTS' ALCOHOL CONSUMPTION RISK LEVEL BY SEX

		SEX		Total (n=235)
		Male (n=116)	Female(n=119)	
Risk Level	ZONE1: AUDIT Score 0-7	50.9%	42.0%	46.4%
	ZONE2: AUDIT Score 8-15	27.6%	31.9%	29.8%
	ZONE3: AUDIT Score 16-19	13.8%	14.3%	14.0%
	ZONE4: AUDIT Score 20-40	7.8%	11.8%	9.8%
Total		100.0%	100.0%	100.0%

4.3. Demographic and Psychosocial Factors Associated with Alcohol Consumption

The study found that out of 370 students who participated in the study, 235 (63.5%) were found to be alcohol consumers. Furthermore, the study found that of 370 students who participated in the study, the minimum age at which one first drank/tasted an alcoholic drink was found to be 10 years with 16 years and approximately 17years as the mode and mean ages, respectively.

A total of fourteen (13) factors were found to be statistically significantly associated with alcohol consumption as shown in Table 6, after running the chi-square test of independence. Four of the variables namely attitude towards alcohol, intentions to consume alcohol, subjective norms towards alcohol consumption, and perceived behavioral control (one's self-efficacy and controllability ability) over alcohol consumption were the main psychosocial factors identified. The remaining 9 variables were demographic factors found to be associated with alcohol consumption, these included religious affiliation, students' fathers' alcohol consumption status, students' mothers' alcohol consumption status, students' guardians' alcohol consumption status, students' mothers' education level, residential areas where students came from, students' club affiliation, having ever taken alcohol, and students' age group of first alcoholic drink reported.

The effect size of each variable on the alcohol consumption was part of the analysis of the data as shown in Table 6. When interpreting the Phi or the Cramer's V, the values 0.10 to 0.20 meant weak association, 0.20 to 0.40 meant moderate association, 0.40 to 0.60 meant relatively strong association, and 0.60 to 0.80 meant strong association and 0.80 and above meant very strong association. Additionally, when the Phi or Cramer's V value is positive then that independent variable (IV) has positive effect or association with the dependent variable (DV), but if the Phi or Cramer's V value is negative then that independent variable (IV) has negative effect or association with the dependent variable (DV) [54]. Table 6 gives details of these findings.

TABLE 6: FACTORS ASSOCIATED WITH ALCOHOL CONSUMPTION

	Student Consumes Alcohol		P-Value	Effect Size (Phi or Crammer's V)
	No	Yes		
Religious Affiliation			<0.001	.313
Orthodox	54 (40.0%)	118 (50.2%)		
Protestants	52 (38.5%)	38 (16.2%)		
Islam	4 (3.0%)	1 (.4%)		
Catholic	25 (18.5%)	59 (25.1%)		
Baha'i	0 (0.0%)	3 (1.3%)		
No Religious Affiliation	0 (0.0%)	16 (6.8%)		
			P – Value	**Phi**
Father Consumes Alcohol			< 0.001	.294
No	79 (60.8%)	68 (30.8%)		
Yes	51 (39.2%)	153 (69.2%)		
			P –Value	**Phi**
Mother Consumes Alcohol			< 0.001	.430
No	118 (90.1%)	109 (46.6%)		
Yes	13 (9.9%)	125 (53.4%)		
			P – Value	**Cramer's V**
Age Group of First Alcoholic Drink			.043	.147
10 – 14	15 (25.9%)	40 (17.0%)		
15 – 19	31 (53.4%)	166 (70.6%)		
20 – 24	12 (20.7%)	29 (12.3%)		

			P – Value	Cramer's V
Intentions			< .001	.534
Agree	6 (4.4%)	84 (35.7%)		
Neutral (I think 50%:50% or not sure)	3 (2.2%)	60 (25.5%)		
Disagree	126 (93.3%)	91 (38.7%)		

			P – Value	Cramer's V
Subjective Norms			.002	.181
Feel Socially Pressured	0 (0.0%)	7 (3.0%)		
Neutral	20 (14.8%)	62 (26.7%)		
Don't Feel Socially Pressured	115 (85.2%)	163 (70.3%)		

			P – Value	Cramer's V
Perceived Behaviour Control Abilities Over Alcohol			< .001	.353
Low to No Behavioral Control	30 (22.2%)	133 (56.6%)		
Average	31 (23.0%)	45 (19.1%)		
High Behavioral Control	74 (54.8%)	57 (24.3%)		

			P – Value	Phi
Guardian Consumes Alcohol			< 0.001	.506
No	73 (77.7%)	42 (25.3%)		
Yes	21 (22.3%)	124 (74.7%)		

			P - Value	Cramer's V
Mother Education Level			0.003	.224
Tertiary education (College & University)	1 (.8%)	17 (7.9%)		
Secondary Education (Grade 10 to 12)	4 (3.3%)	19 (8.9%)		
Basic Education (Grade 8 to 9)	18 (14.6%)	45 (21.0%)		
Primary Education (Grade 1 to 7)	100 (81.3%)	133 (62.1%)		

			P – Value	Phi
Club Membership			< 0.001	-.324
No	42 (31.1%)	152 (64.7%)		
Yes	93 (68.9%)	83 (35.3%)		

			P – Value	**Phi**
Ever Taken Alcohol			< 0.001	.676
No	77 (57.0%)	0 (0.0%)		
Yes	58 (43.0%)	235 (100.0%)		

			P – Value	**Cramer's V**
Attitude			< .001	.417
Positive Attitude	4 (3.0%)	21 (8.9%)		
Neutral	14 (10.4%)	110 (46.8%)		
Negative Attitude	117 (86.7%)	104 (44.3%)		

			P – Value	**Cramer's V**
Residential Area			0.035	.152
High Cost Urban	23 (17.0%)	39 (16.6%)		
Medium Cost Urban	93 (68.9%)	183 (77.9%)		
Low Cost Urban	15 (11.1%)	9 (3.8%)		
Rural Area	4 (3.0%)	4 (1.7%)		

			P – Value	**Phi**
Sex			.383	.045
Male	73 (54.1%)	116 (49.4%)		
Female	62 (45.9%)	119 (50.6%)		

			P – Value	**Cramer's V**
Age Group			.203	.112
15 – 19	27 (20.0%)	28 (11.9%)		
20 – 24	82 (60.7%)	161 (68.5%)		
25 – 29	22 (16.3%)	38 (16.2%)		
30 – 34	4 (3.0%)	8 (3.4%)		

			P – Value	**Cramer's V**
Marital Status			.067	.121
Single	111 (82.2%)	205 (87.2%)		
Married	24 (17.8%)	26 (11.1%)		
Separated	0	4 (1.7%)		

			P – Value	Cramer's V
Year of Study			.541	.058
First Year	69 (51.1%)	116 (49.4%)		
Second Year	43 (31.9%)	68 (28.9%)		
Third Year	23 (17%)	51 (21.7%)		

A further statistical analysis to establish the odds probability of the dependent variable occurring as the independent variables changed, while controlling for the other variable that were included in the regression model, was conducted on all the demographic and psychosocial variables as shown in Table 7. Therefore, because the dependent variable was a categorical variable, dichotomous variable to be more specific, multivariate logistic regression was used in the analysis. Note that, the predicted probability of all these factors was students stating **YES** to alcohol consumption in the past 30 days, which was, acceptance one being an alcohol consumer.

From Table 7, the multivariate logistic regression revealed the following: students whose mothers (79.5%), fathers (71.1%) or guardians (70%) did not consume alcohol were less likely to consume alcohol compared to their counterparts whose mothers, fathers, or guardians were alcohol consumers. Students who never belonged to any club/association at campus were 6.54 more times likely to consume alcohol than their counterparts who belonged to at least one club/association. Students who had a positive attitude towards alcohol consumption (those who thought alcohol was good, beneficial, pleasurable and/or fulfilling) and those who had a neutral attitude towards alcohol (not sure whether alcohol was good, beneficial, pleasurable and/or fulfilling) in their lives were 8.839 and 5.906 times more likely to drink alcohol, respectively, than those who had a negative attitude (did not agree or thought alcohol was good, beneficial, pleasurable and/or fulfilling). Students who had intensions/want/plan to consume alcohol in the next 30 days were 6.411 times more likely to consume alcohol than those who had no intensions to consume alcohol. Students who perceived to have a high control of their alcohol consumption behaviour (those with negative self-efficacy/high self-control abilities) and those with average perceived alcohol consumption behavioural control were 82.6 and 67.3, respectively, less likely to consume alcohol compared to their counterparts who had perceived themselves to have low to no behavioural control abilities towards alcohol consumption.

TABLE 7: MULTIVARIATE LOGISTIC REGRESSION ON DEMOGRAPHIC AND PSYCHOSOCIAL FACTORS ASSOCIATED STUDENTS' ALCOHOL CONSUMPTION

Variables	Logistic Coefficient	Odds Ratio (EXP.(B))	P-Value	95% C.I. for EXP. (B) Lower	Upper
Attitude Towards Alcohol					
Negative			.006		
Neutral	**1.776**	**5.906**	**.002***	**1.963**	**17.768**
Positive	**2.179**	**8.839**	**P<.001***	**4.776**	**16.361**
Intentions to Consume Alcohol					
No			.006		
Yes	**1.858**	**6.411**	**.002***	**2.035**	**20.200**
Neutral	.689	1.992	.384	.422	9.403
Perceived Behavioral Control over Alcohol Consumption					
Low to No Behavioral Control			P<.001		
Average Behavioral Control	**-1.116**	**.327**	**P<.001***	**.179**	**.600**
High Behavioral Control	**-1.750**	**.174**	**P<.001***	**.103**	**.294**
Subjective Norms towards Alcohol Consumption					
Don't Feel Influenced			P<0.001		
Feel Influenced	**1.731**	**5.647**	**.024***	**1.259**	**25.327**
Not sure if they were influenced	**1.563**	**4.773**	**P<0.001***	**2.474**	**9.206**
Father Consume Alcohol					
No	**-1.242**	**.289**	**.005***	**.120**	**.692**
Mother Consumes Alcohol					
No	**-1.586**	**.205**	**.003***	**.071**	**.593**
Guardian Consumes Alcohol					
No	**-1.204**	**.300**	**.007***	**.125**	**.719**
Mother's Level of Education Attained					
No Education or Primary Education (Grade 1 to 7)			.003		
Tertiary Education (University/College)	**2.548**	**12.782**	**.014***	**1.673**	**97.655**
Secondary Education (Grade 10 to 12)	**1.273**	**3.571**	**.024***	**1.178**	**10.826**
Basic Education (Grade 8 to 9)	**.631**	**1.880**	**.041***	**1.026**	**3.442**
Member of A Club					
No	**1.878**	**6.540**	**P<.001***	**2.518**	**16.981**
Religious Affiliation					
Orthodox			.000		
Protestants	**-1.671**	**.188**	**.000***	**.088**	**.401**
Islam	**-2.908**	**.044**	**.018***	**.005**	**.610**
Catholic	-.469	.625	.279	.267	1.464

Baha'i	19.709	362557097.847	.999	.000	.
None	19.056	188835233.836	.998	.000	.
Residential Area					
High Cost Urban			.493		
Medium Cost Urban	-.174	.840	.697	.350	2.019
Low Cost Urban	-1.064	.345	.155	.080	1.493
Rural Area	-.647	.523	.523	.072	3.813
Age Group of First Drink					
10 – 14			**.034**		
15 – 19	**.833**	**2.299**	**.038***	**1.045**	**5.058**
20 – 24	-.073	.929	.884	.349	2.477
Ever Consumed Alcohol in Life Time					
Yes	22.602	6545464539.322	.996	.000	.
Sex					
Male	-.439	.645	.065	.404	1.028
Students' Age Grouping					
30 – 34			.031		
15 – 19	**-1.950**	**.142**	**.016***	**.029**	**.694**
20 – 24	-1.084	.338	.142	.080	1.439
25 – 29	-.966	.381	.186	.091	1.593
Year of Study					
Third year			.394		
First Year	-.289	.749	.400	.382	1.468
Second	-.475	.622	.176	.313	1.236

NB - The variables that were found to be statistically significant in predicting alcohol consumption among students are bold and marked with a single * on its P – Value.

CHAPTER FIVE: DISCUSSION OF THE STUDY FINDINGS

5.1. Alcohol Consumption Prevalence and Risk Levels among Evelyn Hone College Students

This study found that in every group of 74 Evelyn Hone College students one was likely to find 47 students who were alcohol consumers, and that 126 (53.6%) of the 235 alcohol consumers, both males and females, scored 8 points and above on the WHO AUDIT score scale. This represented 34.05% of the students' populous or rather approximately one in every three Evelyn Hone College students was likely to be found to not only be an alcohol consumer but also to score 8 and above points on the AUDIT score scale. This meant that this group of Evelyn Hone College students were already hazardously and harmfully using alcohol, as well as experiencing alcohol dependence symptoms. These findings were also worrisome because studies have shown that alcohol consumptions accounts for so many health, social, political, physical, and economical evils at individual, family, community, national and other higher societal levels. For instance, empirical evidence has shown a strong association between alcohol abuse by youth and a number of accidental traffic injuries and deaths, drowning, poisoning, burns and falls, as well as premeditated injuries such as interpersonal violence, suicides, homicide, premature deaths, child abuse and sexual violence, mental disorders [1, 7-9]. Increased risk of human immunodeficiency virus (HIV) risky sexual behaviour, unplanned pregnancies, poor educational achievements, unemployment, variety of crime have also be found to be associated with alcohol [1, 10]. Welfare dependence, poverty, social exclusion, marginalization, [1] turning into perpetuate substance abuser, family dysfunctional ties and disintegration, financial losses and distress, increased burdens associated with medical and other treatment services for drug users not able to support themselves, limited future opportunities through, bad behavior, school drop-out, and incarceration have also be found be associated with alcohol consumption [1, 3, 15, 47]. Furthermore, alcohol abuse and spending a lot of time drinking alcohol usually may lead to not harnessing the energies, creativity, and talents of the youths, meaning forgone productivity, and economic development [1, 3, and 50].

The Zambian strategic plan 2013 − 2016 on non-communicable diseases (NCDs) revealed that the burden of NCDs in Zambia is increasing, with significant consequences on morbidity and mortality levels. The most common NCDs in the country include, chronic respiratory diseases, cardiovascular diseases (CVDs), diabetes mellitus (Type II), cancers, epilepsy, mental illnesses,

oral health, eye diseases, injuries (mostly due to road traffic accidents and burns) and sickle cell anemia. It further stated that most of these NCDs were associated with lifestyles and diets, such as alcohol, tobacco, and other substance abuse [55]. Similarly, a situation analysis of adolescent health (ADH) in Zambia has shown that one of the main problems facing adolescents and young people, in general, was alcohol and substance abuse [56].

The Zambian population is currently estimated to have 67% young people below the age of 25 years, meaning that an overwhelming majority of the Zambian population are youths [56]. Therefore, with the findings of this study it could mean that these youths were contributing highly to the disease burden in Zambia and were unnecessary exerting pressure on the nation scarce resources to cater for their poor health conditions that would have been avoided. In fact, with results such as in every 235 group of students who consumed alcohol, 126 (53.6%) of them would be found to score 8 and above on the AUDIT score scale, as revealed by this study, the goal of reducing mortality occasioned by NCDs in Zambia by 25% by 2025 could prove difficulty to attain.

The study results also could be sending a worrying signal of what kind of the future labour force our labour market will absorb. It was worrisome because there was a likelihood that these facts about the bad effects of alcohol on an individual and society could already be being experienced or will soon be experience by some of those students (youths) who were found to be alcohol consumers, especially those who scored 8 and above on the WHO-AUDIT scale. These were only results from one tertiary learning institution. Now, if the situation was similar or worse in other tertiary learning institutions and our general communities, it could then mean Zambia could be headed for experiencing worse negative health, social and economic impacts associated with alcohol abuse. This would be because of the population that would be composed of not only high alcohol consumers, but also hazardous alcohol consumers. The population could also have a lot of alcohol dependant persons which could be harmful to productivity in any economy. This could happen if nothing positive would be done to change the status core, because these were youth who were or will soon be managing homes, companies and all our nation's sectors in general.

5.2. Factors associated with Evelyn Hone College Students' Alcohol Consumption

The study revealed that the higher the level of education attained by the mother of a student the more likely a student would be found to be an alcohol consumer. Though they may be several explanations for this reality discovered among Evelyn Hone College students, other studies around the world have seemed to be in affirmative. Some have even suggested that this could be because educated mothers do not have enough social time to guide their children, but they leave children to acquire habits and behaviour from peers, and other persons around them [48]. Other scholars have claimed that some educated mothers tend to drink themselves as a show off of belonging to a higher class in society or other reasons. Unfortunately, this habit tends to be copied by children or dependents under them and later the some children become binge drinkers [51]. In fact, this study also revealed that alcohol consumption by parents (mother, father, and/or guardian) was found to be associated with students' alcohol consumption [48, 49].

Biological parents, caregivers or/and guardians were considered by many scholars, especially psychologist and other social studies scholars, as models, pillars in shaping and determining children's future behaviour based on overwhelming research findings [49, 50]. To a Christian this could be based on a scripture from Proverbs 22:6 which says "Train up a child in the way he should go: and when he is old, he will not depart from it" [57]. Family and peer influences represent a "childhood risk structure" for substance abuse other scholars have added [48]. It is, therefore, imperative to see to it that holistic anti-alcohol policies are developed and enforced in Zambia if this public health problem is to be addressed. For instance there may be need to have and enforces policies that cause parents or caregiver not to expose their children to alcohol or any drug abuse. Parents from different socio-economic background, breweries, the media and any other relevant stakeholders are to be engaged on the problem of adolescent and youth alcohol consumption in Zambia, so as to come up with such policies that respond to socio-economic status of youth, parents and caregivers in sorting out the problem of high and hazardous consumption of alcohol among not only students but youth in Zambia.

The study also revealed that students' religious affiliation/orientation, had an influence on either one being an alcohol consumer or not. To be specific, the study found that student who were Muslims and protestant Christians were 95.6% and 81.2%, respectively, less likely to consume alcohol compared to students who were orthodox Christians. Scholars have claimed that religion

and spirituality were protective agents against early onset and/or general consumption of alcohol or abuse of alcohol [58]. People's religious involvement, especially one's religious involvement strength or commitment level, was said to be a protective factor against alcohol use in people, and was related to lower frequency of alcohol use. The bond to a religious persuasion and/or belief systems seem to act as the glue to a set of social values, symbols, behaviors and practices, that was, the adhesion to a comprehensive and complex religious practices, which included, among other things, the acceptance or refusal of alcohol and drugs use [47, 58].

The Zambian constitution declares that Zambia is a Christian nation, although it also accommodates other religions [59]. As many studies indicate, most religions act as protective agents against mere alcohol consumption and/or its abuse [47, 58]. Zambia has considerably many churches and other centres for worship by other religions. One could then wonder why such high levels of alcohol consumption were found among students. Consequently, the study with such finds, the study found that there was need for more investigations to understanding the specific roles the various religions play in promoting an anti-alcohol society; and see how best the various religions could come on board to combat the problem of alcohol abuse, more especially on youths in Zambia.

The study revealed also that a student that belonged to at least a club or association was 6.54 less times likely to be an alcohol consumer compared to the peers who did not belong to any association or club. Studies globally have shown that clubs or associations, especially those related to sports, were predictors of alcohol consumption. Yet other studies have been in affirmative that belonging to a club reduced the chance of one being an alcohol consumer. In such studies the main explanation has been that of people trying to uphold the good personal identity or identity of the club in society so that the club or individual's personal future life was not jeopardized [60]. This could be also one of the reason as to why students at this institution that belong to a club were less likely, in general, to be found to be alcohol consumers.

This finding, students' alcohol consumption being associated with one belong to a club, was very interesting and begged to be explored further as to why this fact was found to be the case among students at this institution who were also youths. This could help broaden the understanding on the factors, characteristics, or elements within these clubs that helped students to abstain from alcohol consumption so that they could be implemented among other youths within the country. Yet, in the meantime, the study recommended that Evelyn Hone College management team

should come up with a deliberate policy that encourages students at the institutions to belong to one or more clubs/association that were available at the institution, especially those which have anti-alcohol consumption values.

The variable perceived behaviour control (PBC) or rather the perceived self-efficacy and self-control abilities, was composed of one's ability to control or to either being confident of being able to consume alcohol or not, one having easy access to alcohol or not, and one having the purchasing power or not. This study revealed that those who had high perceived alcohol consumption behavioral control, that is, those who never had the confidence of drinking alcohol, had control over the decision to drink alcohol, had limited or no easy access to alcohol, and had limited or no purchasing power of purchasing alcohol were 82.6% less likely to be found to be alcohol consumers. These findings seemed to coincide with other studies that found that when individuals believed they had control over their behaviour they were more likely to act appropriately by not consuming alcohol compared to those with unclear perceptions or felt they lacked control over drinking alcohol. These studies claimed that this could have been due to each individual's level of self-control ability and confidence [41]. Furthermore, the findings of this study was in line with other findings in other studies that claimed that the environmental factors such as cheap alcohol and easy access to drinking places and alcohol increased the probability of drug involvement by young people in society [1, 6, and 7].

Therefore, based on the above study findings, the study recommended that there was need to put, promote, and enforce policies that limited the number of drinking place within tertiary learning institution's environments or in residential areas. The few allowed to operate should also not be near residential areas where they could easily be accessed by anyone anyhow, especially by youths. The study also recommended that there was need for sensitizing parents and guardians not to over give children and youth moneys whose usage could not be well established. The study was of the hope that this would be helpful in curbing the problem of having the youth and children easily accessing alcohol for abuse either because the drinking places were near or/and because they ended up unnecessarily having disposable income for miss use such as purchasing alcohol.

This study also revealed that early start, teenage initiation, of alcohol consumption in one's life was associated with students' alcohol consumption. To be more specific, the study revealed that students who got initiated to consume alcohol during the age group 15 to 19 years were

approximately 2 times more likely to be found to be alcohol consumers. Additionally, this study revealed that the minimum, mean and mode ages among Evelyn Hone College students of alcohol consumption initiation were 10 years, $16.73 \approx 17$ years and 16 years, respectively, with only 77 (20.8%) of 370 students having had never ever tasted alcohol in their lifetime, at least up to the time the study was being conducted. Early alcohol consumption initiation or child/teenage alcohol consumption was said to influence a person to become a regular alcohol consumer, studies in various parts of the world have revealed [2, 15]. In Zambia, alcohol consumption is legal at 18 years and above [4, 15]. This study revealed that 220 (59.5%) of the participants had first tested alcohol below the age of 18 years. Based on these findings of this study this could mean laws and moral enforcement systems put in place in our families, communities and our country, related to under age alcohol consumption, have not been functioning effectively. These youths who reported this were also going to be parents in the near future. Therefore, the study recommended that there was need for urgent correctional measure by various stakeholders to be put in place before the anomaly could be seen as normal by various youth who were exposed to early child alcohol abuse, once they grow.

Furthermore, the study found that those students who had positive attitude towards alcohol, that was, those who thought alcohol was good, beneficial, pleasurable and/or fulfilling and those who had a neutral attitude (they were not sure whether alcohol was good, beneficial, pleasurable and/or fulfilling) in their lives were more likely to drink alcohol than those who had a negative attitude towards alcohol, that is, those who felt alcohol was not good, beneficial pleasurable and/or fulfilling to them. In fact, the study also found that those who had intensions/wanted/planned to consume alcohol in their next 30 days were 6.411 more times likely to consume alcohol than those who had no intensions to consume alcohol in the next 30 days. This could be attributed to many unexplainable reasons best known to individual alcohol consumers or it could have been because those who thought alcohol was beneficial in their lives and those who were not sure on whether alcohol was beneficial in their lives had little scientific based information on the dangers of alcohol consumption. Studies have shown that the level of information about benefits and dangers alcohol is associated with alcohol consumption [1, 12, and 37]. Others have found intention to consume alcohol to be associated with stress levels [12]. Therefore, the study recommended that there was need for Evelyn Hone College management team and other interested stakeholders to further investigate students' and youths' reasons for

intending to drink alcohol and come up with interventions that were aimed at having students understand dangers of alcohol consumption.

The study revealed further that Evelyn Hone students who felt influenced by the subjective norms towards alcohol, (agreed that most people who were important to them approved or thought that it was ok for them to drink alcohol; it was expected of them to drinking alcohol based on their sex; it was expected of them as a student to drink alcohol; it was expected of them to drink alcohol by their mates based on their year of study or sex; they felt socially pressured to consume alcohol; and that their fathers, mothers, siblings, lecturers, friends, and/or guardians approved (allowed) them to drink alcohol) were 5.647 more times likely to be alcohol consumers than those who never felt influenced by any one or a combination of the individual subjective norms towards alcohol consumption. Similarly, the study found that those who were not sure on whether or not they were influenced by subjective norms to consume alcohol were 4.773 more times likely to consume alcohol compared to those who never felt influenced by the subjective norms outlined above. Research has shown that parents, peers and other people that an individual interact with mostly or who they hold with high esteem influence their alcohol consumption behaviour [1, 2, 15, and 47].

In other words, students who were found to be alcohol consumers became so because of the behavioural influence they copied or got influence with, consciously and/or unconsciously, by their peers, lecturers, parents, society they lived in and/or other people in their lives whom they valued. Others also may have copied the alcohol drinking life style as a way of fitting in or the struggle to be accepted among their peers, as some studies have shown [41]. From these findings, one could say there was need for all levels of society to start promoting positive behaviours that would develop anti-alcohol consumption behaviours among youths, the main pillars of socio-economic and political progress currently and for the future.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1. Study Conclusions

The findings revealed by this study confirmed that the problem of alcohol consumption among adolescents and youth in Zambia was still a major public health problem that was even hampering the attainment of other health goals such as the the goal of reducing mortality occasioned by NCDs in Zambia by 25% by 2025. The study revealed that youths were hazardously abusing alcohol. In fact, the study revealed that approximately one in every three (1/3) students (youths) was likely to be found to not only be an alcohol consumer but also to score 8 and above points on the AUDIT score scale. It was also worrisome to note that some youth start consuming alcohol at a tender age of 10 years. These results have higher cost not only on the health of the persons involved but also costs the nation, in term of health and economic costs.

With such results as revealed by the study, if no measures are put in place to reduce alcohol and substance abuse among youths, the nation is likely to record an increase in accidental traffic injuries and deaths, drowning, poisoning, burns and falls, premeditated injuries such as interpersonal violence, suicides, homicide, NCDs cases and premature deaths occasioned by NCDs, child abuse and sexual violence, mental disorders, risky sexual behaviour, unplanned pregnancies, poor educational achievements and/or school drop-outs, unemployment, variety of crime, welfare dependence, poverty, social exclusion, perpetuate substance abuser, family dysfunctional ties and disintegration, financial losses and distress, and incarcerations associated with alcohol abuse among youth in the coming years.

The study results also showed that the problem of alcohol abuse, unfortunately, was a highly complex problem with various factors associated with it. Moreover, the results showed that alcohol abuse does not recognize territorial, social or age limits. Therefore, in address this problem there was need for all stakeholders at all levels of society to develop, enforce, monitor, and evaluate holistic policies and intervention aimed at containing this public health problem among youth in Zambia.

6.2. Study Recommendations

Based on this study's findings the following are some of the recommendation made:

i.   There is need for tertiary institutions management teams to create enabling environments and facilities that would encourage students to freely go to the institution's health facilities for an AUDIT screening and/or seek other alcohol related health help.

ii. Similar research works should be encouraged in other tertiary learning institutions and other various health settings in order to generating information that would lead to coming up with holistic and robust health interventions aimed at eradicating this public health problem in the Zambian Learning institutions and among youths, in general.

iii. Government and other development partner should look at not only promoting girl child education vigorously, but include promotion of good morals among women and other care givers. This would help much in fighting alcohol abuse problem among adolescents and youths in Zambia.

iv. The interventions recommended in the WHO AUDIT tool manual [8] based on the total AUDIT score but not limited to them should be evaluated in order to see which components would be appropriate to implement among youth so as to help combat this public health problem. For instance, counselling and peer education may be some of the interventions needed to address the drinking problem among Evelyn Hone College Students and youth in general. This study also recommends that any intervenes that could be developed to address alcohol abuse among youths should be based on the ecological model in order for them to be holistic in tackling the problem.

v.   Parents and guardians should be encouraged to mind their alcohol drinking habits in presence of their children and dependants as one way of addressing this problem. As revealed in this study and many others, parents and caregiver are salient in molding a child's character and behaviour.

vi. The government needs to continue showing leadership and commitment by supporting the implementation of alcohol related policies through sufficiently training and allocating of both human and financial resources required to translate the anti-alcohol policies available into action.

vii. There is need to prioritize the strengthening of information and surveillance system for monitoring and evaluation of alcohol consumption and associated information.

viii. Various stakeholders such as WHO need to assist the government with the implementation, monitoring, and evaluation of alcohol related policies and interventions in Zambia.

REFERENCES

1. World Health Organization. Global status report on alcohol and health and country profile, 2018. Accesed on January 15, 2019: https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf.

2. United Nations Office on Drugs and Crime (UNODC). Drugs and Age: Drugs and associated issues among young people and older people. World drug report, 2018. January 15, 2019: https://www.unodc.org/wdr2018/prelaunch/WDR18_Booklet_4_Youth.pdf.

3. Rehm J. Mathers C, Popova S, (2009). Global burden of disease and injury and economic cost attributed to alcohol use and alcohol use disorders. Lancet, 373, 2223-2233.

4. Nzala, S.H., O. Babaniyi, P. Songolo, A.S. Muula, E. Rudatsikira and S. Siziya, (2011). Alcohol consumption in Lusaka urban district, Zambia: A population based survey, 2007. J. Public Health Epidemiol. 3, 419-423.

5. Menon JA, Kusanthan T, Mwaba SOC (2016). Alcohol and Tobacco usage Among Students in a Higher education institution in Lusaka, Zambia. Transl Biomed. 7 (2).

6. Cosmas Zyaambo, Olusegun Babaniyi, Peter Songolo, Adamson S. Muula, Emmanuel Rudatsikira and Seter Siziya (2013). Alcohol Consumption and Its Correlates among Residents of Mining Town, Kitwe, Zambia: 2011 Population Based Survey. Science Publications. American Medical Journal 4 (1), 6-11.

7. Hammerstein Nv, Paul R, Ncheka J. (2017). Increasing problem of alcohol abuse among the Zambian population in the psychiatric setting. Health Press Zambia Bull. 1(4).

8. Cho H, Hallfors DD, Iritani BJ. (2007). Early initiation of substance use and subsequent risk factors related to suicide among urban high school students. Addict Behav., 32,1628-39.

9. Muula A.S, Kazembe L.N, Rudatsikira E, Siziya S. (2007). "Suicidal ideation and associated factors among in-school adolescents in Zambia," Tanzania Health Research Bulletin, 9(3), 202–206.

10. Baliunas D, Rehm J, Irving H, and Shuper P, (2009). "Alcohol consumption and risk of incident human immunodeficiency virus infection: a meta-analysis," International Journal of Public Health, 55, 159–166.

11. World Health Organization. Zambia: WHO statistical profile. January 15, 2019: http://www.who.int/gho/countries/zmb.pdf?ua=1.

12. Seipone B. M. Mphele, Caroline Gralewski and Shyngle Balogun (2013). Stress and Alcohol Use Among College Students: A Case of Molepolole College Students IOSR Journal of Humanities and Social Science (IOSR-JHSS), 8(3), 01-06.

13. White V, Hayman J. (2006). Australian secondary school students' use of alcohol. Melbourne: Centre for Behavioural Research in Cancer Cancer Control Research Institute, The Cancer Council Victoria. Sponsored by Drug Strategy Branch Australian Government Department of Health and Ageing.

August 11, 2016:

http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content
/85D7B21B3E3A993ECA2572250007755F/$File/mono58.pdf.

14. Centers for Disease Control and Prevention. Global School-based Student Health Survey, 209. August 11, 2016: http://www.cdc.gov/GSHS/.

15. Swahn, M.H., Ali, B., Palmier, J., Sikazwe, G., Twa-Twa, J., Tumwesigye, N., & Rogers, K. (2011). Early Alcohol Use and Problem Drinking among Students in Zambia and Uganda. Journal of Public Health in Africa, 2(e20), 83-86. doi: 10.4081/jphia.

16. Saunders, J.B., Aasland, O.G., Babor, T.F., de la Fuente, J.R. and Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption. II. Addiction, 88, 791-804.

17. Allen, J.P., Litten, R.Z., Fertig, J.B. and Babor, T. (1997). A review of research on the Alcohol Use Disorders Identification Test (AUDIT). Alcoholism: Clinical and Experimental Research 21(4): 613-619.

18. Thomas F. Babor John C. Higgins-Biddle John B. Saunders Maristela G. Monteiro (2001). The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care. 2nd Ed. World Health Organisation, Department of Mental Health and Substance Dependence, WHO Press, Geneva, Switzerland.

19. Hideki Fujii1, Naoki Nishimoto, Seiko Yamaguchi, Osamu Kurai, Masato Miyano, Wataru Ueda, Hiroko Oba, Tetsuya Aoki, Norifumi Kawada and Kiyotaka Okawa. (2016). The Alcohol Use Disorders Identification Test for Consumption (AUDIT-C) is more useful than pre-existing laboratory tests for predicting hazardous drinking: a cross-sectional study. BMC Public Health, 16(379).

20. Fiellin, D.A., Carrington, R.M. and O'Connor, P.G. (2000). Screening for alcohol problems in primary care: a systematic review. Archives of Internal Medicine 160, 1977-1989.

21. Zverev Yuriy. (2008). Problem drinking among university students in Malawi. Coll Anthropol 32, 27-31.

22. Piccinelli, M., Tessari, E., Bortolomasi, M., Piasere, O., Semenzin, M. Garzotto, N. and Tansella, M. (19197). Efficacy of the alcohol use disorders identification test as a screening tool for hazardous alcohol intake and related disorders in primary care: a validity study. British Medical Journal, 314(8), 420-424.

23. Carolina de Meneses-Gaya, Antonio Waldo Zuardi, Sonia Regina Loureiro and José Alexandre S. Crippa. (2009). Alcohol Use Disorders Identification Test (AUDIT): An updated systematic review of psychometric properties. Psychology & Neuroscience, 2 (1), 83 – 97.

24. Miguel Ángel García Carretero, José Pedro Novalbos Ruiz, José Manuel Martínez Delgado, Cristina O'Ferrall González. (2016). Validation of the Alcohol Use Disorders Identification Test in university students: AUDIT and AUDIT-C. Adicciones, 28(4), 194-204.

25. Volk, R.J., Steinbauer, J.R., Cantor, S.B. and Holzer, C.E. (1997). The Alcohol Use Disorders Identification Test (AUDIT) as a screen for at-risk drinking in primary care patients of different racial/ethnic backgrounds. Addiction 92(2), 197- 206.

26. Skipsey, K., Burleson, J.A. and Kranzler, H.R. (1997). Utility of the AUDIT for the identification of hazardous or harmful drinking in drug-dependent patients. Drug and Alcohol Dependence, 45, 157-163.

27. Shevlin, M, & Smith, G.W. (2007). The factor structure and concurrent validity of the Alcohol Use Disorder Identification Test based on a nationally representative UK sample Alcohol & Alcoholism, 42, 582–587.

28. Reinert, D.F., & Allen, J.P. (2007). The Alcohol Use Disorders Identification Test: An update of research findings. Alcoholism: Clinical and Experimental Research, 31, 185-199.

29. de Oliveira JB, Kerr-Corrêa F, Lima MC, Bertolote JM, Santos JL. (2014). Validity of alcohol screening instruments in general population gender studies: an analytical review. Curr Drug Abuse Rev., 7(1):59–65.

30. Abiodun O. Adewuya. (2005). Validation of the Alcohol Use Disorders Identification Test (Audit) As A Screening Tool for Alcohol-Related Problems among Nigerian University Students. Alcohol & Alcoholism, 40(6), 575–577.

31. Yoneatsu Osaki1, Aro Ino, Sachio Matsushita, Susumu Higuchi, Yoko Kondo1, Aya Kinjo. (2014). Reliability and Validity of the Alcohol Use Disorders Identification Test - Consumption in Screening for Adults with Alcohol Use Disorders and Risky Drinking In Japan. Asian Pac J Cancer Prev., 15(16), 6571-6574.

32. Bickram Pradhan, François Chappuis, Dharanidhar Baral, Prahlad Karki, Suman Rijal, Antoine Hadengue, and Pascal Gache. (2012). The alcohol use disorders identification test (AUDIT): validation of a Nepali version for the detection of alcohol use disorders and hazardous drinking in medical settings. Substance Abuse Treatment, Prevention, and Policy, 7(42). doi: 10.1186/1747-597X-7-42

33. Lima CT, Freire AC, Silva AP, Teixeira RM, Farrell M, Prince M. (2005). Concurrent and construct validity of the audit in an urban Brazilian sample. Alcohol alcohol, 40(6), 584–589.

34. Gache P, Michaud P, Landry U, Accietto C, Arfaoui S, Wenger O, et al., (2005). The Alcohol Use Disorders Identification Test (AUDIT) as a screening tool for excessive drinking in primary care: reliability and validity of a French version. Alcohol Clin Exp Res., 29, 2001–2007.

35. Ronald AK, Mieke D, Sandra K, Ulrike G, Kim B. (2006). A Comparison of the Alcohol Use Disorder Identification Test (AUDIT) in general population surveys in nine European countries. Alcohol Alcohol, 41, i19–i25.

36. Guo W, Lanzi G, Luobu O, Ma X, Zhen P, Ji Y, et al. (2008). An epidemiological survey of alcohol use disorders in a Tibetan population. Psychiatry Res., 159(1–2), 56–66.

37. Alao, A. A., Forcheh, N., Roy, H. & Tidimane, C. (2004). Alcohol use and abuse at the University of Botswana Campus. Unpublished study conducted on behalf of the University of Botswana and funded by Institute of Research. Gaborone: Botswana.

38. Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179–211.

39. Fishbein, M., & Ajzen, I. (2010). Predicting and changing behavior: The reasoned action approach. New York: Psychology Press.

40. Jillian J Francis, Martin P Eccles, Marie Johnston, Anne Walker, Jeremy Grimshaw, Robbie Foy, Eileen F S Kaner, Liz Smith, And Debbie Bonetti. (2004). Constructing Questionnaires Based on the Theory of Planned Behaviour: A Manual for Health Services Researchers. Centre for Health Services Research, University Of Newcastle, United Kingdom.

41. Ajzoon, Muna S. (2017). Alcohol and Substance Use Knowledge, Attitudes, Subjective Norms, Self-Efficacy, Perceived Behavioral Control, and Behavioral Intentions Among Omani College Students. Doctor of Philosophy (PhD), dissertation, Health Services.

42. Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour : A Meta-Analytic Review. British Journal of Social Psychology, 40, 471-499.

43. Norazlan Hasbullah, Abdul Jumaat Mahajar and Mad Ithnin Salleh. (2014). Extending the Theory of Planned Behavior: Evidence of the Arguments of its Sufficiency. International Journal of Humanities and Social Science, 4(14).

44. Rivis, A., & Sheeran, P. (2003). Descriptive Norms as an Additional Predictor in the Theory of Planned Behaviour: A Meta-Analysis. Current Psychology, 22(3), 218-223.

45. McEachan, R. R. C., Conner, M., Taylor, N. J., & Lawton, R. J. (2011). Prospective prediction of health-related behaviours with the Theory of Planned Behavior: A meta-analysis. Health Psychology Review, 5, 97–144.

46. Zimmerman-Gembeck, M. J., Siebenbruner, J. and Collins, W. A. (2004). A prospective study of intraindividual and peer influences on adolescent's heterosexual romantic and sexual behavior. Archives of Sexual Behavior, 33, 381–394.

47. Mohammadpoorasl A, Nedjat S, Fakhari A, Yazdani K, Rahimi Foroushani A, Fotouhi A. (2012). Substance Abuse in High School Students in Association with Socio-Demographic Variables in Northwest of Iran. Iranian J Publ Health, 41(12), 40-46.

48. Meriam M Janssen, Jolanda JP Mathijssen1, Marja JH van Bon-Martens, Hans AM van Oers, and Henk FL Garretsen. (2014). A qualitative exploration of attitudes towards alcohol, and the role of parents and peers of two alcohol-attitude-based segments of the adolescent population. Substance Abuse Treatment, Prevention, and Policy, 9(20).

49. Schwinn, T. M., & Schinke, S. P. (2014). Alcohol use and related behaviors among late adolescent urban youths: Peer and parent influences. Journal of Child & Adolescent Substance Abuse, 23(1), 58-64.

50. Thomas, H. J., & Kelly, A. B. (2013). Parent-child relationship quality and adolescent alcohol use. Australian and New Zealand Journal of Psychiatry, 47(11)

51. Machado IE et al. (2013). Factors associated with alcohol intake and alcohol abuse among women in Belo Horizonte, Minas Gerais State, Brazil. Cad. Saúde Pública, Rio de Janeiro, 29(7):1449-1459.

52. Vantamay S. (2009). Alcohol consumption among university students: applying a social ecological approach for multi-level preventions. Southeast Asian J Trop Med Public Health, 40, 354-69.

53. Hurtz S. Q. Henriksen L, Wang Y (2007). The relationship between exposure to alcohol advertising in stores, owning alcohol promotional items, and adolescent alcohol use. Alcohol Alcoholism, 42:143-9.

54. Rea, L. M., & Parker, R. A. (1992). Designing and conducting survey research. San Francisco: Jossey-Boss.

55. Zambian Strategic Plan 2013-2016 Non-Communicable Diseases and their Risk Factors, Version 1. Accessed on January 19, 2016: Https://Www.Iccp-Portal.Org/System/Files/Plans/Zmb_B3_Ncds%20strategic%20plan.Pdf.

56. Zambian Adolescent Health Strategic Plan 2011 to 2015. Final Approved Version_17April2012.

57. Proverbs 22:6, New King James Version (NKJV).

58. Thompson W. E. (2017). Social Support, Religious Involvement and Alcohol Use among Students at a Conservative Religious University. Behavioral sciences (Basel, Switzerland), 7(2), 34. doi:10.3390/bs7020034.

59. The Constitution of Zambia (Amendment) Act, 2016.

60. Ford, Jason A. (2007). Alcohol Use among College Students: A Comparison of Athletes and Nonathletes, Substance Use & Misuse, 42(9), 1367 — 1377.

61. Accessed on April 3, 2015:
http://pubs.niaaa.nih.gov/publications/Practitioner/pocketguide/pocket_guide2.htm

APPENDIXES

Appendix A: Information Sheet

INFORMATION SHEET

STUDY TITLE:

ALCOHOL CONSUMPTION AMONG STUDENTS IN TERTIARY LEARNING INSTITUTIONS: A CASE OF EVELYN HONE COLLEGE STUDENTS.

Principal Investigator: Mr Mumba B. Mutondo

Consent Form #: ……….

THANK YOU

Introduction

I, **Mr. Bible Mutondo Mumba**, a student at the University of Zambia in the school Public Health, Pursuing a Master of Public Health Degree programme is carrying out a study to determine the prevalence of alcohol consumption and associated factors among the 2016 academic year Evelyn Hone College students. The study is being conducted only at this institution. You as a participant in particular were randomly selected to take part in this study.

Purpose and method of the study

The purpose of the study is to obtain information that will be used to determine the prevalence of alcohol consumption and associated factors among students knowing that alcohol consumption among youth is a global problem that is on an increase and is associated with so many health conditions in Zambia.

Procedures

The study will need you to answer basic demographic questions and questions on your alcohol consumption behaviour and perceptions, using the self-administered questionnaire. You will be required to answer these questions only once. No any sort of medical examination will be carried out on you. Completion of the questionnaire is likely to take you about ten minutes.

Potential risks

There are no foreseeable risks attributable to participating in this study. However, you may just have spare some few minutes from your normal schedule to respond to the questions in the questionnaire.

Potential benefits

There are no direct benefits to you for participating in this study, but information obtained from you may inform the development, implementation, and enforcement alcohol related policies and interventions at different society levels in Zambia. This should help reduce the number of people not only abusing alcohol but also suffering health conditions likely to be occasioned by alcohol consumption.

Rights as a research participant

Your participation in this study is entirely voluntary. You may decide to withdraw from the study at any time. Such a decision will not affect your normal academic life at campus in any way.

Confidentiality

A unique identifier only known to the study personnel will be used instead of your name. Personal information about you will not be released to anyone and will not be used in any publications from this study.

Remuneration

There will be no payment for your participation in this study.

Further Information

If you have any questions or concerns regarding ethical issues in the conducting of this study, you may contact:

The Principal Investigator,
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Appendix B: Participant Consent Form

By signing below, I confirm that I understand the nature and purpose of this research and that my participation is voluntary. I understand that I can withdraw my participation at any time during the session.

I hereby give my consent to participate in the research study: **"Alcohol Consumption among Students in Tertiary Learning Institution: A case of Evelyn Hone College Student."**

_____   _____   _____

Print name of Adult Participant   Signature of Adult Participant   Date

_____   _____   _____

Print name of Adult Witness   Signature of Adult Participant   Date

_____   _____   _____

Print name of Person Obtaining   Signature of Person Obtaining Consent   Date
Consent

Thank You for Participating in this Study

Appendix C: Questionnaire

Section A: Socio-demographic Information

Q1. What is your sex?

  a. Female ☐

  b. Male ☐

Q2. What was your age at your last birthday? ………..

Q3. What is your Marital Status?

  a. Single ☐

  b. Married ☐

  c. Divorced ☐

  d. Separated ☐

  e. Widowed ☐

Q4. What programme are you studying/pursuing? ………………………………………………..

Q5. What is your current year of study in school?

  a. First Year ☐

  b. Second Year ☐

  c. Third Year ☐

Q6. What religious grouping do you belong to?

  a. Orthodox (E.g., SDA, CMML) ☐

  b. Protestants (E.g., Bread of Life) ☐

  c. Islam ☐

  d. Catholic ☐

  e. Baha'i Faith ☐

  f. Hinduism ☐

  g. None ☐

  h. Others (specify) ……………………………………

Q7. Do your parents/guardians consume alcohol?

	Yes	No
Father		
Mother		
Guardian		

Q8. What is the highest level of education attained by your parents/Guardian?

	Primary Education (Grade 1 to 7)	Basic Education (Grade 8 to 9)	Secondary Education (Grade 10 to 12)	Tertiary education (College & University)
Father				
Mother				
Guardian				

Q9. How would you describe the area where you stay? (For example, Kabulonga=High Cost, Kabwata=Medium Cost and Misisi=Low cost)

a. High Cost Urban

b. Medium Cost Urban

c. Low Cost Urban

d. Rural Area

Q10. Are you a member of a club, grouping, association, or fraternity?

a. Yes

b. No

Q11. Currently, are you holding any leadership position in any club, association, fellowship, union, organisation, or fraternity currently exiting at campus?

a. Yes

b. No

Section B: Alcohol Consumption

Q12. Have you ever taken an alcoholic drink in your life?

a. Yes

b. No

Q13. At what age did you first take an alcoholic drink? ………………….

Q14. Have you consumed any alcoholic drinks in the past 12 months?

   a. Yes ☐

   b. No ☐

Q15. How often do you have a drink containing alcohol?

Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week

Q16. Kindly state the alcoholic drink(s) you often consume on a typical day when you are drinking alcohol (E.g., Mosi, the Beachhouse, Jameson, Redds, Opaque beer, Tiger Eye).

………………………………………………………………………………………………………

Q17. How many drinks containing alcohol do you have on a typical day when you are drinking?

1 or 2 drinks	3 or 4 drinks	5 or 6 drinks	7, 8, or 9 drinks	10 or more drinks

Q18. How often do you have six or more drinks on one occasion?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q19. How often during the last year have you found that you were not able to stop drinking once you had started?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q20. How often during the last year have you failed to do what was normally expected of you because of drinking?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q21. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q22. How often during the last year have you had a feeling of guilt or remorse after drinking?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q23. How often during the last year have you been unable to remember what happened the night before because of your drinking?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Q24. Have you or someone else been injured because of your drinking?

No	Yes, but not in the last year	Yes, during the last year

Q25. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?

No	Yes, but not in the last year	Yes, during the last year

Section C: Psychosocial Factors

NB: Kindly tick (√) the number of the answers that applies to you.

Intentions

Q26. I expect to drink alcohol before the end of next 30day from today.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Q27. I want to drink alcohol within the next 30days.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strong disagree   (7). Absolutely disagree

Q28. I intend to drink alcohol before the end of the next 30days.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Attitude

Q29. Drinking alcohol is

(1). Absolutely good   (2). Good,   (3). Neutral (I think 50:50 or not sure),

(4). Bad   (5). Absolutely bad

Q30. Drinking alcohol is

(1). Absolutely harmful   (2). Harmful   (3). Neutral (I think 50:50 or not sure)

(4). Beneficial   (5). Absolutely beneficial

☐

Q31. Drinking alcohol is

(1). Absolutely pleasant   (2). Pleasant   (3). Neutral (I think 50:50 or not sure)

(4). Unpleasant   (5). Absolutely unpleasant

☐

Q32. Drinking alcohol is

(1). Absolutely useful   (2). Useful   (3). Neutral (I think 50:50 or not sure)

(4). Worthless (useless)   (5). Absolutely worthless (no value)

☐

Q33. Drinking alcohol is

(1). Absolutely fulfilling   (2). Fulfilling   (3). Neutral (I think 50:50 or no sure)

(4). Unfulfilling   (5). Absolutely Unfulfilling

☐

Subjective Norms

Q34. Most people who are important to me approve /think that it is ok for me to drink alcohol.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

☐

Q35. It is expected of me as a male to drinking alcohol.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

☐

Q36. It is expected of me as a student drinking alcohol.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

☐

Q37. Because of my year of study I am expected to drink alcohol by my mates.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

☐

Q38. I feel social pressured to consume alcohol.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

⬚

Q39. People who are important to me want me to drink alcohol.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

⬚

Q40. My father approves (allows) me to drink alcohol?

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

⬚

Q41. My Mother approves (allows) me to drink alcohol?

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

⬚

Q42. My Guardian approves (allows) me to drink alcohol?

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

⬚

Q43. My siblings approves (allows) me to drink alcohol?

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure),   (5). Disagree   (6). Strongly disagree (7). Absolutely disagree

⬚

Q44. My friends (peers) approves (allows) me to drink alcohol?

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

⬚

Q45. My Lecturer(s) approves (allows) me to drink alcohol?

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

⬚

Q46. Some of my friends absolutely expect me to drink alcohol.

(1). Absolutely disagree   (2). Strong disagree   (3). Disagree   (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

⬚

Self-efficacy

Q47. I am confident that I could drink alcohol if I wanted to at any time or day.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure), (5). Disagree (6). Strongly disagree (7). Absolutely disagree

Q48. For me to access alcohol and drink is easy.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Q49. It is easy for me to purchase alcohol and drink.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Controllability

Q50. The decision to drink alcohol is beyond my control.

(1). absolutely agree   (2). Strongly agree   (3). Agree   (4). Neutral (I think 50:50 or not sure), (5). Disagree (6). Strongly disagree (7). Absolutely disagree

Q51. Whether I drink alcohol or not is entirely up to me.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Q52. When I am attending a party or celebration where alcohol is available (free or being sold) the decision to drink alcohol or not is entirely up to me.

(1). Absolutely likely (2). Highly likely   (3). likely   (4). Neutral (I think 50:50 or not sure) (5).   Unlikely   (6). Highly Likely   (7). Absolutely Likely

Q53. I have total control on whether to drink or not whenever I am with my peers.

(1). Absolutely disagree   (2). Strongly disagree (3). Disagree (4). Neutral (I think 50:50or not sure),   (5). Agree   (6). Strongly agree   (7). Absolutely agree

Thank You So Very Much For Your Time and Cooperation.

Appendix D: What is a Standard Drink?

A standard drink is any drink that contains about 14 grams of pure alcohol (about 0.6 fluid ounces or 1.2 tablespoons). Below are standard drink equivalents as well as the number of standard drinks in different container sizes for each beverage. These are approximate, as different brands and types of beverages vary in their actual alcohol content [61].

STANDARD DRINK EQUIVALENTS	APPROXIMATE NUMBER OF STANDARD DRINKS IN:
BEER or COOLER	
12 oz. ~5% alcohol	12 oz. = 1 16 oz. = 1.3 22 oz. = 2 40 oz. = 3.3
MALT LIQUOR	
8-9 oz. ~7% alcohol	12 oz. = 1.5 16 oz. = 2 22 oz. = 2.5 40 oz. = 4.5
TABLE WINE	
5 oz. ~12% alcohol	a 750 mL (25 oz.) bottle = 5
80-proof DISTILLED SPIRITS	
1.5 oz. **40% alcohol**	a mixed drink = 1 or more* a pint (16 oz.) = 11 a fifth (25 oz.) = 17 1.75 L (59 oz.) = 39