

Assessment of Alcohol Use Control Programs in Public and Private Secondary Schools in
Lofa County, Liberia: Cross-sectional Study

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Declaration

I, Macklin Marvin Korvah (Student ID 51217613), herewith the subsumed of this work certify that this dissertation entitled "Assessment of Alcohol Use Control Programs in Public and Private Secondary Schools in Lofa County, Liberia: Cross-Sectional Study" is originally my own work. I accomplished the job under supervision and that I have never submitted this dissertation, either in full or in part at any university or establishment for an award of any degree/diploma.

And, to the fullest of my knowledge, all the information derived from other published or unpublished sources have been appropriately cited.

KORVAH, Macklin Marvin
2019/07/05

Dedication

"There is a benefit in every kind of hard work, but mere talk leads to wanting"
(Proverb 14:23).

I dedicate this dissertation to my affectionate parents, Mrs. Saybah Ballah and the late Mr. Dennis S. Korvah, for their unwavering and uninterrupted financial, virtuous and physical supports provided to me for my educational expedition. They were always available when needed most. To my siblings, Tarnue Korvah, Jallah Korvah, Neigbeh Alice Korvah Tosah, and Lorpu Korvah for being there all the time and finally to my local friends, Mr. Hilton B. Korvah and Mr. Amos J. Gizzie, for believing in me when all hope is gone.

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Abstract

This dissertation examined and compared the dissimilarity in the prevalence of alcohol use between public and private secondary school students in Liberia. Alcohol is recognizably a frequently used psychoactive drug among students. Its purpose is socially a pleasurable practice in many countries, including Liberia. The use of alcohol among the youngsters in Liberia is a relic which can be circumscribed to the anthropological and sociological perspectives on culture, society and economics of the country. The spread of its use was affected by the civil war and western culture. The war exposed people, including students to alcohol misuse while western culture influenced compliance of alcohol use as trendy and as a mode of collective associations' preferment. This survey intended to examine and compare the commonness of alcohol use between public and private secondary school children; so that one can distinguish a well-meaning insight of the essence and scope to which school-based prevention undertakings curb down the use of alcohol among students in Liberia.

A quantitative research approach, using a self-administered questionnaire, was adopted to explore and interpret the prevalence of alcohol use between two independent populations, public (220) and private (180) secondary school students. Stratified sampling was convenient to select the subjects. Data were analyzed using Excel 2016 for Windows 10, version 1709 software, and results displayed in graphs and frequency tables. Test of association between descriptive variables and the effect of interest was completed using z-test for two independent population proportions, chi-square test, and odds ratio analysis.

The findings demonstrate that alcohol use was a common phenomenon among students; and that there was tremendously a very high prevalence in the public schools (71.8%) compared with private schools (32.8%). The study showed that alcohol use prevalence in the public schools is in excess of twice the prevalence in the private schools. Males were the dominant users of alcohol in all sample schools. Students acquired alcohol at a nominal price from ordinary sources such as homes and farms. And, peer pressure, as well as health conditions, were the primary reasons for alcohol use among students in all sample schools.

Based on the results, the study acknowledges a maximum difference in the efficiency of school-based alcohol prevention programs. The policy is weak, but weaker in the public schools compared with private schools. Therefore, an inclusive intervention strategy that incorporates dimensions related to students' social environment, including the community, school, and family is necessary for public schools.

Chapter 1:

Introduction

1.1 Introduction

This dissertation commits a finding of the assessment of school-based prevention programs to avert and lessen the use of alcohol among students in Liberia. The study aimed to examine and estimate the difference in the number of current drinkers of alcohol between students in the private and public secondary schools in the country. The assessment was within the context of the implementation of the school-based programs to prevent and reduce alcohol use among in-school adolescents.

I am a patriotic Liberian citizen and a voluntary public health practitioner with weighty concern about the health and well-being of my compatriots. During my five years occupational engagement as an extension and social worker with ACDI/VOCA in Liberia, I was exposed to the problem of harmful use of alcoholic beverages by youths in nearly every part of Liberia that I worked. I was amazed, most notably by the involvement of in-school youth, despite the various existing school-based programs to control drinking among students. Thus, the efficacy of these school-based programs turned into my utmost inquisition. However, as I actualized that there exists a wide range of public sentiment that alcohol use control programs are less effective in private schools as well as public schools, my inquisitive quest became broadened. I became quite anxious about this prejudgment and deemed it indispensable to establish a fact-finding approach to determine whether the general preconception is realistic or an illusion. Emphatically, in demand to attain an exhaustive insight of the burden and staunchly address the existing rift, I resolved to undertake a research project to participate with stakeholders in the school setting. I then designed this

dissertation after a correlational descriptive research model or approach that aimed to identify the difference in the proportion of students who use liquor between public and private secondary schools, and compare the implementation issues associated with alcohol use control programs for each school category in Liberia. The study equally determined the effects of the school-based programs by assessing the evidence concerning the difference in the prevalence of alcohol use among in-school adolescents between the two school systems. The succeeding chapters detail the design and findings.

1.2 Liberia Geography, Demographics and History

Figure 1.1: Map of Liberia



Positioned on the west shoreline of Africa, the Republic of Liberia is bounded on the North, East, West, and South by the Republic of Guinea, Cote d'Ivoire, Sierra Leone, and the Atlantic Ocean respectively. Liberia has 15 political sub-regions termed as counties. And, these counties further contained sub-political

divisions called districts and clans. The country has a total area of 111,369 km² of which 96,320km² is telluric, and 15,049 km² is aquatic. The country is also a multicultural and multiethnic nation that homes about 16 recognized aboriginal tribal communities. These tribal communities emanated from three ethnolinguistic groups called Kwa, Mande, and Mel. Included in the residents are a substantial population of Americo-Liberians, Lebanese,

Indians and other nationals mainly from West Africa. The Americo-Liberians who are the ethnic minority in Liberia refers to the ethnic sub-division of the population that is of African-American and Afro-Caribbean cultural heritage. The current population of the country is more or less 4.98 million people (World Population Review, 2019). English, the endorsed language is nearly spoken everywhere, but in its Liberian form known as the Kru Pidgin or Liberian Kreyol. Predominantly, the Kpelle tribal group is the ethnic majority, while the Dei, Belle, and Mende are considered the smallest tribal groups; with each making up 0.5% of the total population of the country.

The untiring efforts of an American philanthropist, Reverend Robert Finley, a Presbyterian minister of the gospel of Jesus Christ is highly credited for the origin of Liberia as a Republic. Finley was from New Jersey, United States of America. As early as 1814, Finley had expressed his idea of Negro colonization in a letter to a friend (Sherwood, 1917). Some historians have ascribed Finley's constant quest to assist the free black slaves to relocate back to Africa as a humanitarian, while others reckoned that Finley intention was sentimental. They argued that Finley and many Americans were apprehensive in suspicion that the free black minority was a threat to the general health and excellence of life for the whites; and alleged, therefore, that the rapidly increasing emancipated black population threatened the peace of the country (Sherwood, 1917).

However, in the backdrop of whatever was his motivation; Finley continued with incessant intercession and engagement with government and other stakeholders. By November 6, 1816, Congress adopted the deportation of the free blacks to Africa in a colonization meeting; after that, on December 21, 1816, the American Colonization Society (ACS) was founded (McHenry, 2002). The ACS later worked determinedly with the

American government. And by February 6, 1820, the first group journeyed from the U.S. to Africa to establish a black colony. On January 7, 1822, these returned freed slaves established a settlement on the West coast of Africa, which later became known as Liberia. Subsequently, this colony became the first democratic republic in the history of Africa on 26th July 1847 (Cook, 2002).

This information describes the setting of my study and reveals the culture and national heritage of the targeted population alongside which I can infer the effectiveness of alcohol use control programs in secondary schools, and equally grasp an insight of the problems that are accompanying using alcohol among students in both public and private schools.

1.3 Background

1.3.1 Alcohol and Health Consequences for Users

Alcohol use has an array of health and socioeconomic concerns. In nearly all Comparative Risk Assessments (CRA) carried out as a part of the inquiry in the Global Burden of Disease (GBD), alcohol consumption is pinpointed to have a causal relation with the burden of disease and death. Quite a lot of studies conducted by dissimilar researchers around the globe have found a positive correlation between alcohol consumption and health-related complications. In a systematic evaluation of reviews and meta-analyses on the health consequences caused by drinking alcohol; alcohol use was causally allied with many diseases and injury categories (Rehm et al. 2016). WHO Fact Sheet, 2018 confirms, "5.1% of the global burden of disease is attributable to alcohol as a measure in the disability-adjusted life years (DALY)." The WHO Global Status Report on Health (2018) further distinguishes that detrimental drinking has a contributory impetus in over 200 different

disease and injury conditions. Among the 200 diseases are psychological and behavioral disorders, alcohol addiction, and some dangerous noncommunicable diseases, including deadliest ones like liver cirrhosis, heart diseases, and pancreatic cancers among many. This report resonates with (Rehm et al. 2009):

“Alcohol consumption has been identified as a component cause for more than 200 diseases, injuries, and other health conditions with ICD-10 codes.”

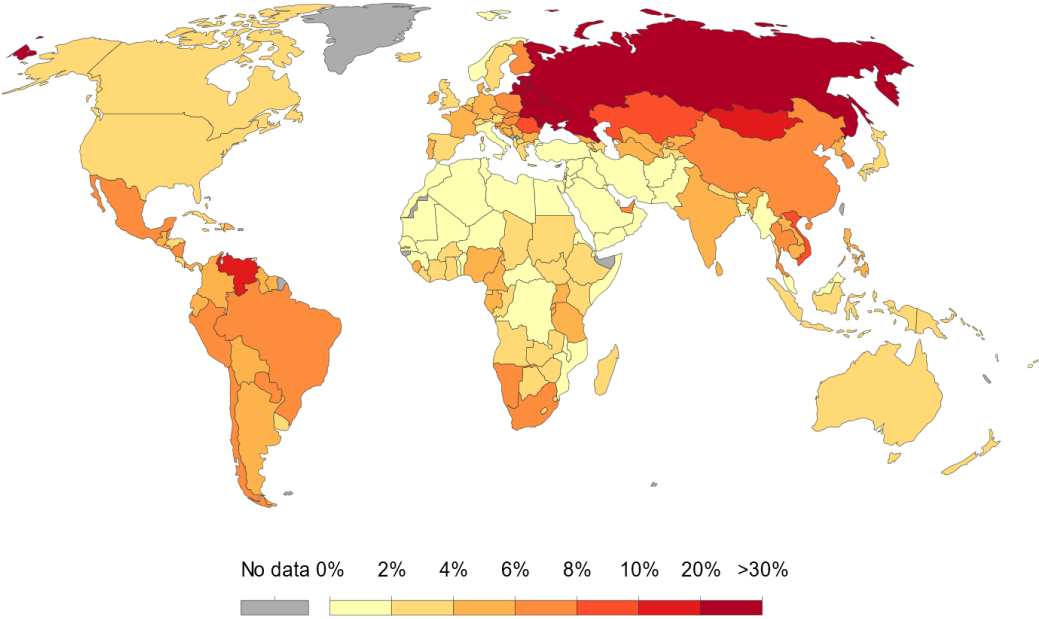
The report concurs with the (2011) Global Status Report on Alcohol and health that worldwide, the disparaging use of alcohol kills approximately 3 million persons (5.3% of all deaths) per annum. In further analysis, it concludes that in every 10 seconds, a person dies from alcohol-related causes.

Contemporarily, in nearly every society and culture on the planet, alcohol is one of the most foreseeable menacing influences for morbidity and mortality. According to statistic from the 2018 Global status reports on alcohol, in 2016 alone, drinking-related mortality was higher; when compared to the following diseases: tuberculosis 2.3 percent, HIV/AIDS 1.8 percent, diabetes 2.8 percent, hypertension 1.6 percent, digestive disorders 4.5 percent, road injuries 2.5 percent and violence 0.8 percent. WHO (2011) report actively maintained that globally, alcohol is the 3rd highest risks for ailment and disability.

Moreover, the detrimental routine of alcohol consumption also has a collection of connecting association with vehicle-related fatalities, injuries, violence, and other health-related penalties like undesirable pregnancy, sexually transmittable infections, including HIV/AIDS. A systematic review to determine the association between drinking alcohol and sexually transmittable diseases found out that drinking alcohol is clearly allied with an increased risk of STDs across a wide variety of residents (Cook et al. 2005).

As presented above, alcohol consumption has a run of health-related consequences that impacts the existence of humans in every society on our planet. Given the series of reports from WHO and several other researchers, one may suggest that drinking alcohol has an immediate adverse effect on human health and well-being. With these, alcohol use, which is commonly known as a practice in post-conflict zones; most especially Liberia, where the health system is fragile poses a significant public health challenge that calls for an effective public policy. Of course, WHO has overemphasized, "notwithstanding the huge health and social economic burdens linked with hurtful use of alcohol; it has remained a comparably low priority in public policy, including in public health policy" (WHO, 2014). The diagram below shows the estimates of the alcohol-attributable fraction (AAF) and the percentage of deaths which are triggered or aggravated by alcohol.

Figure 1.1: Alcohol Attributable Fraction (AAF) of Mortality, 2012



Source: WHO, Global Health Observatory (GHO)

1.3.2 Social-economic consequences of alcohol use

The Global strategy to diminish the distressing use of alcohol defines 'harmful use of alcohol' as "drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large; as well as the patterns of drinking that are associated with increased risk of adverse health outcomes" (WHO, 2014). Throughout the history of human existence, alcohol has served varied circumstances, including traditional, social, peer influences, sacred observance, and others. In whatever contexts, humans use alcohol; the use affects and shapes the economic and social progressions of individuals, families, societies, countries, regions, and the entire human society. In most noble human societies, socioeconomic consequences for alcohol consumption are knotted up in norms and moral principles. Some cultures and religions forbid alcohol use while other work domains prohibit alcohol use with definite amends. However, most alcohol users disregard these standards and policies. Hence, the repercussion includes increased incidents of crime, traffic accidents, domestic violence, and sexual malpractices. Like health, alcohol abuse has detrimental repercussion on the state. It agonies the family, the community, and persons of all ages (Burke, 1988). Other consequences might include:

1. **Resources exhaustion:** Alcohol consumption in every human culture is known to be associated with financial losses, which directly affects the family of the user. The victim uses his or her earnings to acquire alcohol. This practice might negatively affect his/her financial responsibilities for his/her family, thereby infuriating home conflicts.

2. Inability to resume social responsibilities: Nearly every culture regards intoxicated people as a failure, and therefore sideline them, assuming that the influence of alcohol might limit the victim's ability to reason appropriately. Such a condition might warrant the community refusal to entrust him/her with social responsibilities.

In another dimension, WHO, in its Global Information System on Alcohol and Health (GISAH) to evaluate and monitor the health status reprimanded that drinking alcohol causes harm to not only the health and well-being of the user; but even to the persons in the vicinity of the user (Global Health Observatory Data, 2018). Undue alcohol drinking is known to have an opposing bearing not only on the drinker but also the entire community.

Also, in most societies where alcohol consumption is massively a day-to-day life practice, there are margins of acceptable drinking behaviors. "When an individual cross a culture-specific boundary as a result of alcohol use, he or she might experience socioeconomic consequences such as loss of earnings, unemployment or family problems, stigma and barriers to accessing health care" (Global status report on alcohol and health 2014).

1.3.3 The Trend of Alcohol Use among Youths

Globally, the drinking of alcohol by young people is of the first trepidation. It is so because quite a lot of research have identified an underlying relationship between young people drinking and various problems; including heavy episodic drinking (HED), bullying, drunk driving, risky sexual behaviors, and many other social and economic issues. Alcohol use is also considered a high predictor to other illicit substance use among young people. In a study to identify how drinking alcohol has become a scapegoat for illegal drug use (Peele

& Brodsky, 1998) claimed that alcohol is the outstanding entry drug to severe drug involvement among young people. The WHO (2014) report acknowledged that there was a rise in alcohol consumption among adolescents (aged 13-15). The statement equally specified a growing drift in alcohol use amongst 18-25-year-old (WHO, 2011; 2012). As mentioned in several studies, with an exhibited statistic of the proportion of students in the different regions of the world, students between age 13 and 15 years reported drinking at least one intoxicating beverage. In Africa, (62.1% males and 61.2% females) in Seychelles were said to be the uppermost percentage of students who use alcohol, followed by Zambia (38.7% of males and 45.1% of females). Data on Liberia and many Sub-Saharan African nations might not have been available, yet according to WHO, "consumption of alcohol and problems related to alcohol vary widely around the world, but the burden of disease and death remains significant in most countries" (Global Status Report on Alcohol and Health, 2014).

1.4 Problem Statement

Prior to the inception of the 14 years of civil conflict in Liberia, drinking alcohol was culturally believed to be a practice for older men and women in most communities. Adolescents were infrequently involved in alcohol use practices; except for occasions like Christmas and traditional bush schools (poro and sande) graduation. The future of teenagers who were engaged in alcohol use practice was considered a disappointment by societal standards. However, since the elapsed of the war, alcohol use among the adolescents has plagued a lot of communities, including learning institutions in Liberia. Concerns about alcohol-related hazards, including social-economic effects, is rare. For most of the youths involved, the pleasurable benefits outweigh the risks. This fact is consistent with (Brandao,

2011), "Young people are concerned about just the present with no social expectation, a large portion of them feel free to consume alcoholic beverages intensely."

In Liberia, young people constitute 35% of the population (LISGIS, 2014); with most of them students. The practice of alcohol use among young people in Liberia has had an array of damaging results. It marks the initiation of binge drinking or alcohol abuse that might lead to moral, physical, financial, and life-threatening risks or even death upon individuals in the country. "Alcohol consumption is the world's third largest risk factor for disease and disability" (WHO, 2011). On the other hand, "drinking behavior among students affects their academic performances and quality of learning" (Renna, 2008). Liberia, a nation just recuperating from 14 year's civil aggression has a fragile educational and healthcare systems with deteriorating student performance, as well as alcohol-attributable diseases, and reports of vehicle crashes, suicide, homicide, unwanted pregnancies and rape among many. As shown in the 2012 Alcohol Attributable Fraction (AAF) of Mortality chart in this chapter, Liberia has a mortality rate of 6% from all alcohol attributable diseases. This percentage is undeniably an upsetting concern.

In the context of students' poor academic achievements, the public highly insinuates that alcohol use among students in Liberia relates to a collection of annoying academic snags together with speculative impairment or higher levels of absence. For example, though the relationship between alcohol use and mass failure among secondary school students is yet to be clarified, anyhow there are reports of recurrent mass failure among secondary school students in the "West African Senior School Certificate Examination (WASSCE)." In one of the instances, 65.51% of 33,979 candidates from 600 secondary schools across the country who sat the examination in 2018 failed (WAEC

Liberia, 2018). The WASSCE is the standardized academic secondary school-leaving test offer to candidates in Anglophone West African countries

However, some public and private learning institutions established alcohol use control programs to ease the prevailing hurdle of alcohol use among students. Schools are regarded as the best societies to prevent and reduce young people drinking habits. They could make available to students the clue and enthusiasm to counterattack the pressures to drink. Schools also tender the realm of possibility to guarantee that health promotion programs are standardized and operated to deliver at precise developmental intervals. School-based involvement programs represent an immediate prospect to avert and lessen alcohol use among youth (Bonnie & O'Connell, 2004).

Even with these involvements, students still have negative perception and wrong motives for using alcohol. "Some use alcohol and other substances as a means of coping with social anxiety and public speaking" (Pullen et al. 2016). Because of these, inappropriate behaviors and poor academic performances among students have increased, particularly for those in the public secondary schools; where there are reports of frequent incidence of alcohol use in various schools. In another study to find the correlation between drug use and sexual risk among secondary school students in Liberia, close to 50% of secondary school students reported drinking alcoholic at least once in their lives, (Quiterio et al. 2013). Such a result has called the effectiveness of the existing alcohol use control programs in the various schools to question.

Taking into consideration pure alcohol consumption among persons (age 15 +), Liberia ranks 114 in the world; in the WHO fourth global report on alcohol; published in 2014 with data from 2010. Alcohol use has become a common practice in the Liberian

society. It has commanded several health-related and social economic consequences like alcohol use disorders, traffic accidents, and mortality, fights and gender-based violence, as well as job loss. As reported by the global statistics on alcohol use disorder "the annual mortality rate per 100,000 people from alcohol use disorders in Liberia has increased by 74.2% since 1990, an average of 3.2% per year" (Health Grove, 2013). Given the population size "(4.98 million people)", such reports are frightening and call for an instantaneous public health probing. Nevertheless, there is little or no concerns on the part of most citizens. The profit associated with alcohol production and sales in Liberia has blinded the eyes of most citizens to the related-health and social economic threats. "One major concern is whether students are aware of what constitutes a single serving of alcohol" (White & Hingson, 2014).

These and many risk factors have prompted the involvement of in-school youths to use alcohol at least once or frequently in their lives. Against this background, many schools in Liberia have embarked on alcohol prevention programs to curtail the use among students; however, drinking of alcohol by students, especially public secondary school students remained high.

There have been many surveys on the risk factors and different aspects of youths' alcohol use in Liberia, but none has ever focused on the effectiveness of the control approach programs applied in the schools. According to the 2009 European Union; published synthesis report on the efficiency of alcohol education in schools, "school-based education is useful as a conditioning and complementary element to more comprehensive strategies to reduce alcohol-related harms." In the case of Liberia, hardly ever, an existing national data or statistical information on the strategies or elements of alcohol use control programs in schools can be found. In Liberia, the ownership of schools is either public or private. The

public schools are schools under the auspices of the government, while private schools are predominately under the sponsorship of religious grouping, cooperatives, and sometimes individuals. To date, the two sectors (public & private) are engaged in the application of alcohol prevention policies among in-school youths. Though these programs exist, yet reports about a significant increase in disorderliness, poor academic performance, and dropout among students because of alcohol use is remarkable. Included are students discipline issue (Norman, 2012). This problem has become an enormous problem progressively, especially in rural communities, most especial in settlements where the locals brew liquor.

Given that school-based interventions seem to be most efficacious when delivered as a primary prevention program; “with the most dynamic effects found in youth who have not hitherto begun to experiment with alcohol” (Perry et al. 1996). It is worth studying the difference in the proportion of students who are engaged in alcohol use. This step is necessary to evaluate the usefulness of the alcohol control programs in both private and public secondary schools in Liberia.

1.5 The Socio-cultural influences on young people drinking behaviors in Liberia

Copious amount of inquisition's pursuits on alcohol have demonstrated that societal and cultural related factors influence the instigation and sustained drinking of alcohol by adolescent and grown person (Bobo & Husten, 2000). It is quite imperative to glimpse at the social and cultural environment of the country regarding alcohol history, availability, and regulations to understand the sociocultural inspiration of drinking alcohol in Liberia. By definition (Businessdictionary.com): "social and cultural environment refers to a set of beliefs, customs, practices, and behavior that exists within a population." In the broad sense,

it alludes to the social culture (customs, beliefs, and values, including lifestyles). Social scientists have generally stated that the models and politics of people's customs and society predispose them to risks. Beholding these aspects of the socio-cultural environment concerning drinking provides a useful intuition into the socio-culture stimuli on young people drinking behaviors in Liberia.

In Liberia, the use of alcohol has a long standup history and of course, alcohol is widely available, socially, and culturally allowed with fewer implemented policies and interventions. The minimum legal drinking age is 18 (WHO, 2014). Drinking among young people in Liberia shares several sociocultural risks, including peer pressure, family stimuluses, and advertising initially discussed in this chapter. Bobo & Husten (2000) states: "researchers have established that factors—including family and peer influences, demographics, advertising, economics, and alcohol availability—are associated with adolescents' initial and continued alcohol use." The interface of all these factors triggers high chances for alcohol use amongst every age groups in Liberia.

1.6 Historical Evolution and Spread of Alcohol use in Liberia

Historically, the use of alcohol in human cultures began in the 7th century B.C. (Engs, 1995). Since then, alcohol production and consumption patterns have changed in different forms in unlike geographical regions of the world. Without exception, the Liberian society has practiced the use of diverse mood-altering substances, with alcohol being the far-flung and commonly accessible substance in the country. The preparation and consumption of alcoholic beverages in Liberia often reflect cultural and social uniqueness. Like many different societies, it has served a variety of purposes for people throughout the history of the country. Such purposes included food, medicine, and as a sacred object in ancestral

worship; as well as a gift of honor in traditional wedding and bush school (poro & sande) graduation ceremonies. Despite that, increasing tendencies of alcohol use in Liberia occurred during the conflict and post-conflict era.

Liberia experienced two of Africa's ruthless civil conflict between 1989 and 2003, which killed approximately 250,000 people, and displaced another 1,000,000 people (TRC Reports, 2009). The civil war also scarred the nation with distressing effects on the economy, infrastructure, and the entire population. At the elapsed of the war, nearly 15,000 child soldiers, as well as youths, contended with all armed groups in the conflict (HRW, 2004). The war exposed almost all these child soldiers to alcohol misuse, and majority consequently developed alcohol use disorders (AUD). Alcohol use disorder as found in Health Grove (2013) statistics report; the annual mortality rate per 100,000 people in Liberia rise by 74.2% since 1990, an average of 3.2% per year.

According to (Hanna, 2017), “increasing trends of substance use in conflict and post-conflict zones, and among displaced people can be attributed to instability and the inadequate rule of law, increased accessibility of substance and that people may use them to relieve stress or mental conditions; such as depression and anxiety.” Study in other post-conflict sceneries has demonstrated that post-war residents are at particularly high-risk for drug use (Ezard et al. 2011; Odenwald et al. 2009). In Liberia, the population, mainly adolescents, were at high risk for many different psychoactive drugs use during the civil conflict.

“Although evidence on the correlation between substance use and conflict situation is limited, the collective use of drugs is reported among armed groups and ex-fighters” (Hanna, 2017). In Liberia, substance use played a decisive role among combatants as well

as internally displaced people. Alcohol was broadly available, and the most frequently used substance as self-medication for pains sustained on battle lines. It was also used as a treatment to boost bravery in exchanging gun fires in combat zones. Because of this, even under aged children who were child soldiers by then, engaged in alcohol use. In another study, half of the male combatants (44.9%) and 12.3% of female combatants acknowledged the use of psychoactive drugs during the war, and drug use was more likely to have increased towards the end of the war (Johnson et al. 2008). Correspondingly, the majority of the adults in the country used the different psychoactive drugs to ease the frustrations and heal traumatic stress experienced because of the war. In other words, alcohol became a therapy to alleviate frustration, trauma, and to boost bravery among Liberians. This period in Liberia marked the excessive use of alcoholic drinks among different age groups for various reasons. This time period is regarded as an era when the nation became afflicted with the misuse of alcoholic beverages. This time span transitioned into post-conflict Liberia, where substance, most notably alcohol use, is longwinded.

1.7 Production and Sales of Alcohol in Liberia

Liquor production and sales in Liberia has become a growing phenomenon. "Guinness Liberia" and "Monrovia Breweries" are the two breweries in the country. Monrovia Breweries, a subsidiary of the London based Diageo alcoholic beverages company, is most famous. The two companies are engaged in the production, distribution; and the sales of beer, including distilled spirits and wine across the country.

Excluding these; informal production, trade, and sales of alcoholic drinks made from a variety of agricultural products are extensive. Most people who live in rural communities have diverted their farmlands from other significant crop production to the cultivation of

sugarcane. Sugarcane is a tropical grass whose sap is the raw material used to brew locally made hot liquor in Liberia through the process of distillation. Another locally produced alcoholic drinks are palm and piassava wines (locally known as (poyo). Palm wine is made from a monocot flowering plant known as a palm tree, whereas piassava wine is made from another monocotyledonous plant called piassava fiber palm.

Correspondingly, retailing shops owners in urban settlements have shifted from the sale of other indispensable products to alcoholic beverages. These beverages are sold at inexpensive charges with no age restriction. Kids, even at the age of eight years old in Liberia buy alcoholic drinks from retailing shops in disguise that their parents or an adult were sending them. According to WHO data (2014), there is no national regulatory body, no advertising restrictions, and no sponsorship or promotional restrictions on alcohol in Liberia.

In terms of demographic characteristics of alcohol users in Liberia, alcohol use is a common practice among the subpopulations across the country. However, the prevalence rate varies among age, sex, and settlement. As reported by the Liberia Demographic and Health Survey (2013), alcohol use was slightly higher among those aged 45-49 for both genders, with reported high proportion among rural males than females. In a statement issued by the government through the Ministry of Commerce of Liberia on October 22, 2012, the growing prevalence of alcohol uses among minors in the country was alarming and thus needed regulation to curb the situation.

1.8 Research Question

Different researchers around the globe have studied many facets relating to alcohol use among the general population in Liberia, including behaviors allied with the use of

substances and alcohol (Harris et al. 2012). However, best to my acquaintance, no studies have comparatively reviewed the efficacy of school-based alcohol use control programs in Liberia. There is a discernable evidence that amid these alcohol use control programs, there is a frequent incidence of drinking among students, most notably in public schools. In a qualitative study conducted in public secondary schools in Liberia, concealment of alcohol by students in a mixture of beverage items, such as 'Kool-Aid 'mostly referred to as "big mama" in the local jargon was one of the significant findings identified (Pullen et al. 2016). Such finding questions the effectiveness of the existing alcohol use control programs in public secondary schools. However, there has been no such study conducted in private secondary schools in Liberia. But, there exist a wide range of mixed perceptions in the general population about alcohol use control programs in the two school systems. Few people reference that alcohol use control program is ineffective in public schools compared to private schools in Liberia. Others, (the majority) accept as true that alcohol use control program is much or less the same in all school systems.

Moreover, despite a growing literature on young people drinking, including the mixed perceptions in the public setting, no study has credibly answered the question of whether alcohol use control programs have effectively reduced the rife of alcohol use among students in the concerned school systems. The lack of answer to such a question has presented a gap that this study intended to fill. Thus, the main goal of this study was to understand the makeup and scope to which alcohol use is rife in the two school systems (public and private); so that one may deduce and infer a reliable inference on the ability of the existing school-based programs to reduce and prevent alcohol use among secondary

school students in Liberia. Accordingly, the following quantitative question guided the study:

- Is there any difference in the prevalence of alcohol use between secondary school students in the public-school system and the private school system in Liberia?

1.9 Study Objectives

1.9.1 General Objectives

This research was a cross-sectional study that sought to identify the difference in alcohol use prevalence between two independent population proportions (public secondary schools and private secondary schools' students). It equally determined the effects of the programs by assessing the evidence about the program's contribution to thwart and reduce alcohol use among in-school youth on the long-term goal. The central objective remained to compare the prevalence of alcohol use between students in public and private secondary schools so that one might establish a better insight of the nature and extent to which school-based programs avert and reduce alcohol use among in-school youth in the separate school systems (public and private) in Liberia.

1.9.2 Specific objectives:

- With the help of the survey, evaluated the difference in the proportion of students that use alcohol in both private and public secondary schools in Liberia.
- Identify a correlation between social demographic characteristics of students and alcohol use.
- Examine students' knowledge of alcohol use control policies and programs in both public and private schools.

- Identify, if students who use alcohol in all sample schools were knowledgeable of alcohol use-related risks

1.10 Significance of the Study

This research will contribute to the improvement of alcohol use control programs to prevent and reduce alcohol use among students in not only the selected schools but all schools across Liberia. It is the earnest expectation of the researcher that the findings from this study will serve as motivation for school authorities to advance the approaches and methods by integrating comprehensive implementation strategies in their operations to avert and reduce drinking alcohol among students in the various institutions across the country.

1.11 Hypothesis

Notwithstanding, the difference in religion and school system (i.e., public and private school systems); 99% of all students in Liberia share almost the same social/physical environment, culture, and values. Hence, depending on how effective each of the school systems implements the school-based program; the entire Liberian society is of the view that students' alcohol use prevalence in the public schools does not outrank the private schools. So, a null hypothesis for this study presumed that there is no significant difference in the prevalence rate of alcohol use between students in public and private secondary school systems. However, alternatively, the study presumed that alcohol use prevalence in public schools is higher than alcohol use prevalence in private schools.

Mathematically, it is, therefore hypothesized as follow:

$$H_0: P_1 - P_2 = 0$$

$$H_1: P_1 - P_2 > 0$$

1.12 The theory base of the study

In a pragmatic study that aims at identifying how well the operations of an inhibitory intervention achieves its anticipated results; it is essential to have a greater insight of the processes that underline the program execution; thereby understanding theories and paradigm which measure how humans guide their actions. In this light, it is therefore important to consider a few theories that guide human attitudes and behaviors. Tracking back a bit to the 1900s from whence (Fishbein & Ajzen, 1975) submitted the Theory of Reasoned Action (TRA); a theory which focuses on the intention of a person to behave in a certain manner. Planned intent is the keyed basis of behavior mentioned. And also, both subjective norms and attitude are influencing agents to behavioral intentions which directly influence behavior. Subjective norms are one's approximation of the communal burden to carry out the said behavior. As noted, two mechanisms that work in the interface: belief about how other individuals, who similarly are of importance, would like to conduct themselves. Denotatively, an adolescent's action to engage or not into alcohol use could be approved or disapproved by influential relations such as family members, mentors, reliable colleagues, and others; as well as how motivated he or she is to do in accordance to his or her expectation (Ajzen, 1999).

Over the decades, several social scientists have well acknowledged that a planned behavior guides human actions. In the study "Alcohol Use among Senior High School Students in the Ghana Central Municipality" (Annor, 2016) suggest that happening of planned behavior is intentional. Annor particularized that the Theory of Planned Behavior (TPB) is the base of the student's involvement with alcohol use. This theory, as derived from the TRA, emphasizes the notch to which an individual has an auspicious or opposed

valuation of the behavior of interest. Researchers frequently use the TPB in the prolific prediction and explanation of an extensive series of health-related behaviors and intents, including drinking alcohol, illegitimate substance use, and smoking, among others. Unlike Annor, (Cofie, 2010) further instituted her explanation of substance, including alcohol use, experimentation, and misapplication on Cognitive and Behavioral theories. Remarkably, the crux to all these theories is found to be 'behavioral intentions, attitudes, and subjective norms.

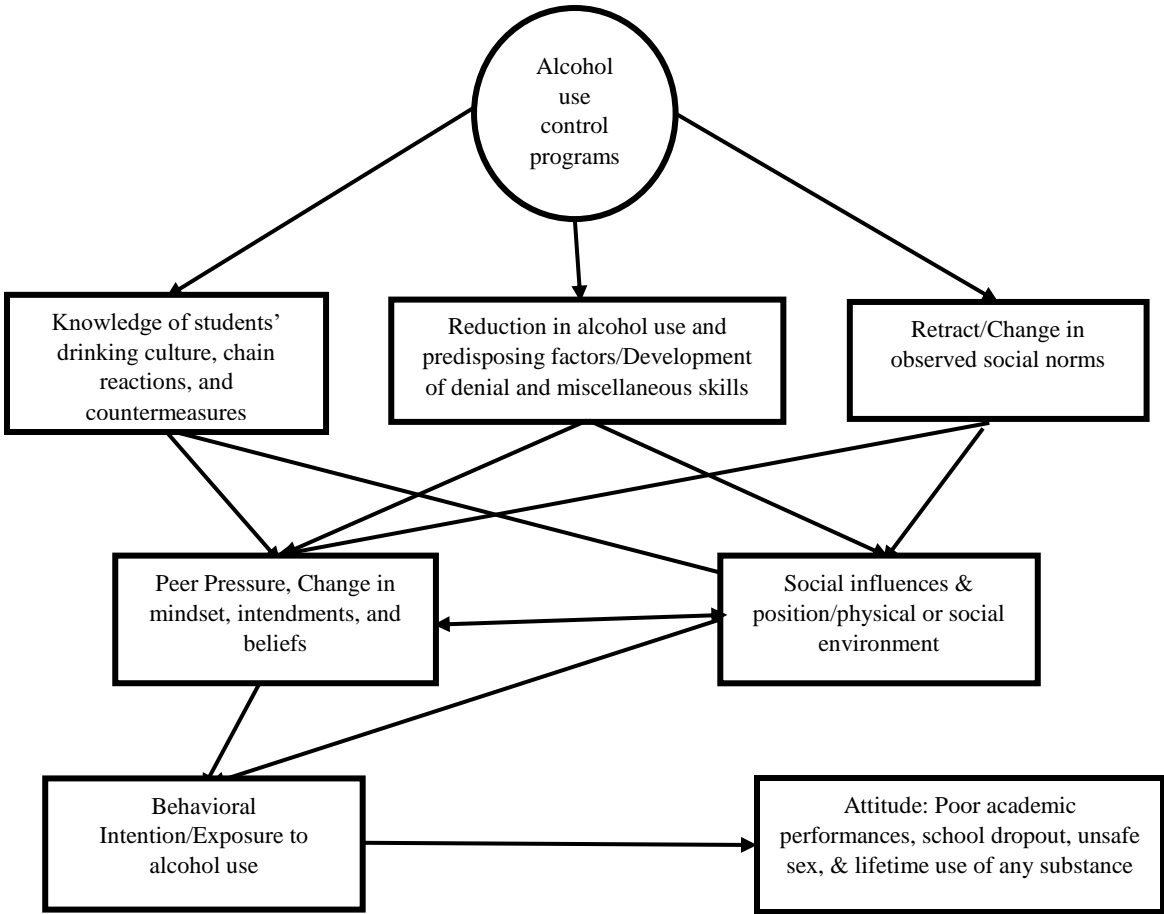
Many theories support the notion that a student gets involved with alcohol use based on his or her personal decision; which depends on motivation (intention) and ability behavioral control. In his assumption (Ajzen, 2001), points out that "individual actions towards a behavior, the subjective norms, and the perceived behavioral control are the major decisive factors in individual decision making." Cost and benefits are highly considered for students to make a mindful judgment to try out alcohol use or not. If anticipated benefits outweigh the repercussion, it is most likely that the individual tryouts alcohol use.

Illustratively, social influence like peer pressure may be a perceived power that dictates on the attitude of an individual to carry out a specific behavior. In the TPB, this attitude is considered the level to which a person holds a somewhat negative or positive feeling about the pending action. It requires that one reflects on the repercussions of executing the behavior. Like peer pressure the social and physical environment may convey some morals and rules relative to alcohol use among youth; these could be superseding determining factor that tempt students' attitude regarding alcohol consumption.

Conclusively, the model presumes that the further the positive attitude, with the helpful subjective norm, and the seeming interactive control, the more probable it is that an

individual might resolve to perform that behavior. This study was, therefore, analytically considerate of this model relative to the drinking of alcohol among secondary school students in Liberia.

Figure 1.1: Conceptual framework for the assessment of alcohol use control program



Chapter 2:

Literature Review

2.1 Introduction

Whether it's a superior economy or an inferior one matters not, but one cannot overlook the global burdens, and a full collection of physical, psychological, and social complications associated with alcohol use. Above all, the swift increase in problematic alcohol use among adolescents in both developed and developing countries is unimaginable. According to WHO (2018), alcohol is an increasing causal effect to more than 200 ailment and injury situations. And that it is an agent that fuels social and economic difficulties, growth in consumption rate among in-school youngsters. Therefore, the need of school culture to virtually comprehend and influence how teens behave in society and the demand for learning institutions to classify and deal with the burdensomeness of drinking among youths have increased, most notably amongst in-school teenagers.

The successive review of the literature confirms that alcohol use among young school adults is a more significant concern and that the culture in learning institutions is best suited to restrain and avert the challenges. Arguably, this puts the school-based programs at the highest max out to deal with student's alcohol use practices. However, in as much as this is a real-world fact, the review of literature has also looked at and discussed the problem of intensification in prevalence among students despite the presence of existing school-based programs. The literature review thereby concludes that identifying the current proportion of alcohol use amongst students in the different school systems is needed for the strengthening of the school-based alcohol use control programs in Liberia.

2.2 Alcohol Definition

The term alcohol in this dissertation refers to primary alcohol, beverages that contained ethanol or ethyl alcohol (C_2H_5OH). Ethanol or ethyl alcohol by the Merriam-Webster Dictionary's definition is a "neutral volatile flammable liquid that is the intoxicating agent belonging to a group of organic compounds called alcohols." It is a consequent of sugar with yeast acquired in a chemical process called fermentation. Medically, the Med Terms Medical Dictionary defines alcohol as "an organic substance formed when a hydrogen atom in a hydrocarbon replaces a hydroxyl group." In their definition, (Mcintosh et al. 2004), stressed that alcohol is an accessible, lawful, and commonly used drug in nearly every human civilization. They further underlined that when a person consumed alcohol, the body transmutes it into sugar-based fuel, which acts as a tranquilizing agent on the central nervous system. If misused, they also accentuated that the toxic effects are predictable to have tremendous cost on not only the health of the user but generates a collection of socio-economic problems on the nation.

Alcohol, as categorized, is a mood-altering substance. It affects the mind, which reduces an individual ability to reason intelligently; and this might lead to misrepresentation of the decisions the person make. Most moderate drinkers have dauntlessly testified that alcohol promotes happiness, reduces stress, and makes an individual socially approachable. However, alcohol must be used reasonably with caution. Studies over scores of years have shown that the damaging effects of alcohol outdo its benefits. As a psychoactive substance, it has the propensity to inspire encouraging meanings for youngsters and contributes an imperative role in the diagnosis of central opposing effect on their health (Currie et al. 2004). There is an evolving tradition of estimating the influence of alcohol use to the global burden

of disease (WHO, 2004). In other words, it is considered one of the severe risk factors relative to the Global Burden of disease (GBD). When ingested into the body, alcohol is widely known to influence fluctuations in brain functions, resulting in the changes of awareness, temperament, reasoning, attitude, or behavior of the victim. "Above all, alcohol misuse increases the risk of both short and long terms health, including social problems like domestic abuse, divorce, unemployment, and much more" (Burke, 1988). "Alcohol is a toxicant substance in terms of its definite and indirect effects on a wide range of body organs and systems" (Rehm, 2009). Repeatedly use of the substance has been elucidated by several researchers to cause most severe ailments like heart disease, stroke, pancreatitis, liver cirrhosis, and many different cancers.

At the earliest ages, youths are exposed to the chain reaction of other people drinking. Many of these young people drink at perilous levels and experience injury from themselves and fellow drinkers.

In most cases, alcohol use marks the initiation of binge drinking, which may lead to alcoholism, alcohol disorder. Binge drinking is the most expectable, costly, and deadly form of extreme use of alcohol. "It is now a matter of current social, political and media concern" (Berridge, 2009). Alcohol is also considered a physical teratogen (Jernigan, 2001). If consumed by pregnant mothers, it may cause congenital disabilities through a toxic effect on the fetus.

2.3 Global Prevalence of Adolescents Drinking

Efforts to promote alcohol use have mounted in both prevalence and intricacy over the years (Jernigan, 2001). "The issue of alcohol use during the teenage and young

adulthood years is a common phenomenon in many societies” (Reda, 2012). Even with this awareness, there exists a massive disparity in the prevalence of alcohol between age groups and regions. In a global survey on alcohol and health to assess a five-year trend of alcohol use among young people (under-age & 18-25-year-old), 71% increase drinking among underage youths out of 73 responding countries and indicated 80% increase drinking among 18-25-year-old adolescents out of 82 responding countries (WHO, 2008). WHO (2018) Global Status Report on Alcohol and Health confirmed about 2 billion and more people across the globe currently drink alcohol; and that more than 26.5% (a total of 155 million young people) of all 15–19-year-olds drink alcohol now, with (43.8%) reported for WHO European Region, 38.2% in the Americas and 37.9% in the Western Pacific Region.

Consistently, most studies have established that the consumption of alcoholic beverages among teenagers begins before age 13. In a nationwide survey on adolescent risk behavior, conducted by the Centers for Disease Control and Prevention (CDC) among high school students in the United States of America, 28% was reported to have drunk alcohol before age 13 (Grunbaum et al. 2005).

2.3.1 European Region

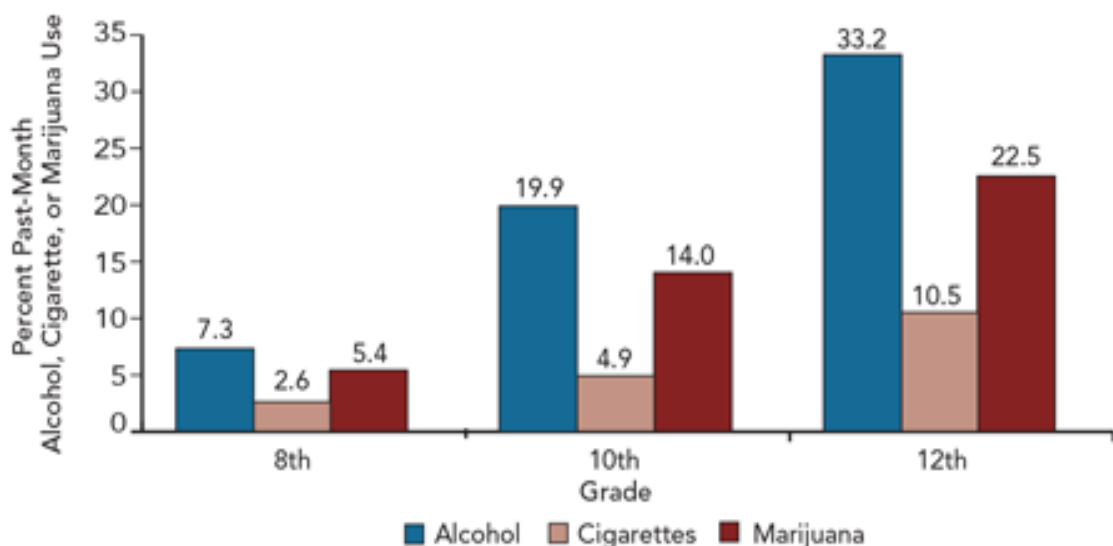
Among alcohol users in Europe region as shown by statistic (Currie et al. 2004), "virtually if not all (9 in 10) of the 15-17-year-old young people have used alcohol at least once in their life. Data from the 2001/2002 European Health Behavior in School-aged Children Study (HBSC) found that 5% of 11-year-old, 12% of 13-year-old and 29% of 15-year-old across 35 countries in Europe reported regular drinking” (Currie et al. 2004). Another study to group European nations according to the pervasiveness of alcohol use among young people aged 12-16 revealed that the total prevalence was high. 57.1% reported

drinking at least once in their life, 42% mild users, 11.4% episodic, 1.5% frequent, and 2.2% heavy incidental users (Braker & Soellner, 2016).

2.3.2 American Region

In a 2006 diagnostic sectional study at the Federal University of Alagoas, Brazil, 55.4% of 1435 students reported drinking (Brandão et al. 2011). According to the famous National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), emerging data in a nationwide survey conducted in 2001-2002 substantiated that “70% of young people in the United States, or approximately 19 million people had used alcohol in the year prior to the survey” (Hasin & Grant, 2015). From a representative sample of 23,335 grade 7-12th students, in a survey conducted in New York State, the United States of America, (Barnes & Welte, 2015) identified 71% drinkers and 13% heavy drinkers of alcohol, i.e., they drank 5 or more drinks per event at least once every week. Statically, more young people use alcohol than cigarette and marijuana in the United States (see figure 2.1).

Figure 2.1: Substance Use among Adolescent in U.S.A



Source: Johnston, L.D. et al. (2016).

2.3.3 Western Pacific Region

In the Western Pacific Region, alcohol consumption varies considerably across nations and gender among young people. In 2015, the prevalence among young people ranged from 15–30% for the region (World Health Organization, 2015). However, the year 2000 was remarkable when prevalence among youth increased from 51.5% to 53.8% (WHO, 2018).

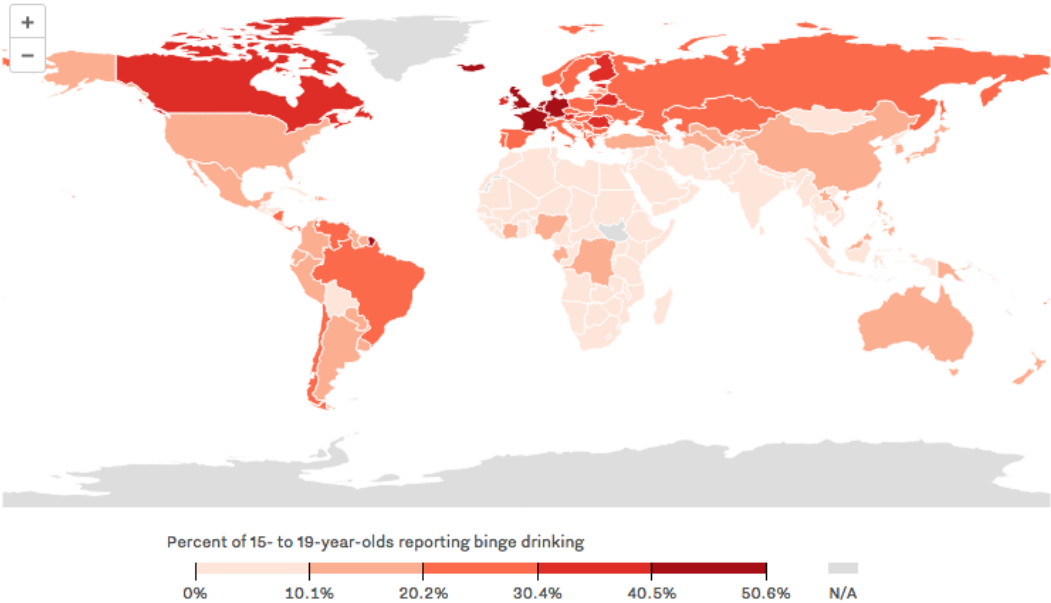
2.3.4 African Region

The inappropriate routine of using psychoactive substances among adolescents in Africa is exponentially rising. Among many, alcohol stands out as the most widely used. Moreover, rarely are there visible inscribed alcohol regulating policies to normalize the sale, production, and accessibility of alcohol in most African countries. From geographical perspectives, it is challenging to find homogeneity in the distribution, levels of

consumption, and types of alcohol used across countries on the continent. Thus, most studies conducted in Africa on alcohol and young people have focused on students. In one of such studies carried out in Nigeria, (Oshodin, 1981) established that 40% of high school students had used alcohol in previous years. In joint research conducted just about the same period among 300 high school students in a rural settlement of Benin State, Nigeria; 71% of the students had drunk alcohol, 18% of whom was alcoholic (Oshodin, 1981). Under the sponsorship of the United Nations International Drug Control Program (UNDCP), a survey designed to verify the intake of different psychoactive drugs among high school students in urban Nigeria identified 176 (24%) students among 738 respondents who used alcohol in the past year (Obot, Karuri & Ibanga, 2003). According to Peltzer (2009), a study conducted among 20,765 in-school youth in grade 6,7,8, 9 and ten across six African countries (Zimbabwe, Zambia, Uganda, Kenya, Swaziland, and Namibia) revealed the 6.6% of the respondents did not only use alcohol but were involved in hazardous alcohol use. In Limpopo Province, the Republic of South Africa, another study on the prevalence rates for substance among 1600 bucolic high school students identified alcohol as most frequently used substance and that 51.4% of the students had used alcohol at least once in their life (Onya & Flisher, 2008). For Liberia, statistical information on the prevalence of drinking among youths is rare. Nonetheless, the citizenry of Liberia broadly believes that alcohol use is prevalent in every society of the country, mainly among the youth. As of now, existing information on alcohol use in Liberia comes from a fewer number of studies conducted among in-school adolescents in Monrovia, the capital of the country. Using a cross-sectional investigation of 802 students in a qualitative investigation of drug use among youth in Liberia (Pullen J.S. et al. 2016), 51% of respondents acknowledged using alcohol.

With the current global population of young people (age 15-24) estimated at 1.2 billion (World Population Data Sheet, 2017), and the causal relationship between alcohol use, binge drinking and numerous diseases, qualms about the alcohol use prevalence rate among young people is a masterful public health subject. Figure 2.2 is an illustration of youth splurge drinking across the world.

Figure 2.2: Youth Drinking across the World



Source: Global Information System on Alcohol and Health, 2016

2.4 Behavioral and Physical Consequences of Alcohol Use among Youngsters

The costs of alcohol misapplication are far reaching and range from discrete health risks, morbidity, and mortality to social and economic penalties for family and society.

As the primary toxic substance of choice during teenage years and young adulthood, alcohol inflicts a lot of consequences on young people in different likelihoods. When consumed, alcohol makes the user calmer and more likely to participate in behaviors that

they otherwise may be hesitant to do. In the many different comprehensive system of beliefs and societies worldwide, young people, among the various human age groups are more likely to abuse alcohol in a short period. They overlook the repercussions of alcohol use and drink at a high concentration, which leads to alcohol poisoning. With no fear about social expectancy, “a large portion of them (youngsters) feel free to consume alcoholic beverages intensely” (Brandão et al. 2011). This improper use of alcohol marks a bulging public concern. Quite a lot of investigators around the globe have studied different behavioral and physical repercussions of alcohol use among young people. In WHO global status reports, (Jernigan, 2001) acknowledged that alcohol use might have a more immediate and severe consequence on young people because their muscle mass is smaller than that of adults.

2.5 Alcohol-attributable injuries, crime and violence among young people

Generally, people consider crime and violence as agents that endanger development. They are primarily perceived to be associated with the collapse of human development, destruction of social assets, and other resources intended for different development agenda.

Alcohol consumption and violent behaviors are mostly observed together as a precipitator to violent acts. The link between the two exists since the 4th century BC (Graham & Livingstone, 2011). The alcohol-violence connection has been debatable over the years, and that consistent data relative to the level at which alcohol impacts violent behavior remained scarce. However, researchers have substantially documented evidence of a correlation with injuries, crime, and violence. Most people frequently allude to alcohol as a communal correlate of violence perpetrated by youngsters. In their findings, (Popovici et al. 2012) state: "a compacted positive relationship between alcohol consumption, the commission of crimes, and criminal victimization among young people is clear." In the

Youth Violence and Alcohol Fact Sheet (2006), WHO further reaffirms that "alcohol use is itself a risk factor for participation in youth violence"; and "often, alcohol use associated with criminal activity for both perpetrators and victims" (Pihl & Peterson, 1995). According to the WHO's (2010) world reports on violence and health; "every year, more than 5 million people worldwide lose their lives from violence-related injuries and an average of 565 young people aged 10-29 die every day through social violence."

Moreover, many studies have proved that alcohol use amplifies malicious behaviors and positions young people to violence either as sufferers or culprits in many societies. It infuriates aggression, which might lead to fighting among young people. Alcohol is characterized by directly upsetting the cognitive and physical function of the user. "Alcohol use can also reduce nervousness, which may lead to poor decision making, antagonistic behaviors to friends, parents, and sometimes school authority" (Jernigan, 2001). It also diminishes self-control and facilitates the inadequate conception and decoding of incoming information to evaluate risks. Many investigations have clinched that alcohol use intensifies emotional dependence and impetuosity; this coaxes some drinkers into a violent confrontation.

Furthermore, in connection with injuries, alcohol-injuries relation has also been expounded by several researchers. Alcohol is single out as a leading risk factor for both intended and accidental injuries. It is frequently pointed out as aiding factor to the incidence of unplanned injuries like highway traffic injuries, falls, drowning, burns, poisoning, and planned injuries, like homicide, suicide, and relational violence (WHO, 2018).

Accordingly, like violence, there is scanty information on the magnitude of alcohol-related causality in terms of planned and unplanned injuries; notwithstanding, almost every

civilization is conscious about the role of alcohol in traffic injuries. With limited or no exemption, anti-drunk-driving law is legally the famous and perhaps the most read alcohol use control law in all human societies. All the same, there is a recurrent violation by young people. This repetitive violation accounts for the high alcohol-attributable traffic accidents and death among the youths. (Miniño, 2010) pointed out that unintentional injuries, mainly road traffic motor accidents account for approximately 1/2 of all teenage deaths; and globally, 20% of all traffic crashes by young people aged 16-20 involves alcohol (Yi, Williams, and Dufour, 2001).

In their book *"Reducing Underage Drinking,"* (Bonnie & O'Connell, 2004) reported that drunk-driving is mostly a factor in many deaths that result from motor vehicle crashes, homicides, suicides, and unintended injuries among 15- to 20-year-olds. In the United States of America, as recorded (National Vital Statistics System-Mortality, 2006), "an average of 16,375 young people 12-19 years died between 1999 to 2006 from alcohol-related injuries."

2.6 Alcohol Use: Poorer Health and Death among young people

Globally, alcohol use is predicted to account for 8% of disability-adjusted life years (DALYs) among youth aged 15-24 (Gore et al., 2011). "DALYs is a standard of comparing the gap between overall disease burden years of life lost due to early mortality and years of productive life lost due to ill health."

The consumption of alcohol causes a mutable amount of damage among young people. "It is responsible for a large proportion of the total mortality burden among people of younger ages" (Shield & Rehm, 2015). According to the Global Status Reports on Alcohol and Health (WHO, 2018), globally 13.5% of all deaths among people aged at 20–

39-year-old is attributed to alcohol; and young people were excessively affected by alcohol compared to older persons in 2016. Alcohol use may also expose youth to a high risk of alcoholic liver disease, alcohol use disorder (AUD), and degenerated health conditions. The type of alcoholic drinks consumed does not matter, but it leads to poorer health outcomes; long-lasting, heavy drinking affects bones and liver and the brain in adolescent (Bonnie & O'Connell, 2004). Several studies over the decades have mainly emphasized the causal association between alcohol use and such diseases like hypertension, pancreatitis, hepatitis, liver cirrhosis, and anemia, including alcohol dependence primarily in adults. However, young people are more prone to memory injury consequences than grown persons (White et al. 2000), yet the grave penalties of alcohol use distress are similar in both young people and adults (Silveri et al. 2002).

2.7 Alcohol and Sexual Malpractices among Youngsters

There are also suggestions from other studies that alcohol use is predictive of sexual misconduct among young people. Many evaluations note the relation between drinking alcohol and STDs, including HIV (Cook et al. 2005). When used, alcohol leads to Impulsive decision making about sex and protection. Moreover, the study has publicized an upsurge in adolescent perilous sexual behavior with the use of alcohol (Coleman & Cater, 2005). "Alcohol use is a self-determining risk factor for intents to engage in unprotected sex" (Rehm et al. 2012) and is linked with the selection of multiple sexual partners (Bazargan-Hejazi et al. 2012). The diminished judgment resulting from alcohol drunkenness can lead to dangerous, premature, and undesirable sexual actions among youth, which may lead to unplanned early-aged pregnancies and sexually spreadable illnesses (Brown and Tapert,

2004). Given the several types of research have allied alcohol use with multiple sexual partners; it is conceivable that drinking alcohol is a foremost risk factor for STDs.

2.8 Mental Health Conditions

Mental health issue among young people is on the increase in these decades. According to the Fact Sheet on Adolescent Psychological Health Conditions, approximately 10–20% of youngsters experience psychological health conditions worldwide; besides, “mental health issues account for 16% of the global burden of disease and injury in people aged 10–19 years” (WHO Fact Sheet, 2018). In their discrete studies conducted, (Michaud & Fombonne, 2005), (Lilienfeld et al. 1994), admitted that mental disorders and mental health problems are considerably frequent among young people. Many factors incite the upsurge of the high frequency of mental health problem among young people; in the midst of which alcohol use is prominent. Much evidence shows that long-term alcohol use alters brain functions in young men and women. The inappropriate use of alcohol affects the brain functions; "when initiated at a young age, it elevates the risk of many mental health and social problems" (Ramesh et al. 2002; Brown & Tapert, 2004). Therefore, it is of no surprise that mental symptoms such as low self-esteem and social disorderliness, treacherous behavior, anxiety and depression, memory loss, hearing, and visual deceptions, as well as madness, are common amongst young people who misuse alcohol.

2.9 Alcohol Education and Prevention in Schools

A significant precautionary tool and one of several essentials applied to minimize alcohol-associated tribulations that affect young people is alcohol-related education (Roche et al. 2009). The subject of drinking among young people has received an augmented consideration in the 21st century, accordingly becoming a keyed theme addressed by many

different universal primary prevention programs. These various primary interventions target, unlike the subdivisions of the population (Botvin & Griffin, 2007). Vital to these potentially relevant programs; varied, comprehensive descriptive literature from different researchers have pointed out school as a separate sector or environment with a culture of effective alcohol use control program.

The school culture characterizes not only academic instructions, but also supports physical safety, social relationship as well as promotes a logic of belongingness and high-self-esteem amongst students. It is expected to entail a policy controlling disciplinary violations with guiding principle for significant contraventions, including alcohol and other substance use among students. By (Fullan 2007), explanation, the term school culture can be used to integrate all the attitudes, anticipated behaviors, and values that affect how the school and students work. In other words, school culture incorporates more social issues and is therefore crucial to understanding students' behaviors towards alcohol use. Hence, assimilating alcohol education in both curricular and extracurricular activities helps to address alcohol use; most remarkably to minimize risks amongst a specifically targeted subgroup (young people), who are the most dominant characters found in schools. School-based programs can prevent alcohol use among students at school during early engagement. Dissuading or discouraging young people early initiation into alcohol use could foil or impair future alcohol use practices by these students when they are adults; by this means, helping to minimize the global alcohol-attributable risks. According to (Roche et al. 2009), interventions of school-based alcohol education programs dissuade or disparage escalation of alcohol use among young people before first experimental use.

Nonetheless, school culture is in no way static (Hinde, 2004). School culture might be positive or negative in regulating the basic set of norms, values, and traditions that restrain malpractices by students. Some school cultures promote flawed values and beliefs, harmful traditions, and corrosive approaches in dealing with students' misconduct, including alcohol use. Such a school culture is detrimental in terms of alcohol use education. Instead of reducing and preventing alcohol use among in-school youth, the activities in some school promote the drinking culture among students. "The fact that the culture in schools is important in influencing alcohol-related harm, over and above individual drinking levels offers important avenues for prevention" (Rehm et al. 2005). That is why the association between the students and the culture in school concerning alcohol use education is a mounting curiosity to stakeholders and professionals in all societies. Understanding the mechanism through which a school might mold the minds of the students on alcohol use does not only apply to the students' character but equally exhibit the effectiveness of that school's alcohol use control programs. Because of this, an insight into whether the alcohol control programs in the secondary schools cautious the students on the pending consequences linked with alcohol use marked interest. Thoughtful consideration of this relationship provided essential insight into identifying the issues associated with the inefficient performance of the alcohol use control curricula to prevent and reduce alcohol use among youths in Liberia.

2.10 Seducing agents that influence young people alcohol use intention

Many dissimilar social agents or factors influence the decision to concede to alcohol consumption among young people. The environment, media (marketing), peers, and family are conspicuously the preeminent antecedents that seduce alcohol use intentions among

youths. Each of the social agents has a differential repercussion on young people, but advertisement plays a significant role in an adolescent's plan to use alcohol (Sancho, 2011).

2.11 Alcohol Advertisement and Marketing

Over the years, there has been a wide range of inference that the exposure to alcohol advertisement and marketing entraps young people to try out alcohol. As indicated by several randomized investigations through research around the world, one major irrefutable inspiration of the media is its ability to entice young people and their behavioral intention to participate in alcohol consumption. "Alcohol advertising plays an important role in nourishing a cultural setting in which drinking is seen as normal and shapes adolescent's discernment and attitudes towards alcohol use" (Gerbner, 1995), and motivating youth to drink (Saffer & Dave, 2006). In their specification, Moreno and colleagues (2011) reasoned that the media sites countless of alcohol advertisements in different categories that are popular among youngsters; often contents advertised, whether in music, movies or radio jingles associate alcohol use to sex, violence and encourage the adolescent to drink. Austin and Knaus (2000) also emphasized that there exists a link between exposure portrayal of drinking on the mass media and constructive drinking prospects by adolescents.

2.12 Peer Pressure

According to Borsari and compeers (2001), peer pressure in the context of drinking encompasses modeling and direct influence. In a cooperative fulcrum of this clue, Glaser and associates (2010); "peer group may, on the one hand, serve as a model and influence behaviors and attitudes, while on the other hand, it may provide easy access, encouragement and an appropriate social setting for alcohol consumption." Modeling, according to (Maisto,

Carey & Bradizza, 1999) is alluded to observing someone else's drinking behavior. As suggested in the social learning theory; by observation, people can imitate the actions surrounding them. Teenage drinking "is also linked with drinking by peers" (Botvin et al. 1998). Socially, teens fashion their personality after the popular or common individualities seen in his or her social group. By understanding their peer's drink practices, including the setting or environment, might kindle drinking behavior and attitude in young people.

Peer pressure, otherwise known as a social demand, necessitates incitation from same age-mates to latch on specific behaviors or attitudes. It is an imposing determinant in whether or not a young person will captivate or reject risky practices, such as a definitive offer of a cup of alcoholic drink from a peer. "Direct peer pressure in the context drinking springs up in the form of ultimate offers from peers" (Wood et al. 2004). Most young people, including students, engage in alcohol use as a result of direct pressure from peers.

To foster harmony in a group, every teen strives passionately with an inquisitiveness or meddling to fit into behaviors and attitudes of his or her peers. This curiosity or desire traps young people to engage in alcohol use. Peer pressure also excites competition in behaviors among young people; for example, if his/her peers are using much alcohol, a child would want to compete. Thus, peer pressure remains a risk factor for developing alcoholism among young people. Most especially if, excessive drinking becomes a natural ingredient of the peer association; excessive use of alcohol can result and becomes a fundamental part of peer exchanges. "Peer pressure is a major cause of young people initiating substance use and negative behavior" (Johnson et al. 2001).

2.13 The Family

The immediate environment ever exposed to every individual is the family. With this, "parents and siblings play a critical role in the development of a child's behavior. Alcohol use among young people is causally associated with drinking by parents" (Brook et al. 1986), and siblings (Rittenhouse & Miller 1984). Children do mimic; therefore, the family's protective and risk factors can influence a child's development behaviors. Should the parents or siblings sustain to practices that decrease the chance of adverse outcome, the child is likely to emulate same behavior; as "positive parent-youth relationship deterred adolescent's substance use and adolescents are more likely to remain substance-free when parents and siblings refrain from these substances" (Coombs,1988). On the other hand, if there are any familial instances of alcohol use, there is a high conviction that the development and behavior of the child will be influenced towards alcohol use (Kask et al. 2013).

Of course, there exist a flimsy authentication of a causal inference between parental and offspring (adolescent) drinking; but, there exist a homogeneous literature that definitively concedes to the association between family drinking and youngsters drinking. As explored by Kask and companions (2013), "family factors such as family structure, social control, and negative life incidences were firmly linked to excessive alcohol use among adolescents." An investigation by Karlsson et al. (2016) buttressed this finding: awkward family drinking is a crucial risk factor for alcohol miss use among adolescence as well as adulthood.

Furthermore, familial support is essential in assisting young people in minimizing or quitting alcohol use. In a study aimed at examining the age distribution of alcohol

initiation and intoxication, and the bearing of family socialization influences associated alcohol use among students in 34 Norwegian secondary schools, students with premature alcohol or intoxication initiation tended to be rampant among single-parent with low-income family supports (Hellandsjø Bu et al. 2002).

2.14 Alcohol Consumption by Students in Liberia

Since this study encompasses only secondary school student's alcohol use and that the targeted population was students in Liberia, it seems quite essential to look at alcohol consumption by students in the Liberian setting.

Even though the literature on the use of alcohol in Liberia is scarce; nonetheless, numerous professionals have acknowledged that the misuse of alcohol among students is keyed amongst the many burdens distressing students' academic performance and health. Alcohol consumption by students in Liberia is nationally a significant concern due to its causal relationship with several diseases and poor academic achievements. “Drinking alcohol is understood to be highly widespread among secondary school students in Liberia” (Pullen, 2016). Harris et al. (2012) 51% of the respondents in public secondary schools reported using alcohol. Consumption of alcohol by students on school campuses is highly prevalent. In another study, Pullen and associates (2016) identified concealment of alcohol in beverage items as common practice among students. For most students, coping with social anxiety and public speaking was the primary reason for alcohol use by students as Pullen et al. 2016) concurred.

A share of issues such as social pressure and family influence has been inferred to have a causal link with drinking among young people. However, the literature on students’

drinking in Liberia is scarce. Therefore, this research stands to contribute to current literature on alcohol use among high school students and the usefulness of school-based programs to reduce and avert students' drinking in Liberia.

Chapter 3

Methodology

3.1 Introduction

This chapter presents the method and the framework used for the planning, implementation, and analysis of the study. The researcher designed the research plan after a post-positivist paradigm or school of thought. A post-positivist model assumes that the method or design to be applied in a specific study must be carefully chosen in consideration of the research question being address. The relationships of the identified and examined variables, research question, and the hypothesis comprised in this study were measured using a statistical test. The analysis included qualitative notion in the interpretation of the results. Activities in this chapter formed part of the secondary stage in this study, which was taken on between June and August 2018.

The goal of this stage was to give an answer to the research question and substantiate the alternative hypothesis, as well as verify the public perception as mentioned in chapter one, that the alcohol use control programs are much more similar in public and private schools, when compared. Comparing the proportion of students who use alcohol in public schools to the same in private schools was the most appropriate tool used to authenticate the above perception. The findings from the 2013 Liberia Demographic and Health Survey (LDHS) concurs with (Johnstone et al. 2010) that alcohol use rates among students are higher in a rural setting. This report was one of the motivating factors for the selection of such a rural setting for this study.

In this part, the researcher discussed the study design, study site, study population, recruitment of participants and availability, and additional specifics on data collection, analysis, legitimacy, trustworthiness, and ethical reflections.

3.2 Study Design

To take a broad view from a sample to the population, so that one can make an inference about the characteristic, attitude, or behavior of this population (Babbie, 1990), a descriptive (numeric description) in a cross-sectional nature of study approach was adopted. Quantitative research, according to Creswell (2013), "attempts to quantify, collect, and analyze numerical data, and focuses on the relations among a smaller number of attributes across many cases." The underlined interest of this survey was in the characteristic feature of a group of people rather than an individual. The researcher, therefore, administered a questionnaire to a cross-section of secondary school students to determine the difference in the proportion of students who use alcohol between private and public secondary schools. To have both boys and girls at all levels in the schools represented, I used a Grade Level Stratification (GLS) for gender.

3.3 Study Site

Figure 3.1 Map of Lofa County



This study took place in Lofa County, Liberia. Situated in the northernmost region of the country, Lofa County lies within latitudes 8°01'59.99" North and within Longitude 9°50'60.00" West. In terms of area and population, Lofa has an expanse of roughly 9,982km². It is the third most densely inhabited county in Liberia with a

population of about 276,863 residents (National Housing Census, 2008). Bong County bounds Lofa County to the south, Gbarpolu County to the west, the Republic of Sierra Leone to the northwest and the Republic of Guinea to the northeast. Lofa County homes six of the 16 indigenous tribes of Liberia. These six groups of indigenous residents are dispersed in seven political sub-divisions called district as shown on the map above. Regarding educational and health infrastructures, the county has a total of 321 primary and secondary schools, two colleges, and 57 health centers, including four referrer hospitals (LISGIS, 2014).

Moreover, I am a native of this geographical region of Liberia. I was born, lived, and schooled there for more than ten years. My time spent there as a student provided me with experience of the local alcohol problems associated with all institutions, including schools. I know the environment well, including the citizenry, healthcare crews, community leaders and school administrators, teachers as well as students. My familiarity with this

locality suggested that I could get the cooperation of all the stakeholders to acquire reliable primary data. As exhibited on the map above, the study took place in Voinjama and Foya districts in Lofa County. Logical convenience was the foremost reason for choosing these districts, but for the fact that these districts, both equally represent the entire county regarding the question under study also impelled their selection. There are approximately 20 public secondary schools and ten private secondary schools in both Foya and Voinama districts.

Five secondary schools were the selected sample schools in the two districts. One public and two private schools in the Voinjama district and two public schools in Foya district.

3.4 Study Population

The targeted population in this study was public and private high school youths. The age group of students in the high schools in Lofa County was from below 12 to 20+ year. All the students of the selected schools from age 12 to 20+ years were considered eligible for the study.

3.5 Sample Size Determination

The sample size for the study was single out based on the findings figured out in the previous study (Pullen et al. 2016) that the proportion of alcohol user among schoolchildren in the public schools was 50 percent. I calculated the sample size independently for public and private schools. The sample size was calculated, employing the following formula (Daniel, 1999):

$$N = Z^2 P (1 - P) / d^2$$

Wherefore,

N = sample size

Z = Z statistic for the level of confidence (1.96 for 95% CI)

P = estimated proportion of alcohol users (taken as 50% in this study) and

d = desired level of precision, (i.e., the margin of error taken at 5%)

In this case,

$$N = 1.96^2 \times 0.50(1-0.50) / 0.05^2$$

Therefore: N = 200 for the public school (minimum sample size)

This figure was rounded up to 220.

$$N = 150 \text{ for the private schools (minimum sample size)}$$

This figure was rounded up to 180.

Concluding Sample size for the study = 220 for the public schools and 180 for the private schools

In anticipation of 3 to 5% non-respondents and errors, the study included a sample of 235 participants for the public schools and 190 for the private schools. In total, 425 questionnaires were distributed (235 for public schools and 190 for private schools), but the respondents filled out 400 copies (220 for public schools and 180 for private schools).

3.6 Sample Selection Procedures

For the selection of schools, the study adopted a non-probability sampling design where participants are nominated based on their convenient accessibility and proximity to the researcher. Therefore, schools in Voinjama and Foya districts were easily accessible and convenient for the study. But also, another reason was, the schools in these regions are equitably illustrative of the respective county in relations to the question under investigation. There are approximately twenty public and ten private secondary schools in

both Voinjama and Foya districts. Five secondary schools were selected in total from the two communities for the study. The researcher chose one public and two private schools, from Voinjama, and two public schools from Foya.

The researcher employed a stratified sampling procedure. Stratified sampling was necessary because the subpopulation within the overall targeted population (students) of each school vary; hence, it was advantageous to sample each subpopulation in their respective stratum with all strata mutually exclusive and collectively exhaustive; and each level or class regarded as a primary sampling unit. Stratified sampling is a sampling system used to divide members of the population into homogeneous subclasses known as strata. After grouping the respondents, "a probability sample (a simple random sample) was drawn from each stratum for data acquisition."

Each of the five selected schools was sub-classed according to the grade level of the respondents. The class levels were 7th, 8th, 9th, 10th, 11th, and 12th grades. Depending on the class size (i.e., number of students in the class) a sample between 10 to 25 participants was selected by random sampling from each category. After administering the questionnaires, we collected 425 filled questionnaires. Having received the 425 filled out questionnaires, we realized that twenty-five had incomplete information and were therefore not included in the analyses.

3.7 Data Collection Tool and Procedure

Information about alcohol use is culturally a sensitive issue in Lofa County. Thus, I highly considered the privacy of the respondents in designing the research instrument for this study. I used a quantitative approach to data collection. The measurement instrument or

means used for data collection was an anonymous self-administered questionnaire. To diminish somewhat embarrassment and indistinguishable or comparable response in the survey, I designed the questionnaires anonymously. All data collection was carried out in the classrooms.

The questions were closed format questions with multiple-choice answers. I adopted a closed format question to avoid ambiguous responses from the participants. The questionnaire included inquiries related to socio-demographic characteristics, access to alcohol, awareness, and view about school alcohol use policies and programs, knowledge about risks associated with alcohol, and pre-disposition to risks related to alcohol use.

Two research aides were recruited to assist the primary researcher. The principal researcher ensured that these assistants were conversant with the aims and objectives of the study and the different processes involved in collecting the data. Before the day of the survey, the principal researcher introduced the assistants to the various selected school authorities.

Before the commencement of the study, we took authorization from the respective school authority of the selected schools. A commonly convenient agreed date and time for the distribution and filling up of the questionnaire was set and endorsed by the school authority.

During data collection, respondents were given a briefing on the questionnaire by one of the investigators. The venue selected to fill up the inquiry was the classroom. I was also mindful of the subject of voluntary involvement and the responsibility to protect partakers from intimidation. Attached to all survey questionnaires was a consent form

addressed to every participant (see Annex D). The consent form gave a summary of the purpose of the survey. The participants were requested to dependably provide an answer to each question with honesty. We informed them that they were under no obligation to partake in the survey; should they choose to do so, they must fill up the questionnaire truthfully. We also informed them that their answers would be private and use for the study only. Having read and affixed their signatures to the consent form, they were asked to turn to the next page and commence filling up the questionnaire. When the participants were answering the questions, we ensured that school staffs were not around as their presence could compromise students answer. After the survey was complete, the assistants retrieved all questionnaires and appreciated the participants in words for their involvement.

3.8 Data Analysis

Primary data was gather and process in Excel 2016 for Windows 10, version 1709. I imported all data in a table format. Necessary data computations, sorting, and filtering, including further analysis, were carried out using Excel's data tools. During data cleaning, I identified incompletely filled questionnaires for essential variables. These were then cleaned out. The descriptive statistics were used to establish information on the prevalence of alcohol use; ascertain the difference between the two population proportions (private and public schools). A z-data analysis for two population proportions was done to establish the difference in alcohol use prevalence between public and private schools. I also used a Chi-square test for categorical data analysis to ascertain the strength of the relationship that exists between explanatory variables and the results of concentration. I used a p-value of <0.05 for every test in the study, for statistical significance.

3.9 Study Variables

The study variables on alcohol use were assumed principally using the Global school-based student health survey (GSHS).

3.9.1 Dependent Variables

The dependent variable was "alcohol use." This variable was recorded and analyzed as a discrete variable. Somewhat, I considered a respondent who had ever tried alcohol at least once and had stopped using alcohol during the time of the survey as non-user of liquor; and therefore, such respondent was not in the prevalence count. However, anyone who was currently using alcohol during the time of the study was considered a user of alcohol.

3.9.2 Independent Variables

Social demographic variables, alcohol accessibility variables, awareness of alcohol use policy variables, knowledge of risks associated with alcohol use variables, and pre-disposition to risks related to alcohol use variables were the independent variables included. I categorically arranged and analyzed these variables as binary, nominal, and ordinal variables.

3.9.2.1 Socio-demographic variables

This section included age, gender, grade level, club affiliation, and type of familial guidance, as these were the main characteristics of the participants in the study.

Age: Age was gathered by querying each student to select their age group as a categorical variable. This process was necessary because the expected age range was enormous. The age categories included in the questionnaire were below 14 years, 14-16 years, and 17-18 years, 19-20 years, and above 20 years.

Gender: This variable was a binary variable. It listed two distinct, mutually exclusive choices (male, female). Several studies have shown that alcohol use varies between male and female.

Grade level: The secondary level in the Liberian school system comprises of six grade levels. Thus, 7th, 8th, 9th, 10th, 11th, and 12th grades were the grade levels considered in the questionnaire.

Club affiliation: The clubs included in the questionnaire were Health, Anti-drug, Arts & Drama, Sports, Reading, and Science. I labeled the "Other" option for any of the participants who were a member of a club other than those available in the choices provided.

Living arrangements: The living arrangements included in the questionnaire were Self, Parents (mom & dad), Single mom, Single dad, and Grandparents. Question about the age of the guidance was in the questionnaire. These ages were orderly arranged as below 30 years, 30-40 years, 41-50 years, 51-60 years, 61-70 years, and above 70 years.

3.9.2.2 Alcohol accessibility variables

This section included the following listed below:

Age of participants at first drink: Students who confirmed using alcohol before were asked of their age when they first drank. This variable was a categorical variable. Moreover, the students who had used alcohol before also had to state how, and from where they acquired alcohol when they first tried it. The type of liquor used by students who responded that they are currently drinking was also a keyed variable. The most frequent models of alcohol found on the local Liberian market were the options. These included Poyo and Cane juice (locally made alcoholic beverage), Stout, Beer, Godfather, Army bitter and Old soldier.

Frequency of drinking: Students who responded that they were currently drinking were asked to state how often they use alcohol.

Source of alcohol for current drinkers: Students who said they were current drinkers of alcohol during the survey were queried to indicate the source of the alcohol they drank. Options included in the questionnaire were: I buy it on the school campus, I buy it in a shop/bar around the school campus, I buy it far from the school, a friend(s) offer me, and parent(s)/relatives offer me.

Price of alcohol: Those respondents who agreed that they were currently using alcohol were also asked to indicate the amount (s) at which they purchase alcohol in Liberian currency. Available options were below 20L\$, 20-50L\$, 50-100L\$, and above 100L\$.

Student's opinion on alcohol use: To capture the motivational inspiration behind student's alcohol use, they were asked to give their views on whether alcohol use is good or bad.

Reason for using alcohol: To identify the different factors that influenced students to use alcohol, the appropriate options: peer pressure, it makes me smart, it makes me active, and all of my friends consumed it.

3.9.2.3 Awareness of policies on alcohol use variables

In this section, I asked questions that aimed at understanding students' level of understanding about the schools' policies and alcohol used counterprograms.

Alcohol problems in the schools: This variable was a dichotomous variable placed in the questionnaire to understand if the respondents were aware of alcohol-related problems in the school. A “yes and no” options were the two choices for respondents.

Implementation of school rules: The students who responded that there were school policies on alcohol use had to indicate who implemented the alcohol use control rules. The

following options: teachers, prefects, students, parents, and I don't know, were the available choices.

School policy on alcohol use among students, staffs, and faculty: To capture the various strategies under which alcohol used control programs in the schools were implementing; appropriate options using a *Likert* rating scales of five possibilities were used to ascertain students' opinions on the effectiveness of the policies.

3.9.2.4 Awareness of risks associated with alcohol use variables

This section in the questionnaire was intended to enable the researcher to establish if students who use alcohol were aware of some penalties related to alcohol use. Alcohol use as a punishable offense in the schools and alcohol-related health and social consequences were the convenient options in this section.

3.9.2.5 Pre-disposition to risks associated with alcohol use variables

Variables in this section were concerned with the behaviors and attitudes of students who used alcohol when under the influence of alcohol. Interrelated options on sexual malpractices were the main focused in this section.

3.10 Ethical Considerations

The administrations of the concerned schools in consultation of parents/teachers' association leaders and District's Educational Officers (DEOs) gave their consent to carry out the study. To affirm his or her approval to partake in the study, every respondent signed a written informed consent before the commencement of filling out of the questionnaires. Student(s) who desired to withdraw from the study, including those who opted to discontinue filling the questionnaire halfway could do so with no meddling.

Chapter 4

Results and Analysis

4.1 Introduction

The preceding chapter presented a comprehensive justification of the method and design for this research. In this chapter, the researcher commits the findings of the investigation completed by 400 respondents (220 public and 180 private) secondary school students. The respondents were all students between the ages of 12 and below 30 years old and were current students in the selected schools during the time of the survey. The main aim of this stage of the research was to investigate and compare the prevalence of alcohol use amongst students between public and private secondary schools in Liberia. Therefore, 220 participants of our respondents were public school students selected from 3 secondary schools in Voinjama and Foyah; while 180 participants of the respondents were private school students selected from two private schools in Voinjama.

There are two sections in this chapter (A&B). In Section A, the graphs and tables present the findings obtained from this study. The information includes the response rates, demographic data, and access to alcohol, school alcohol use policies, the prevalence and student's awareness and pre-disposition to risks associated with alcohol use in both private and secondary schools.

In Section B, I display my analysis by examining the association of these factors and alcohol use prevalence. The cross-tabulation tables show the results.

4.2 Section A: The Findings of the Study

4.2.1 Socio-demographic information of the respondents

This section presents the demographic statistics of students who completed the questionnaire per school system (public and private). Included are response rate, age distribution, sex distribution, grade, school-based club affiliation, students living arrangements, as well as the ages parents or guardians of the concerned students.

4.2.1.1 The response rates

The survey questionnaire was answered by high school students who were students in the two different school systems (public and private). Through independent sampling of two distinct populations, respondents were randomly selected from six different grade levels in all schools as revealed in the table below:

Table 4.1: Response rate

Class	Overall Frequency (%)		Public School (n=220) Frequency (%)		Private School (n=180) Frequency (%)	
	Public	Private	Male	Female	Male	Female
7 th grade	29 (13)	23 (13)	18 (8)	11 (5)	11 (6)	12 (7)
8 th grade	29 (13)	24 (13)	23(10)	6 (3)	13 (7)	11 (6)
9 th grade	46 (21)	33 (818)	32 (15)	14 (6)	21 (12)	12 (7)
10 th grade	51 (23)	42 (23)	29 (13)	22 (10)	22 (12)	20 (11)
11 th grade	43(20)	37 (21)	25 (11)	18 (8)	29 (16)	8 (4)
12 th grade	22 (10)	21 (12)	14 (6)	8 (4)	9 (5)	12 (7)
Total	220(100)	180(100)	141(64)	79(36)	105(58)	75(42)

In total, I selected 400 respondents for the study; 220 public school students and 180 private school students. The overall response rate was 100% for the two independent populations. Males were the most dominant participants that took part in the survey. As

shown in the table above (64% males compared with 36% of females in the public school system) and (58% males compared with 42% of females in private schools). Per school types, the most substantial proportion of respondents comprised students from the public-school system (55% of public school students compared with 45% of private school students).

In Liberia, the secondary school cycle lasts six years. Lower secondary otherwise called junior high school last three years. It consists of Three grade levels (7th, 8th, and 9th grades). The upper secondary also referred to as senior secondary school consists of three grade levels (10th, 11th, and 12th grades). In Table 4.1 above, the higher proportion of male and female participants in the public school (n=220) was in 10th grade (13% males compared with 10% females). In the private schools (n=180), the highest proportion for male students (16%) was from 11th grade and the highest for female students (11%) from the 10th grade.

4.2.1.2 Age distribution

Students were questioned ‘how old are you?’ The data displayed in Table 4.2 and Figure 4.1 show the finding.

Table 4.2: Respondents' Age Distribution

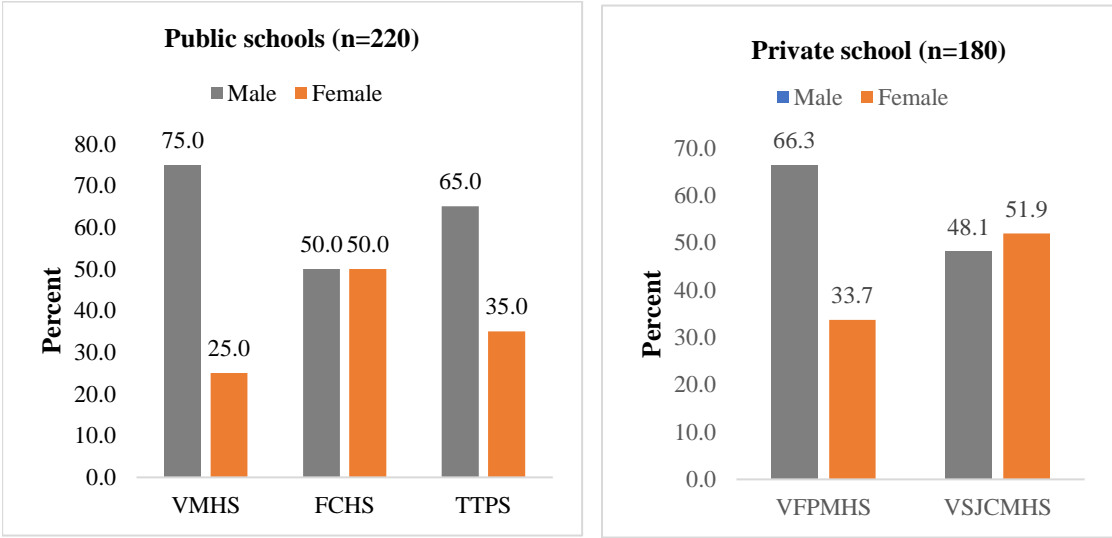
Age group	Overall Frequency (%)		Public School (n=220) Frequency (%)		Private School (n=180) Frequency (%)	
	Public	Private	Male	Female	Male	Female
Below 14yrs	27 (12%)	28 (16%)	20 (14%)	7 (9%)	15 (14%)	13 (17%)
14-16yrs	63 (29%)	36 (20%)	46 (33%)	17 (22%)	19 (18%)	17 (23%)
17-18yrs	54 (25%)	48 (27%)	29 (21%)	25 (32%)	22 (21%)	26 (35%)
19-20yrs	58 (26%)	43 (24%)	39 (28%)	19 (24%)	31 (30%)	12 (16%)
Above 20yrs	18 (8%)	25 (14%)	7 (5%)	11(14%)	18 (17%)	7 (9%)
Total	220 (100%)	180 (100%)	141 (64%)	79(36%)	105(58)	75 (42%)

As shown in the frequency table above, the respondents' age proportion varied by gender across the two different populations. In the public-school system (n=220), the highest percentage of participants for males contained students in the age group of '14-16 years' (29%) followed by '19- 20 years' (26%). For females, the highest proportion was the age group of '17-18 years' (27%), followed by the age group '19- 20 years (26%). The proportion of male compared to female students in the private schools was higher in all age groups, except the age group '17-18years,' where females contained the maximum proportion 35% compared with 21% of males. In total, public school students were most likely higher in the age group '14-16yrs' (29%). However, private school students were dominant in the age group '17-18yrs' (27%).

4.2.1.3 Gender distribution

The questionnaire included a question that asked, 'what is your gender?' The figure below presents the finding.

Figure 4.1: Gender distribution per school system



In this study, the targeted population, relative to gender fell short of the original plan for the public and private schools. The researcher had planned to have an equal representation of both sexes to avoid gender bias or prejudice toward one gender. We (the researcher and assistants) therefore verified students' enrolment records in each of the sample schools before the sample size calculation. We established that at average males were 10% more than females as documented in the student's enrolment records in all the schools except VSJCMHS where females' enrolment in the secondary school was slightly higher than males. However, at the onset of the survey, a disparity of 10% was considered. Thus, I did not exaggerate the validity of the findings because the figures displayed above are within the range.

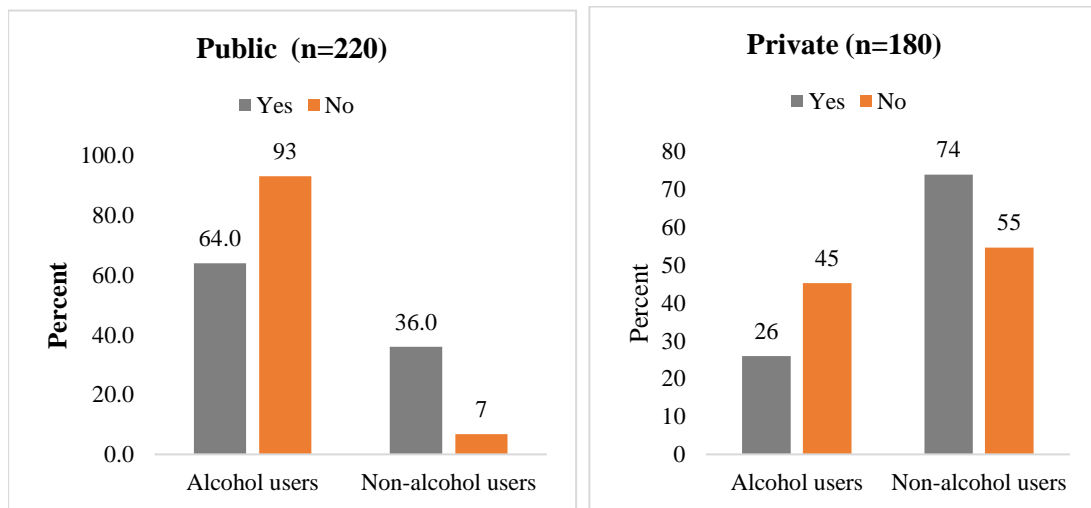
For the public-school system, (n=220), the male representation was higher than females in VMHS (75% of males compared with 25% females) and in TTPS, (65% compared with 35%) respectively. There was equal representation of respondents in FCHS (50% males to 50% females). Like the public schools, male's representation in private schools (n=180) was higher in VFPMHS (66.3% males compared with 33.7% females). In contrast to the above, females were slightly higher than males in VSJCMHS (51.9% females compared with 48.1% males).

To substantiate that this was an accurate representation of the male and female proportion among the selected schools, the enrolment catalogs for secondary students in each of the schools where we collected data was verified to ascertain the male to female ratio. We found out that male students comprised 61% in the public school system, while females were 39%. In the private school system, males formed 59%, while female formed 41%.

4.2.1.4 School-based club affiliation

Students were asked ‘are you currently a member of any club in your school?’ Figures 4.2 gives the findings.

Figure 4.2: School-based Club Affiliation

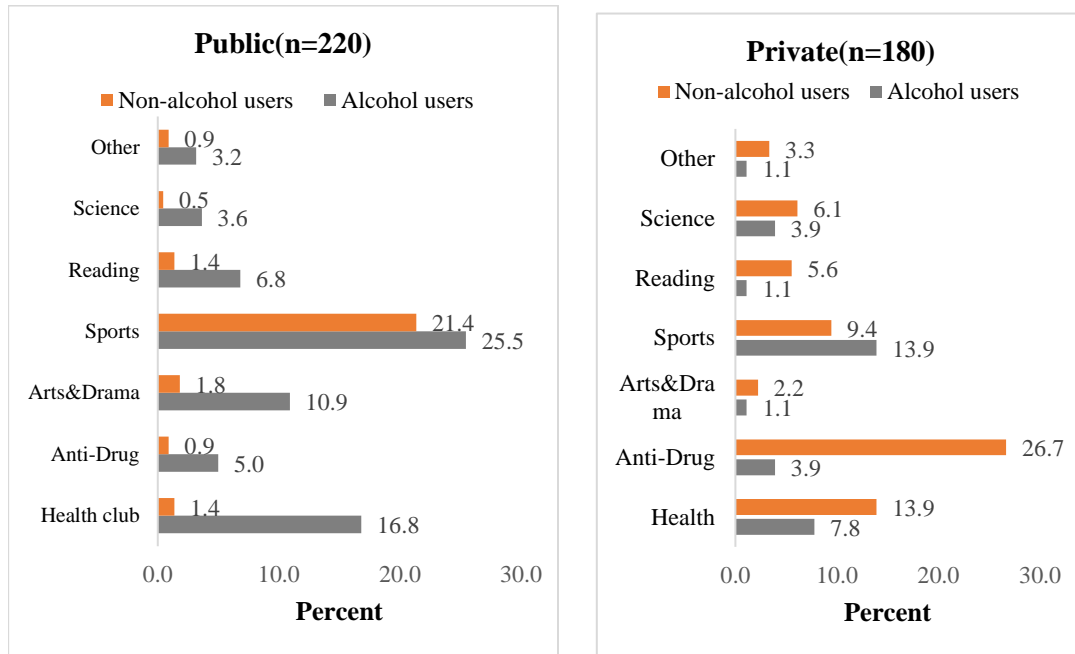


In the public schools (n=220), most alcohol users, (64%) compared with non-alcohol users (36%) reported having an affiliation with at least one of the school-based clubs, while (93% alcohol users and 7%) non-alcohol users confirmed non-membership in any of the school-based clubs. On the other hand, in the private schools (n=180), school-based club affiliation comprised of more non-alcohol users than alcohol users (74% compared with 26%). 45% of alcohol users and 55% of non-alcohol users formed no membership in any of the school-based clubs.

4.2.1.5 Types of School-based club

There was also a question in the questionnaire that asked students ‘which of the following clubs are you a member of?’ Figures 4.3 gives the findings.

Figure 4.3: Type of School-based Clubs

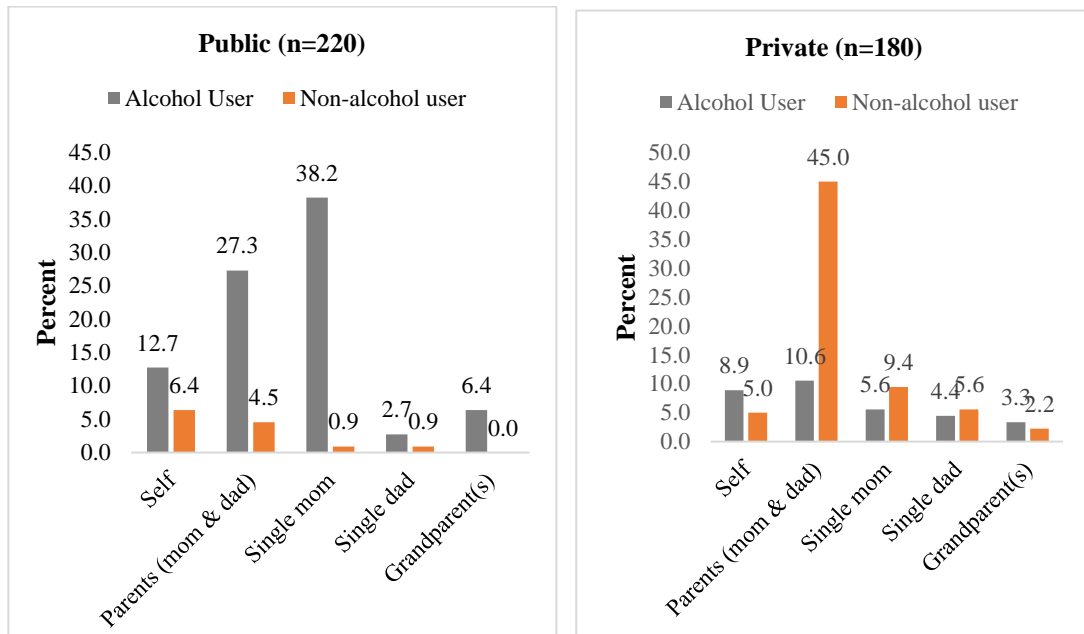


The finding in Figure 4.3 shows that alcohol users in the public-school system were more likely affiliating with school-based clubs compared with non-alcohol users. Most alcohol users were in the ‘Sports Club’ (25.5% users compared with 21.4% non-users), followed by ‘Health’ (16.8% users compared with 1.4%). ‘Anti-drug club’ alcohol had lesser membership (5.0% users compared with 0.9% non-users). On the other hand, in the private school system, school-based clubs comprised of more non-alcohol users as compared to alcohol users. Most of the respondents who used alcohol reported that they were members of the ‘Sports Club’ (13.4%), while non-users were most likely members of the ‘Anti-drug club’ (26.7%). Like the public schools, non-alcohol users were more likely members of school-based clubs compared with alcohol users.

4.2.1.6 Respondents' living arrangements

Students were asked 'with whom do you currently live?'. Figure 4.4 displays the finding from students who filled up the questionnaire and are current alcohol users.

Figure 4.4: Respondents' Living Arrangements

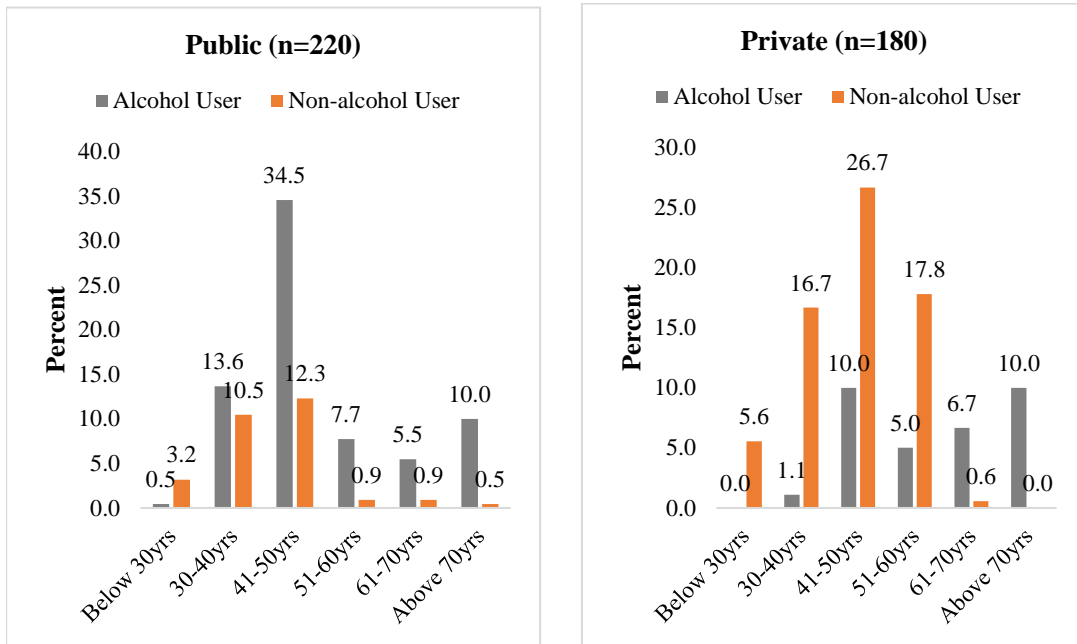


As shown in Figure 4.4, most students who were alcohol users (38.2%) in the public-school system reported that they were living with a single mum, followed by 'Living with parents (mum & dad) 27.3%. For alcohol users in the private-school system, (10.6%) lived with their parents (mum & dad), followed by students living by them self (8.9%).

4.2.1.7 Age of students' parents/guardians

The age of the respondents' parents or guardian was also important in determining the factors that influence alcohol use; therefore, I asked the participants who completed the

questionnaire ‘how old are the parents you live with?’ Figure 4.5 shows the response of the



students who answered the question.

Figure 4.5: Age of Respondents' Parents/Guardians

The most frequent age of respondents who were alcohol users, parents/guardians in this study as shown in the chart above was ‘41-50yrs’ (34.5% public compared with 10.0% private school students). That was followed by ‘30-40yrs’ (13.6% public) and ‘Above 70yrs’ (10.0%) for private school students.

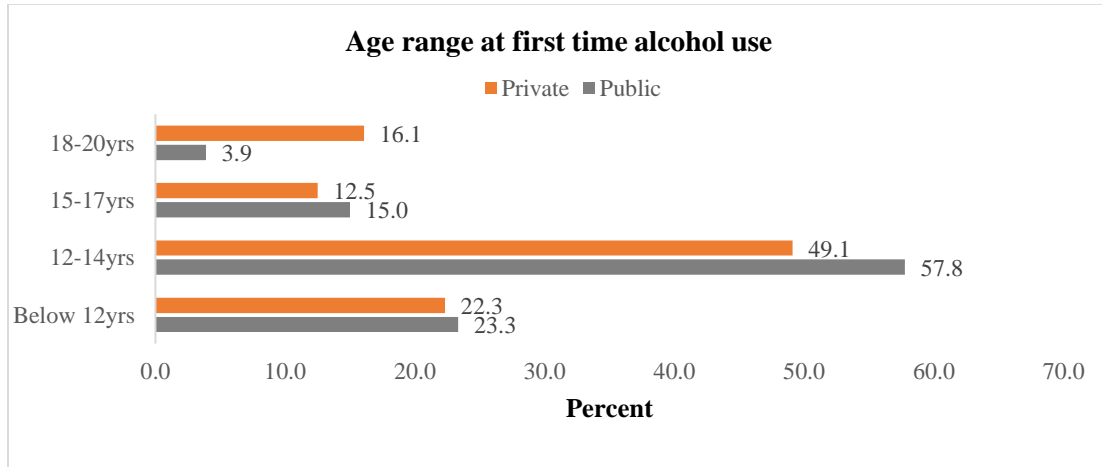
4.2.2 Questions about access to alcohol

This section in this chapter presents findings on the accessibility and prevalence of alcohol use amongst public and private secondary school students in Lofa County, Liberia.

4.2.2.1 Age at alcohol use initiation

Age at first use of alcohol was a crucial variable in the study. So, using the questionnaire, I asked Students who affirmed that they had previously used alcohol, ‘how old were you when you first took alcohol?’ Figure 4.9 illustrates the results.

Figure 4.6: Students Age Range at 1st-time alcohol use (n=292)



As exhibited by Figure 4.6, the majority of students who confirmed alcohol use did so at the age range of ‘12-14 years (57.8% public school students compared with 49.1% private school students),’ followed by ‘Below 12 years’ (23.3% public school and 22.3% private school students).

4.2.2.2 Alcohol use among students

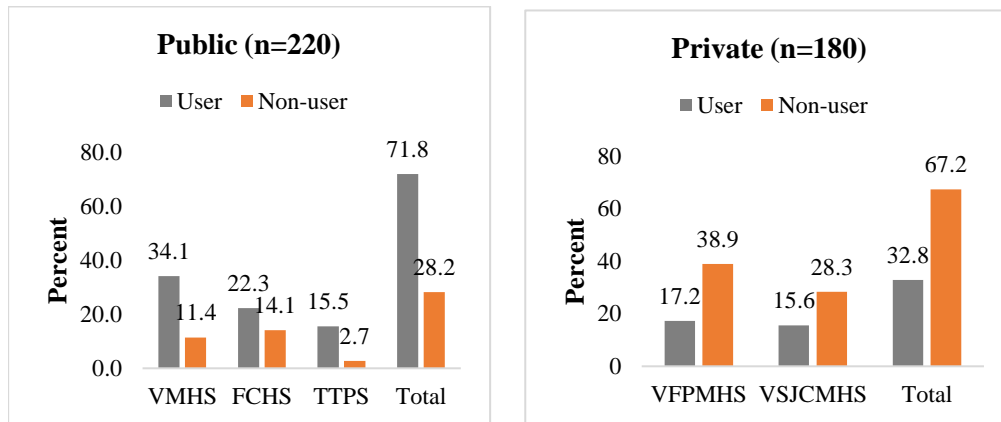
In the study, the main focus was the prevalence of alcohol use. Using the questionnaire, I asked students, ‘do you currently take alcohol?’ Table 4.3 and Figure 4.7 present the findings below.

Table 4.3: Prevalence of Alcohol Use

School Type	School	Yes (%)	No (%)
Public (n=220)	VMHS	75(34.1)	25(11.4)
	FCCHS	49(22.3)	31(14.1)
	TTPS	34(15.5)	6(2.6)
	Total	158(71.8)	62(28.2)
Private (n=180)	VFPMHS	31(17.2)	70(38.9)
	VSJCMHS	28(15.6)	51(28.3)
	Total	59(32.8)	121(67.2)

From Table 4.3, across the samples, students in the public school system were most likely the higher users of alcohol (VMHS, 19%, FCCHS, 12% and TTPS, 9%) compared with students in the private-school system (VFPMHS, 8% and VSJCMHS, 7%). In consideration of the school system, however, Figures 4.6 shows the proportion of alcohol users and non-users in the public school and private schools.

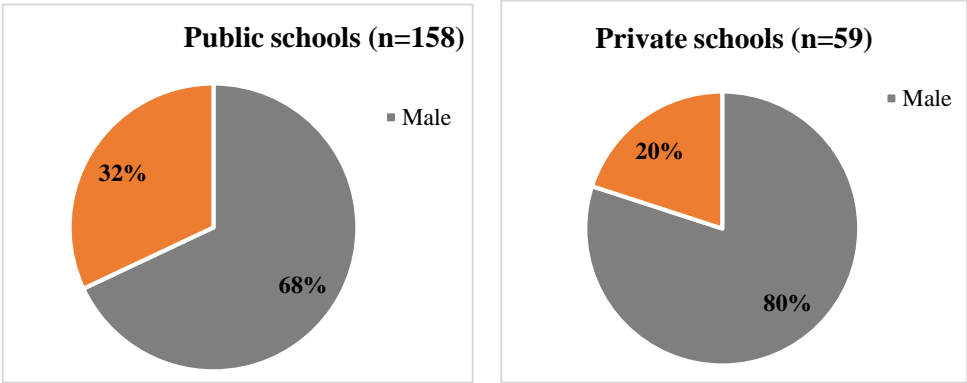
Figure 4.7: Proportion users and non-users of alcohol



As shown in Figure 4.7, public school students were more likely higher users of alcohol than private school students (71.8% public compare with 32.8%). The above

diagram has shown no gender variance in the proportion of alcohol users; however, Figure 4.8 below shows the gender proportion of alcohol users in both public and private schools.

Figure 4.8: Gender Proportion of Alcohol Users

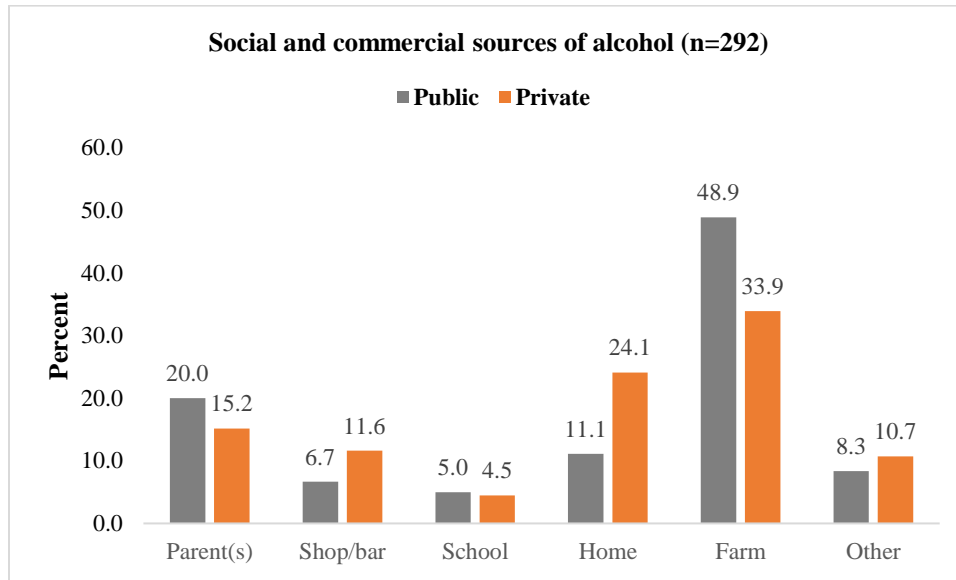


As displayed in the above diagrams, males were more likely the higher users of alcohol in the public and private schools. Among students who acknowledged that they were current users of alcohol, (68% males compared with 32% females) in the public schools and (80% males compared with 20 females) in the private schools were current users of alcohol.

4.2.2.3 Social and commercial sources of alcohol for first time user

Social and commercial sources from which students acquired alcohol was also an important variable; therefore, employing the questionnaire, I asked the respondents, ‘where did you get liquor when you first took it. Figure 4.9 presents the findings.

Figure 4.9: Social and Commercial Sources of Alcohol

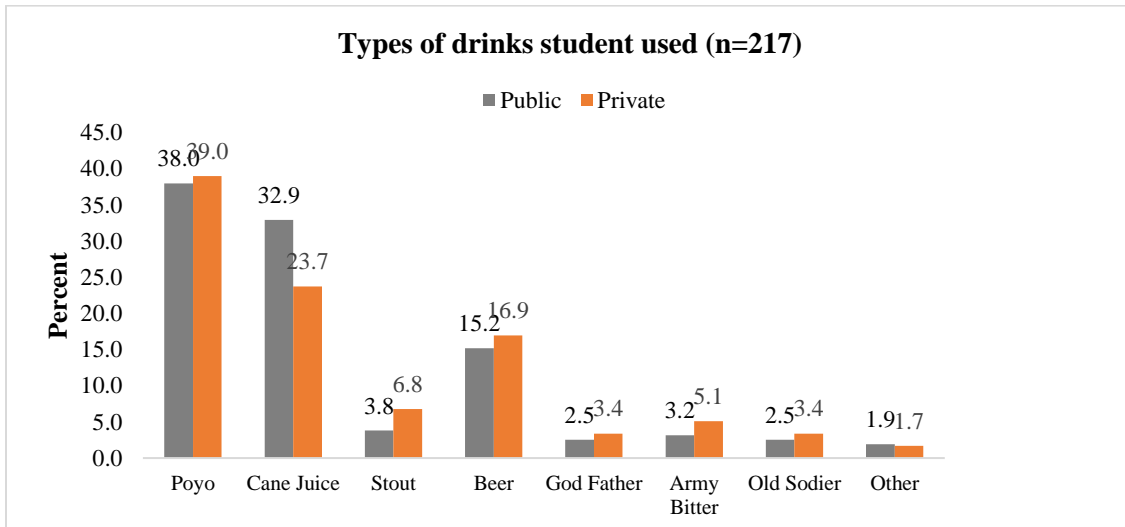


In Figure 4.9 majority of the respondents reported having their first alcohol intake on the ‘farm’ (48.9% public compared with 33.9% private school students), followed by ‘parents’ for the public schools (20%) and ‘home’ for the private schools (24.1%). Further sources were ‘shop/bar’ (6.7% public compared with 11.6% private school students), and ‘other’ (8.3% public compared with 10.7% private school students). And, a few students in both private and public schools reported ‘school’ as the first place they acquired alcohol (5% public compared with 4.5% private school students).

4.2.2.4 Types of drinks used by students

This segment gives the data on types of drinks students drank. Respondents who answered the questionnaire gave their responses in the following statistics.

Figure 4.10: types of Alcoholic drinks

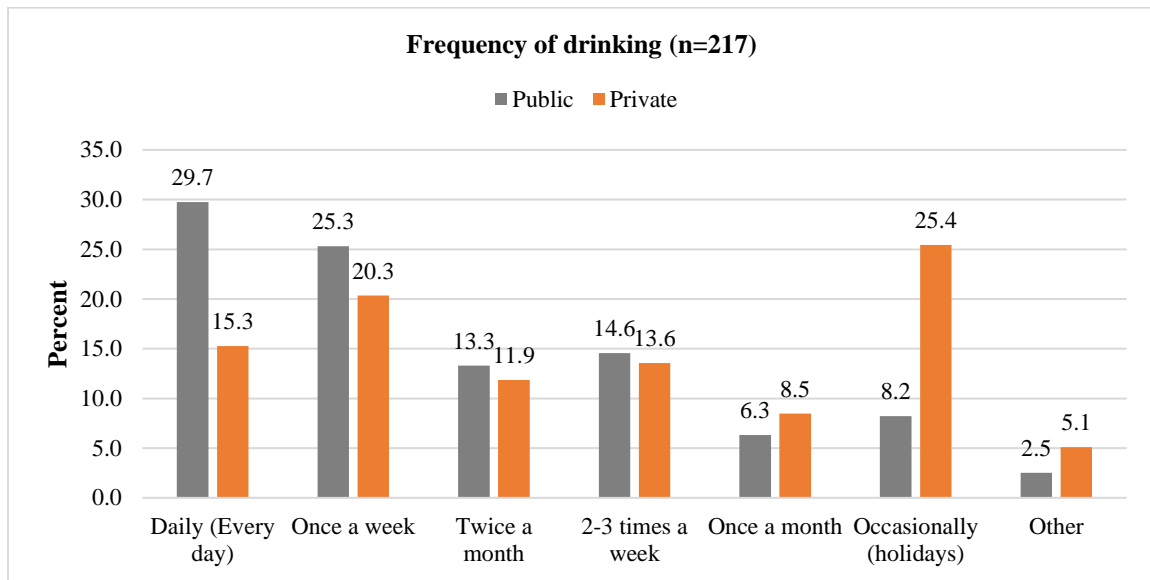


In Figure 4.10 the most common type of drinks used by students in both public and private school were ‘Poyo and Cane juice,’ ‘Poyo’ (38.0%public school students compared with 39.0%% private school students) and ‘Cane juice’ (32.9% public compared with 23.7% private school students). However, a few students in both private and public schools reported that they had used other types of alcohol mention in the graph above.

4.2.2.5 Common frequency of drinking

Students who confirmed that they were current drinkers were asked ‘how often do you take alcohol?’. The following information illustrates the frequency of drinking among students who were current drinkers.

Figure 4.11: Drinking Frequency

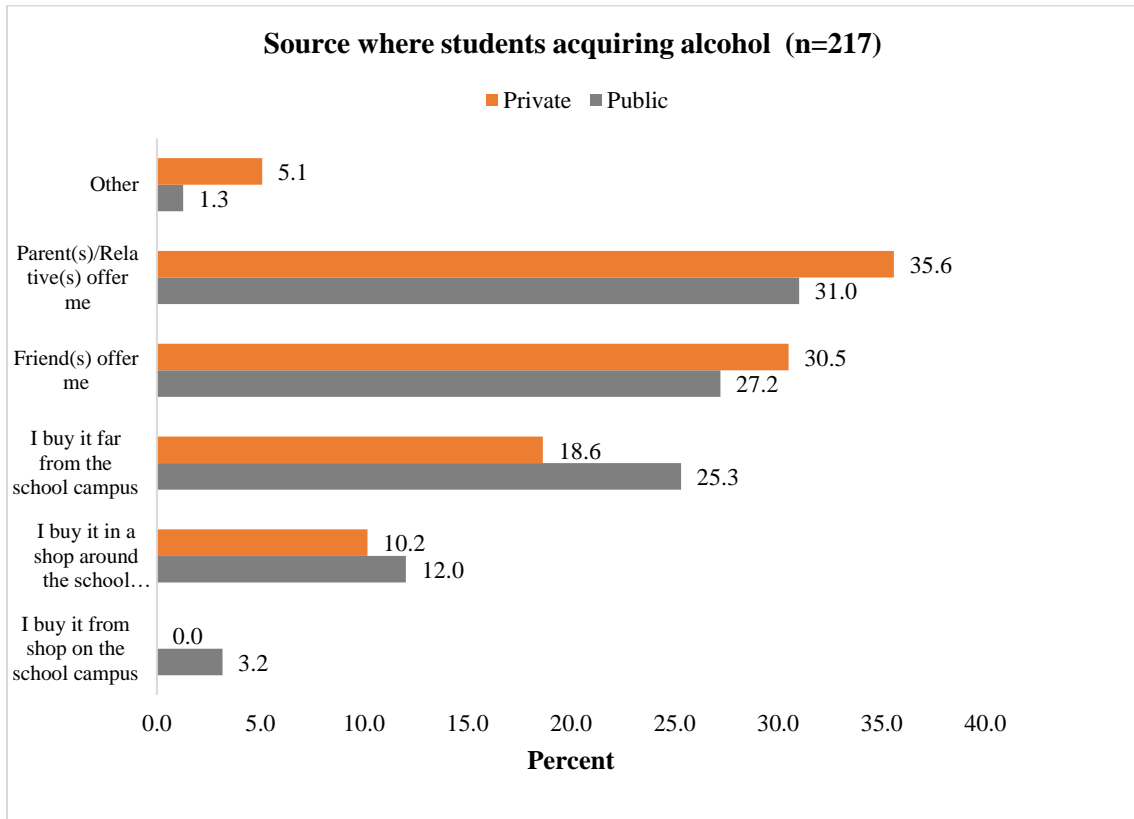


Public school students were more likely to use alcohol at higher frequency in all of the given options than private school students except on 'Occasions' where private school is more top, (25.4% of private compared with 8.2% of public school students). The most frequent was 'Daily' (29.7% to 15.3%), followed by 'Once a week' (25.3% public school compared to 20.3% private school students).

4.2.2.6 Sources of acquiring alcohol

This data confirms where students habitually received drink, efforts to buy it from various sources, or if they have got from friends or relatives. Those who had reported that they were drinkers were asked 'where do you get alcohol from?' The following figure presents this information.

Figure 4.12: Source where students acquired alcohol

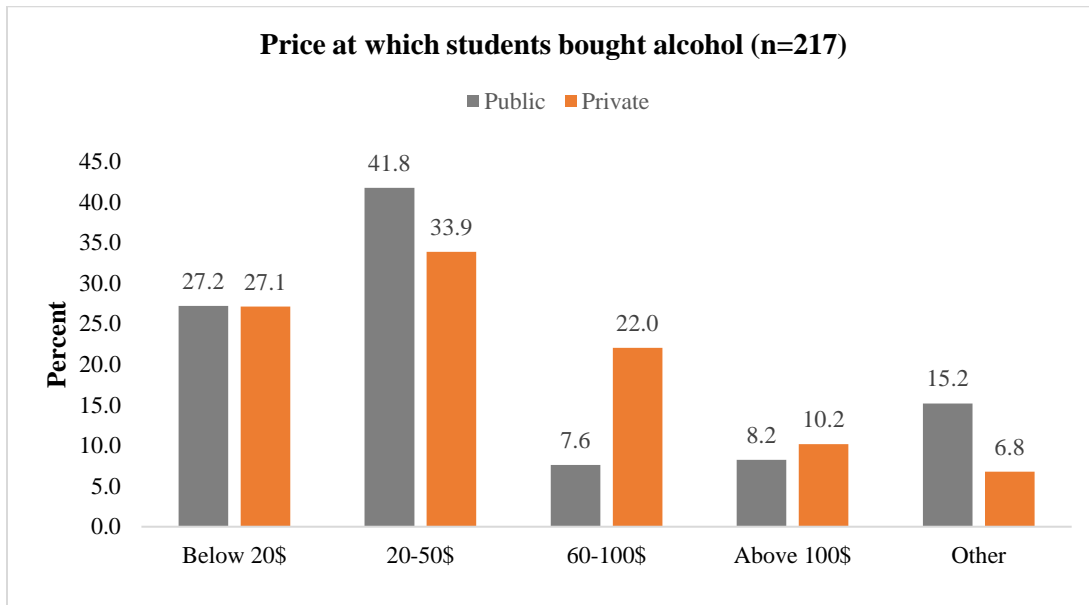


The most common sources from which students acquired alcohol in both public and private schools were ‘Parents /Relatives offer me’ (35.6% private compared with 31.0% public school students and followed by ‘Friend(s) offer me, (30.5% private compared with 27.2% public school students. 3.2 percent of public school students reported that they bought alcohol in a shop on the school campus, whereas there were no such reports from private school’s students.

4.2.2.7 Price at which students bought alcohol

Students who confirmed drinking alcohol were asked, ‘at what price do you buy alcohol (Liberian currency)?’ The following data presents this information.

Figure 4.13: Prices of Alcohol

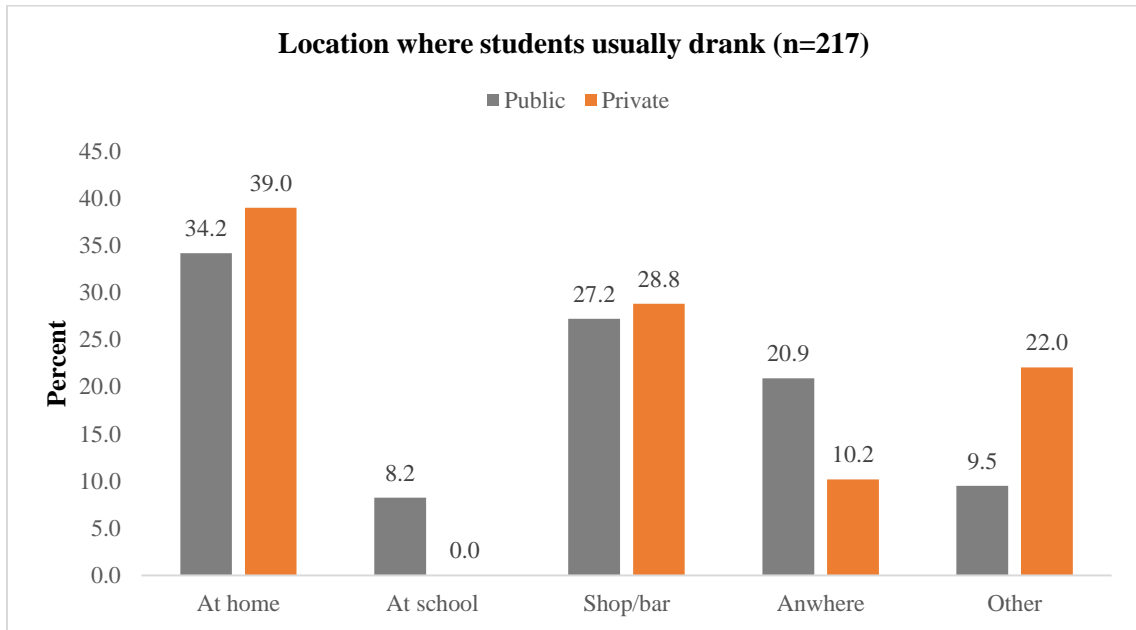


Most of the respondents said that they bought alcoholic drinks at 20-50LR\$: (41.8% of public and 33.9% of private school students), followed by 'below 20LR\$' (27.2% public school students compared with 27.1% private school students). The proportion of students who bought alcohol at a higher price was most likely high in the private school system compared to public schools. However, the ratio of public school students was more likely the highest at other prices that were not in the options.

4.2.2.8 Location of students' drinking

The respondents in the study who had confirmed ever consuming an alcohol drinking location or site were also crucial to the study. The following figure shows the responses.

Figure 4.14: Students' Drinking Locations

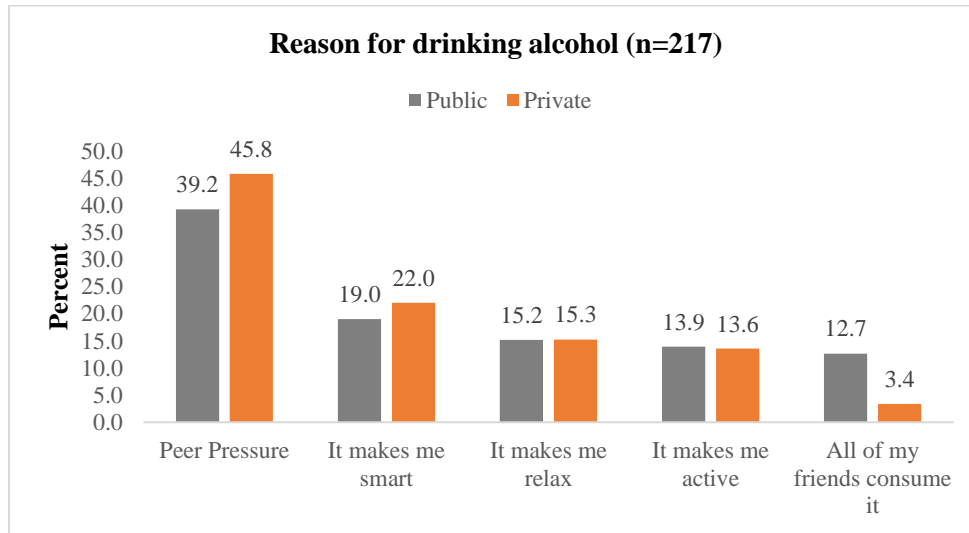


As shown in Figure 4.14, most students were most likely to drink alcohol at home (34.2% public and 39.0% of private) school students; followed by 'Shop/bar' (27.2% of public and 28.8% of individual). 8.2% of public school students reported that they drank at schools, while no such report was available in the private schools.

4.2.2.9 Reason for students drinking

As mention in the review of literature of this study, there are several influencing factors or reasons why young people use alcohol. Therefore, utilizing the questionnaire, I asked the respondents who had said that they were current drinkers 'what is your main reason for drinking alcohol?' The following chart presents this information.

Figure 4.15: Students' Reasons for Alcohol Use



As shown in Figure 4.14, most students exhibited that 'Peer pressure was the common reason for drinking alcohol (39.2% public compared with 45.8% private school students), followed by 'It makes me smart' (19.0% of public and 22.0% of private) school students, and then, 'It makes me active,' 'It makes me relax' and 'All of my friends consume it.'

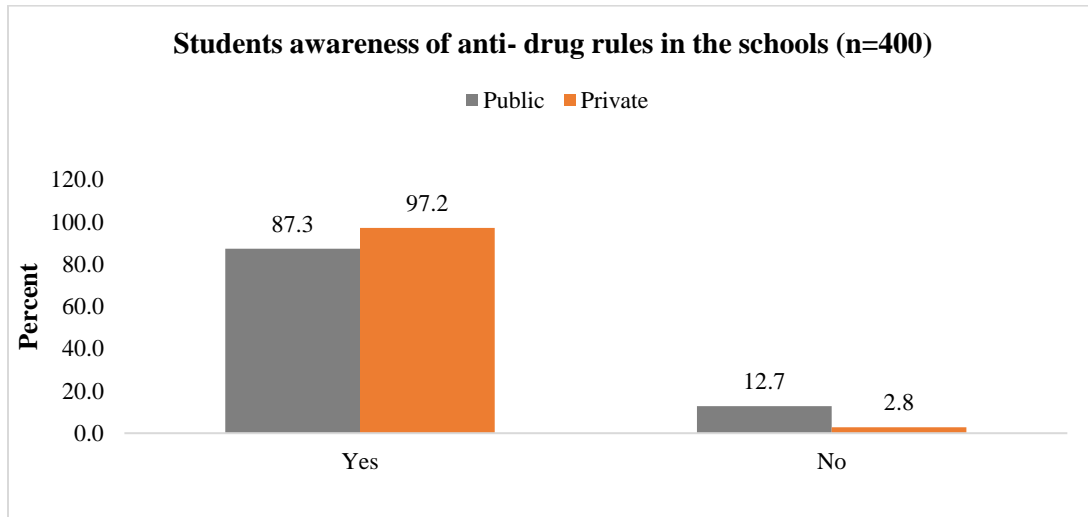
4.2.3 Questions about school-based alcohol use policies and programs

This section in this chapter presents findings on the awareness of students on school-based alcohol use policies and programs.

4.2.3.1 Awareness of anti-drug rules

Students who had completed the questionnaire were asked, 'are you aware of any rules against alcohol and drug use in your school?' The graph below shows the finding.

Figure 4.16: Awareness of Anti-Drug Rules

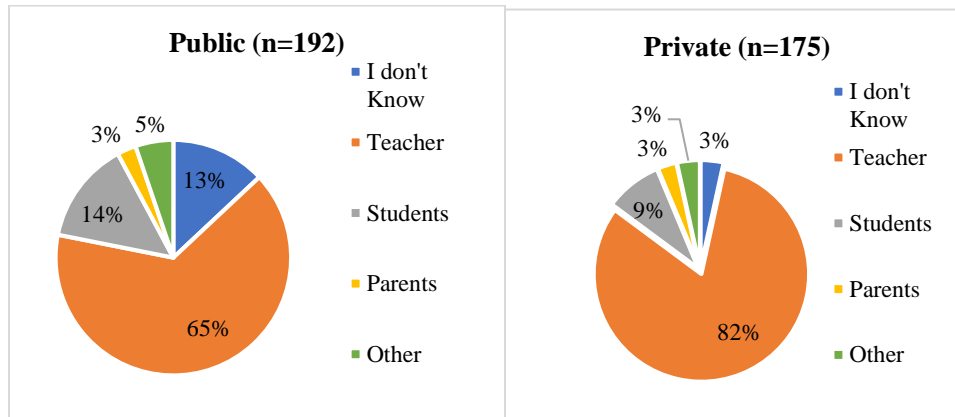


Among students who completed the questionnaire, most acknowledged that they were aware of existing school rules on alcohol and other drugs in the schools. 87% of public and 97.2% of private school students among the total respondents (n=400) confirmed their awareness of rules, whereas 12.7% of public school students and 2.8% of private school students indicated that they were not aware of any existing provisions of alcohol and drug use rules in the schools.

4.2.3.2 Who implements the alcohol use control rules

The questionnaire also included a question about who was responsible for the implementation of the alcohol policy in each of the sample schools. And so, I asked the respondents who confirmed that there were rules against alcohol and other drugs. ‘Who implements the alcohol use control rule(s) in your school? The following figure shows their responses.

Figure 4.17: Who implements Alcohol use control rules in the schools

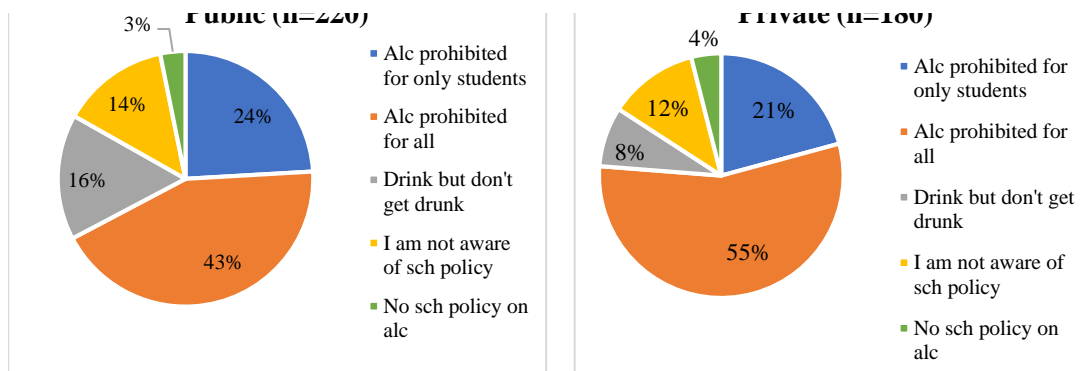


Amongst students who confirmed that they were aware of rules against alcohol and other drugs in the schools, most students (65% of public school students and 82% of private school students) reported that teachers implemented the rules. And, (14% of public school students and 9% of private school students) said that students implemented the rules for alcohol control. On the other hand, (13% of public schools and 3% of private school) students reported that they were not aware of anyone who implemented alcohol use control rules in their schools.

4.2.3.3 School policy on alcohol use

The policy on alcohol use in the sample schools was a variable important as the prevalence of alcohol use, thus, using the questionnaire, I asked students who completed the survey, ‘what is your school policy on alcohol use?’ The finding below were the answers.

Figure 4.18: School Policy on Alcohol



In public schools, 43% reported that there was alcohol use restriction for everyone; 24% acknowledged that there was alcohol bound for only students, 14% indicated that they were not aware of any school policy, while 16% also said that the school policy was drink, but don't get drunk, and 3% was never aware of any alcohol policy in the school. In private schools, 55% reported that there was alcohol use restriction for everyone, and 21% said that alcohol use restriction was only for students. 12% were not aware of any policy on alcohol, while 8% reported that that the school policy was ‘drink but don't get drunk, and 4% said they were not aware of school policy on alcohol.

4.2.3.4 Students views about school policy on alcohol

As mentioned in Chapter One of this thesis, one of the goals of the study was to assess evidence about the contribution of the school-based program to reducing alcohol use among students. To establish the proof, I asked the participants, ‘how strongly does your school enforce alcohol policy?’

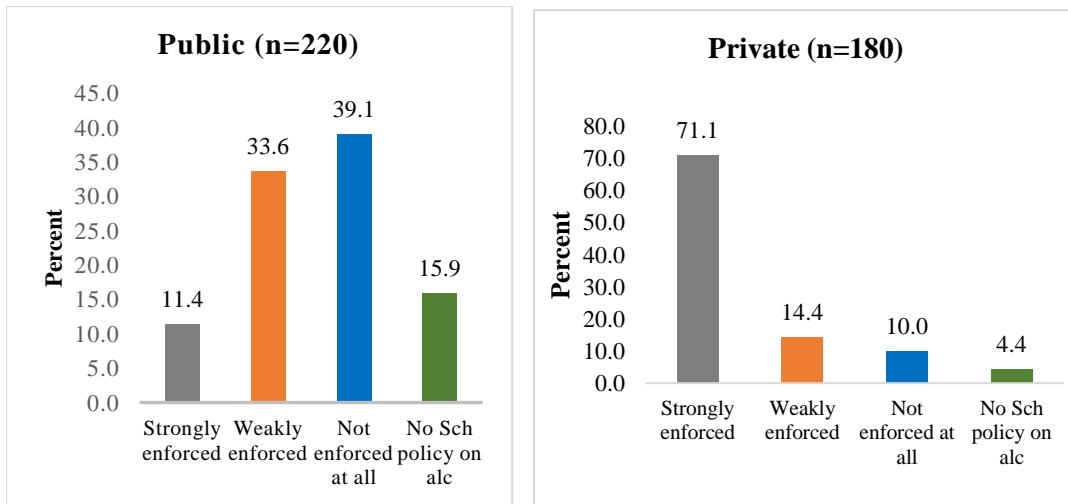


Figure 4.19: Students' view about school's policy on alcohol

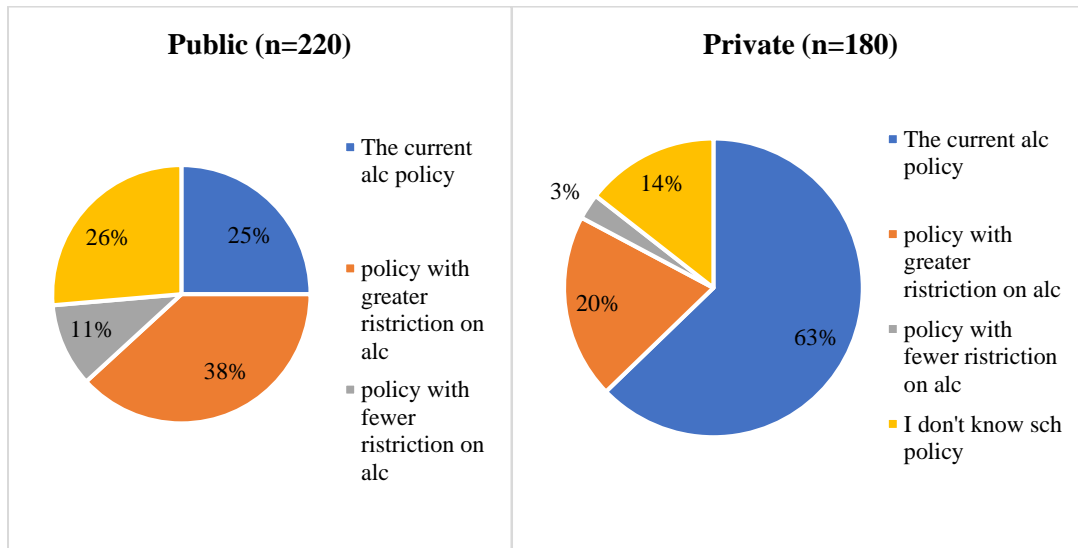
According to Figure 4.19, there are different opinions of the students in the two school systems. Most likely, 39.1% of public schools' students believed the school policy on alcohol is not enforced at all, followed by 33% who reported that the schools implemented the alcohol use policy weakly. 15.9% were of the view that there is no school policy at all, while 11.4% claimed that the schools actively implemented the alcohol use policy. In contrast, 71.1% of private school students reported that the school policy is strongly enforced, followed by 14.4% of the students who reported that the schools implemented the alcohol use policy weakly. And, 10% claimed that there is no policy at all, while 4.4% said that there is no school policy on alcohol.

4.2.3.5 Students views on the school alcohol use policies

This section presents the information about students view and suggestion about the school policy on students drinking. In the questionnaire, I asked the participants, "which of

the following should be your school's policy about student drinking?" Figure 4.20 shows the results.

Figure 4.20: Students' suggestion about drinking policy



Most likely, students in public schools were of mixed views on policy. 38% suggested that there was a need of a system with more significant restriction; 26% was aware of no school policy; 25% believed that the current drinking policy was good enough, and 11% suggested alcohol policy with fewer restriction. On the contrary, 63% of private school students agreed that the current system was effective; 20% indicate a drinking policy with higher limit; 14% were unaware of school policy, and 3% suggested alcohol policy with fewer restriction.

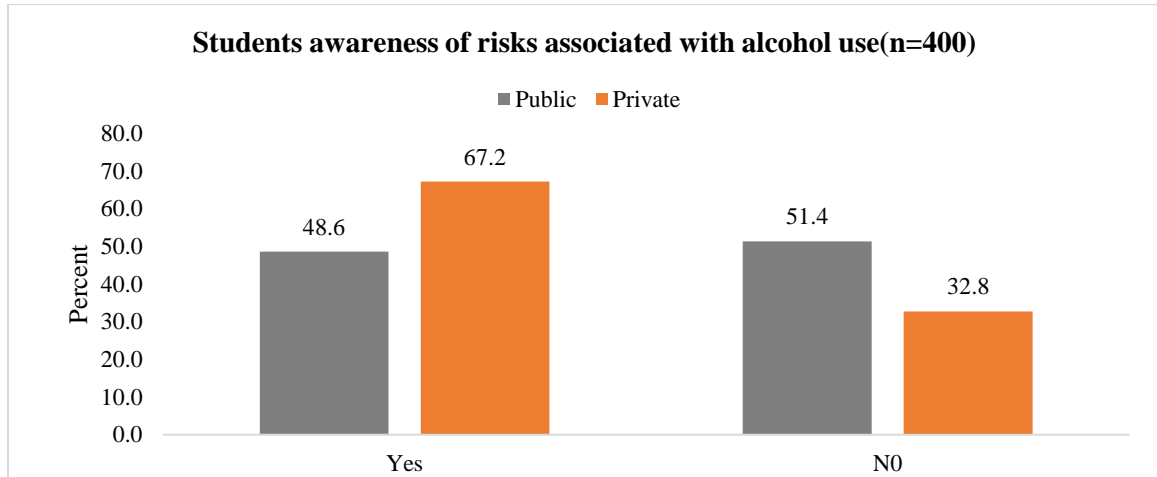
4.2.4 Questions about awareness of the risk associated with alcohol

This section in this chapter presents findings on students' knowledge about risks associated with alcohol use.

4.2.4.1 Awareness of any risks associated with alcohol use

Students who completed the questionnaire were asked, ‘are you aware of any risks posed by using alcohol?’ Figure 4.21 gives a finding.

Figure 4.21: Alcohol Use Associated Risks



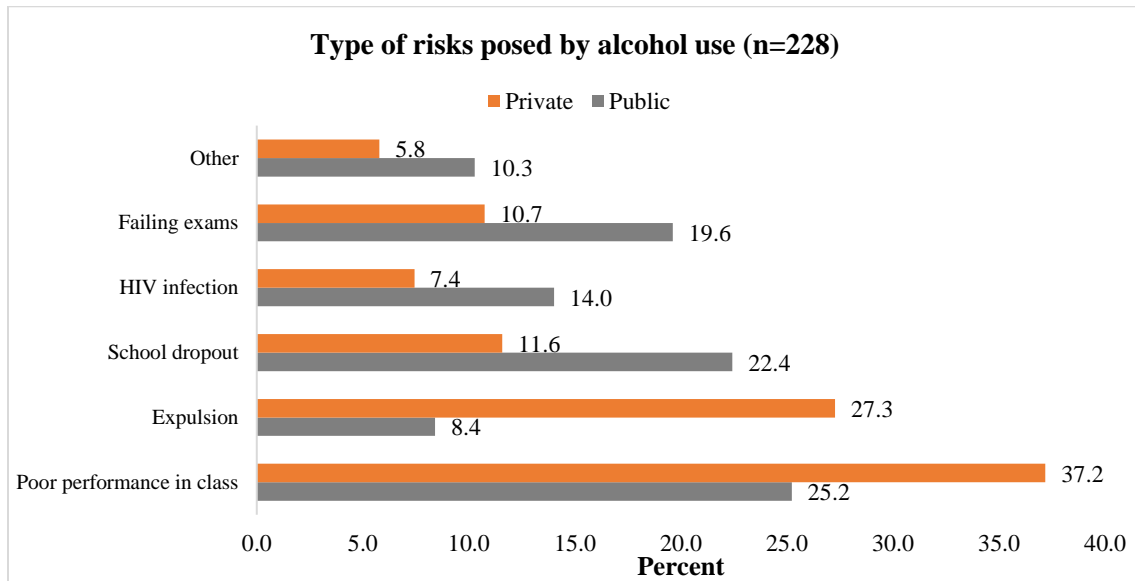
Most students (67.2% of private compared with 48.6% of public school) students acknowledged that they were aware of risks associated with alcohol use; while (32.8% of private compared with 51.4% of public school) students reported that they were not aware of any risks associated with alcohol use.

4.2.4.2 Type of risks related to alcohol use

Students’ knowledge of alcohol-related risks is one of the specific objectives mentioned in Chapter One of this dissertation. Therefore, employing the questionnaire, I asked the respondents, ‘which of the following do you as risks posed by alcohol use?’

Below is the finding reported by the respondents?

Figure 4.22: Type of Alcohol Use Associated Risks

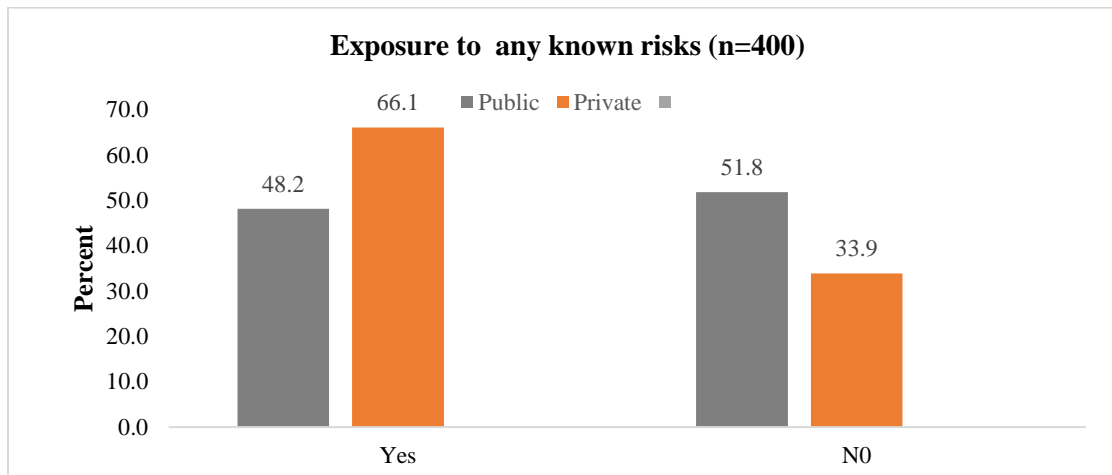


As displayed in the graph above, private school students were more likely to report risks associated with alcohol use than public school students. 37.2% of private compared with 25.2% of public school students acknowledged ‘Poor performance’ 27.3% private compared with 8% public school students for ‘Expulsion,’ whereas 22.4% public school students compared with 11.6% of private school students affirmed ‘school dropout as the risk posed by alcohol use.’

4.2.4.3 Alcohol and exposure to risks

I also asked the students who answered the questionnaire, ‘do you think the use of alcohol use exposed you to any of the risks above?’ Figure 4.23 shows the finding.

Figure 4.23: Exposure to known alcohol use associated risks



More likely, private school students confirmed that alcohol use exposed them to risks than public school students (66.1% of private compared with 48.2% of public school) students stated that alcohol use exposed them to alcohol consumption risks, while (33.9% of private compared with 51.8% of public school) students said alcohol use did not expose them to risks.

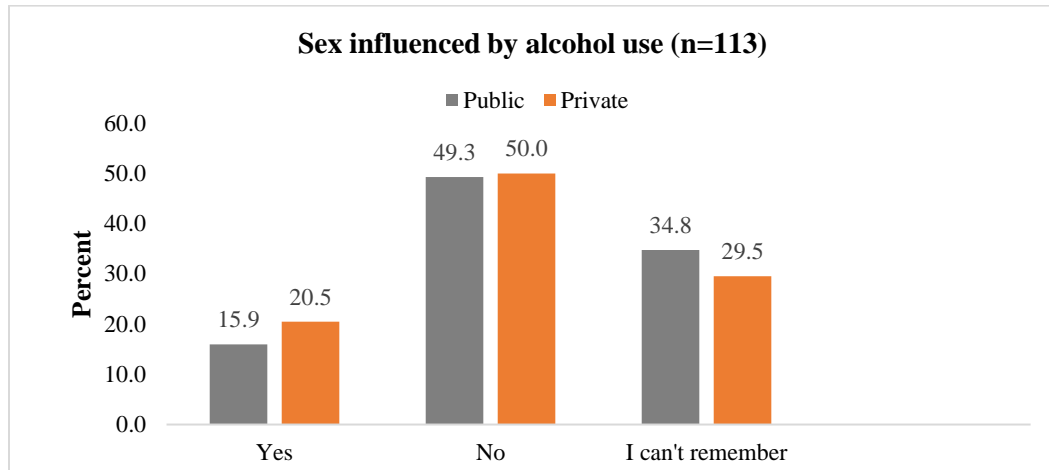
4.2.5 Questions about pre-disposition to risks associated with alcohol use

This section presents findings on the likelihood that students engaged in risk-related practices because of alcohol use.

4.2.5.1 Having sex after alcohol use

This data show how students usually got involved in sexual intercourse after drinking alcohol, attempts to have sex willingly, unwillingly, or coax. However, this does not indicate that students only engaged in sex after they had used alcohol, as any of them could decide to have sex or not, whether influenced by alcohol or not. I asked the participants if they had ever had sex after drinking alcohol. Figure 4.23 provides information.

Figure 4.24: Having sex under alcohol influence

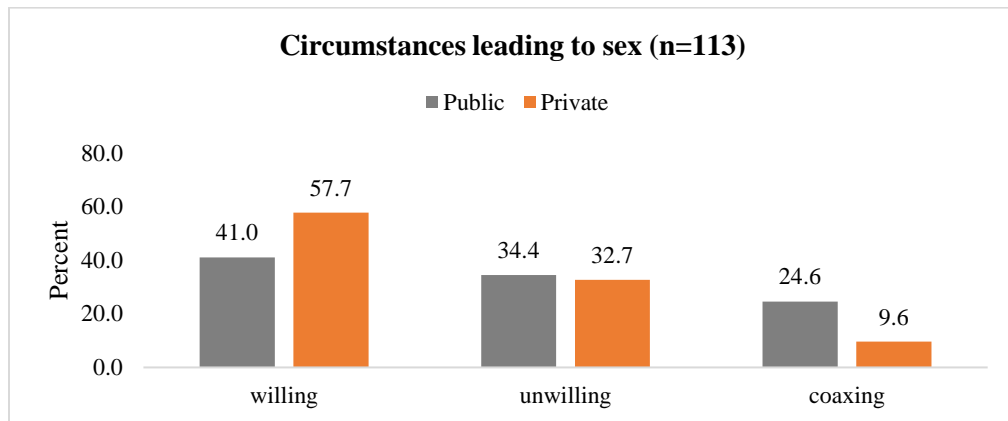


It was uncommon for students to report getting involved in any sexual intercourse after consuming alcohol. Most students said that they had never had sex after taking alcohol (49.3% of public compared with 50.0% of private) school students. 34.8% of the public school students compared with 29.5% affirmed that they did not remember, while (15.9% of public school and 20.5% of private) school students confirmed having sex after using alcohol.

4.2.5.2 Under what circumstances students had sex?

Students who reported having sex were asked, about the circumstances under which they had sex. Figure 4.25 gives information.

Figure 4.25: Circumstances leading to sex after alcohol use

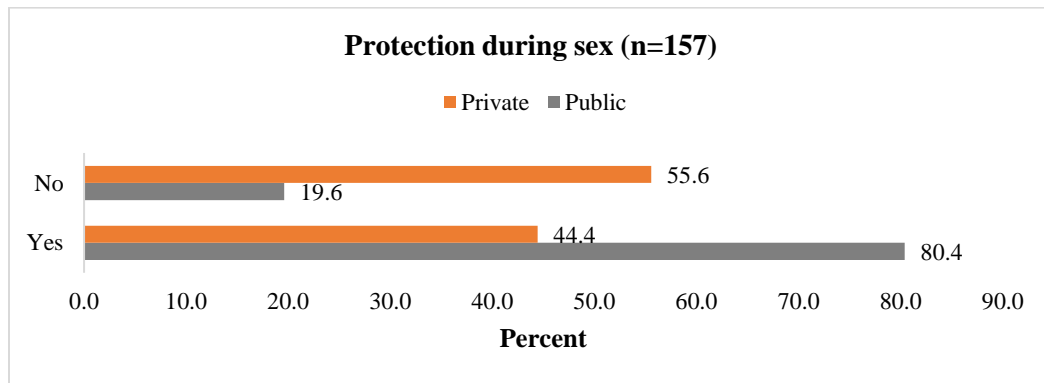


Probing into the circumstances under which students engaged in sex after using alcohol, the study revealed that higher number of the participants reported having sex willingly after using alcohol (41.0% public compared with 57.7% private) school students. About (34.4% public compared with 32.7% private) school students acknowledged they had sex unwillingly after they had used alcohol; while (24.6% public and 9.6% private school) students claimed that they were being coaxed to engage in sex after using alcohol.

4.2.5.3 Did the student use protection during sex after using alcohol?

As clearly identified in Chapter Two of this thesis, there is an association between alcohol use and numerous sexually transmitted infections. Therefore, employing the questionnaire, I asked the participants, 'when you have sex, do you use protection?' Figure 4.24 shows the students' information.

Figure 4.26: Use of protection during sex



Students who responded to this question (n=157), 80.4% public compared with 44.4% of private school students confirmed using protection during sex. And, 19.6% public compared with 55.6% private school students reported that they had never used protection during sex.

Section B: The Association Analysis of Variables

4.3 The investigation of the association between variables of alcohol use

In a review of the factors that are associated with the prevalence of alcohol use amongst secondary school students in the public and private schools in Lofa County, Liberia, the following section presents a statistical test of association between different variables. Data include social demographic information, students' access to alcohol, data relating to school-based alcohol use policies, data relating to students' awareness of risks associated with alcohol use, and data relating to students' predisposition to the risks associated with alcohol use.

4.3.1 The association between demographic findings and alcohol use among students

The following tables illustrate the association between social demographic information (independent variable) including age group, sex, grade level, school-based club affiliation,

living arrangement, age of students' parents/guardians and students' alcohol use (dependent variable).

Table 4.4: Association between social demographic information and alcohol use in public schools

Students' alcohol use	Students who had used alcohol N=158	Students who had never used alcohol N= 62	Test / Significance	P-value
Age group				
Below 14yrs	22 (13.9%)	5 (8.1%)	Pearson Chi-square / N/s	0.406
14-16yrs	48 (30.4%)	15 (24.2%)		
17-18yrs	39 (24.7%)	15 (24.2%)		
19-20yrs	38 (24.1%)	20 (32.3%)		
Above 20yrs	11 (7.0%)	7 (11.3%)		
Sex				
Male	107 (67.7%)	34 (54.8%)	Pearson Chi-square / Sig	0.023
Female	51 (32.3%)	28 (45.2%)		
Grade level				
7 th grade	22 (13.9%)	7 (11.3)	Pearson Chi-square / N/s	0.300
8 th grade	23 (14.6%)	6 (9.7%)		
9 th grade	37 (23.4%)	9 (14.5%)		
10 th grade	32 (20.3%)	19 (30.6%)		
11 th grade	28 (17.7%)	15 (24.2%)		
12 th grade	16 (10.1%)	6 (9.7%)		
School-based club affiliation				
Health	37 (23.4%)	3 (4.8%)	Pearson Chi-square / N/s	3.400
Anti-drug	11 (7.0%)	2 (3.2%)		
Arts & Drama	24 (15.2%)	4 (6.5%)		
Sports	56 (35.4%)	47 (75.8%)		
Reading	15 (9.5%)	3 (4.8%)		
Science	8 (5.1%)	1 (1.6%)		
Other	7 (4.4%)	2 (3.2%)		
Students' living arrangement (Living with)				
Self	28 (17.7%)	23 (37.1%)	Pearson Chi-square / N/s	2.080
Parents (mom & dad)	52 (32.9%)	33 (53.2%)		
Single mom	51 (32.3%)	2 (3.2%)		
Single dad	13(8.2%)	2 (3.2%)		
Grandparent(s)	14 (8.9%)	2 (3.2%)		
Age of parents/guardians				
Below 30yrs	1 (0.6%)	7 (11.3%)	Pearson Chi-square / N/s	9.080
30-40yrs	30 (19.0%)	23 (37.1%)		
41-50yrs	76 (48.1%)	27 (43.5%)		
51-60yrs	17 (10.8%)	2 (3.2%)		
61-70yrs	12 (7.6%)	2 (3.2%)		
Above 70yrs	22 (13.9%)	1 (1.6%)		

Sig = 'Significance'. (i.e.) p-value is ≤ 0.05 .

N/s = 'Non-significance' (i.e.) p-value is > 0.05 .

As shown in Table 4.4 above, with the use of the Pearson Chi-Square tests, there is a statistically significant relationship between ‘sex’ and students’ alcohol use with $p < 0.01$. Moreover, the findings also show that age group, grade level, school-based club affiliation, students' living arrangements, and age of students' parent/guardian are not associated with alcohol use among students in the public school system with $p > 0.05$ for all these variables.

Table 4.5: Association between social demographic information and alcohol use in private schools

Students’ alcohol use	Students who had used alcohol N=59	Students who had never used alcohol N= 121	Test / Significance	P-value
Age group				
Below 14yrs	2 (3.4%)	26 (21.5%)	Pearson Chi-square / N/s	1.300
14-16yrs	4 (6.8%)	32 (26.4%)		
17-18yrs	17 (28.8%)	31 (25.6%)		
19-20yrs	19 (32.2%)	24 (19.8%)		
Above 20yrs	17 (28.8%)	8 (6.6%)		
Sex				
Male	47 (79.7%)	58 (47.9%)	Pearson Chi-square / N/s	5.100
Female	12(20.3%)	63 (52.1%)		
Grade level				
7 th grade	0 (0.0%)	23 (19.0%)	Pearson Chi-square / Sig	0.000
8 th grade	3 (5.1%)	21 (17.4%)		
9 th grade	13 (22.0%)	20 (16.5%)		
10 th grade	16 (27.1%)	26 (21.5%)		
11 th grade	19 (32.2%)	18 (14.9%)		
12 th grade	8 (13.6%)	13 (10.7%)		
School-based club affiliation				
Health	14 (23.7%)	25 (20.7%)	Pearson Chi-square / Sig	0.000
Anti-drug	7(11.9%)	48 (39.7%)		
Arts & Drama	2 (3.4%)	4 (3.3%)		
Sports	25 (42.4%)	17 (14.0%)		
Reading	2 (3.4%)	10 (8.3%)		
Science	7 (11.9%)	11 (9.1%)		
Other	2 (3.4%)	6 (5.0%)		
Students’ living arrangement (Living with)				
Self	16 (28.1%)	9 (7.4%)	Pearson Chi-square / N/s	6.700
Parents (mom & dad)	19 (32.2%)	81 (66.9%)		
Single mom	10 (16.9%)	17 (14.0%)		
Single dad	8 (13.6%)	10 (8.3%)		
Grandparent(s)	6 (10.2%)	4 (3.3%)		
Age of parents/guardians				
Below 30yrs	0 (0.0%)	10 (8.3%)	Pearson Chi-square / N/s	5.700
30-40yrs	2 (3.4%)	30 (24.8%)		
41-50yrs	18 (30.5%)	48 (39.7%)		
51-60yrs	9 (15.3%)	32 (26.4%)		
61-70yrs	12 (20.3%)	1 (0.8%)		
Above 70yrs	18 (30.5%)	0 (0.0%)		

Unlike Table 4.4, Table 4.5 which presents the summary of the associations between demographic variables and alcohol use by students in the private school system, there is statistically a significant relationship between grade level and school-based club affiliation with p-value < 0.05 for each. However, there is no meaningful connection between other demographic variables including sex, age group, students' living arrangements, and age of students' parents/guardians with p-value > 0.05 for each of the variables.

4.3.2 Z-test for independent populations (Public school vs. Private school)

If the scope of the research question is to determine if statistical proportional differences exist between two independent proportions, as recommended, it is necessary to use a z-test of two population proportions (Statistics Solution, 2013). Accordingly, relative to the research question that this study sought to answer; I used a z-test for two population proportions to determine the difference in the alcohol use prevalence between the two schools. Table 4.6 displays the findings.

Table 4.6: Difference in alcohol use prevalence between public and private schools

Prevalence of alcohol use	Students who had used alcohol N = 217	Students who had never used alcohol N = 183	Test / Significance	P-Value
Public Schools	158 (72.8%)	62 (33.9%)	z-test for independent proportions	0.000
Private Schools	59 (27.2%)	121(66.1%)		

Under the assumption that the null hypothesis ($H_0: P_1 - P_2 = 0$) is true; a test statistic, where the sample proportion (\hat{p}) was computed to determine whether the difference between the two population proportions and the hypothesized claim is significant. At a 95% confidence interval, where $\alpha=0.05$, I assumed that the null hypothesis was correct. But, the findings revealed that the original counterclaim does not contain the condition of equality

in the prevalence of alcohol use between secondary school students in public schools and those in private schools. There is sufficient evidence of a statistically significant difference between alcohol users in public secondary schools and those in private secondary schools, with $p < 0.010$. We, therefore, reject the null hypothesis.

4.3.3 The examination of the combined association between variables related to alcohol acquisition

Modest Chi-square analysis was used to examine whether any of the below-mentioned factors influenced alcohol use among secondary school students. As displayed below, I analyzed these factors separately.

4.3.4 Combined analyses of students' initial drinking age

Several studies have publicized the age of alcohol users to be associated with the risk of frequent alcohol use. In a population-based study to determine the relationship between age at first use of alcohol and risk of heavy drinking, (Wenbin & Tanya, 2013) reported that younger age in years at first use of alcohol was associated with an increased likelihood of frequent drinking. The following tables illustrate the results of the relation of these two variables in the public and private schools.

Table 4.7: Combine analysis between initial drinking age and alcohol use in both public and private schools

Students' alcohol use	Below 12 years N=51	12-14 years N=118	15-17 years N=31	18-20 years N=17	Test / Significance	P-value
Public	39 (24.7%)	97 (61.4%)	19 (12.0%)	3 (1.9%)	Pearson Chi-square / N/s	2.100
Private	12 (20.3%)	21 (35.6%)	12 (20.3%)	14 (23.7%)		

The findings from Table 4.7 and 4.8 show that the students' initial drinking age is statistically not associated with the prevalence of alcohol use in both public and private schools. Notwithstanding, Students in the age group of 12-14 were the predominant user of alcohol in both public and private schools.

4.3.5 Combined analyses for social and commercial sources of alcohol

Table 4.8: Combine analysis between sources where students got alcohol and alcohol use

Sources of alcohol	Parent N=53	Shop/bar N=25	School N=14	Home N=47	Farm N=126	Others N=27	Test / Significance	P-value
Public	36 (20%)	12 (7%)	9 (5%)	20 (11%)	88 (49%)	15 (8%)	Pearson Chi-square / Sig	0.010
Private	17 (15%)	13 (12%)	5 (4%)	27 (24%)	38 (34%)	12 (11%)		

The finding in the above table illustrates a statistically significant association between social and commercial sources where students acquire alcohol, with $p < .05$. Majority of alcohol consumers who answered the questionnaire reported that they acquired alcohol from the farm. This report from the respondents aligned with the most frequent types of alcohol consumed by the students. Poyo and Cane juice, which are the most frequent types of alcohol used are brewed on the farms by most parents who are dwellers in the study setting.

4.3.6 Combined analyses of the type of alcoholic beverages students used

Table 4.9: Combine analysis between types of alcohol and alcohol use among students

Students' alcohol use	Poyo N=83	Cane-juice N=66	Stout N=10	Beer N=34	God-father N=6	Army-bitter N=8	Old-soldier N=6	Others N=4	Test / Significance	P-value
Public	60 (38%)	52 (33%)	6 (4%)	24 (15)	4 (3%)	5 (3%)	4 (3%)	3 (2%)	Pearson Chi-square / N/s	0.9042
Private	23 (39%)	14 (24%)	4 (7%)	10 (17%)	2 (3%)	3 (5%)	2 (3%)	1 (2%)		

Table 4.9 shows no association between the type of alcohol students consumed and alcohol use in both private and public schools. Although, there was a non-statistically significant association between the types of alcohol used, however, Poyo and Cane juice, a locally brewed alcohol were the most frequent drinks consumed by students.

4.3.7 Combined analyses for students drinking frequency

Table 4.10: Combine analysis between drinking frequency and alcohol use

Students' alcohol use	Daily (Every day) N=56	Once a week N=52	Twice a month N=28	2-3 times a week N=31	Once a month N=15	Occasionally N=28	Others N=7	Test / Significance	P-value
Public	47 (30%)	40 (25%)	21 (13%)	23 (15%)	10 (6%)	13 (8%)	4 (3%)	Pearson Chi-square / Sig	0.020
Private	9 (15%)	12 (20%)	7 (12%)	8 (14%)	5 (8%)	15 (25%)	3 (5%)		

The finding in the above table presents a statistically significant association between students drinking frequency, with $p < .05$. Majority of the students who used alcohol in the public schools drank daily, while the majority of those in the private schools drank occasionally.

4.3.8 Combined analyses for sources where students bought alcoholic drinks

Table 4.11: Combine investigation between sources where students bought alcohol and alcohol use

Students' alcohol use	Shop on the school campus N=5	Shop around the school campus N=25	Far from the school campus N=51	Friend(s) offer me N=61	Parent(s) /Relatives offer me N=70	Others N=5	Test / Significance	P-value
Public	5 (3%)	19 (12%)	40 (25%)	43(27%)	49 (31%)	2(1%)	Pearson Chi-square / N/s	0.309
Private	0	6 (10%)	11 (19%)	18(31%)	21 (36%)	3(5%)		

As indicated in the above table, there was no association between the sources where students bought alcoholic drinks in both public and private schools. However, the majority of respondents in both school systems claimed that either parents or friends offered them. Those who bought, most likely bought far from the school campus.

4.3.9 Combined analyses for price at which students bought alcohol

Table 4.12: combine analysis between price and alcohol use

Students' alcohol use	Below 20LR\$	20- 50LR\$	60- 100LR\$	Above 100LR\$	Others	Test / Significance	P-value
Public	43 (27%)	66 (42%)	12 (8%)	13 (8%)	24 (15%)	Pearson Chi-square / Sig	0.027
Private	16 (27%)	20 (34%)	13 (22%)	6 (10%)	4 (7%)		

From Table 4.12, a significant association between the price at which students bought alcohol in both public and private schools are statistically shown, with $p < .05$. Students who bought alcohol in both public and private schools most likely bought at 20 to 50 \$LRD and below 20\$LRD.

4.3.10 Combined analyses for the location where students drank alcohol

Table 4.13: Combine analysis between drinking locations and alcohol use

Students' alcohol use	At home N=77	At school N=13	Shop/bar N=60	Anywhere N=39	Others N=28	Test / Significance	P-value
Public	54 (34%)	13 (8%)	43 (27%)	33 (21%)	15 (9%)	Pearson Chi-square / Sig	0.010
Private	23 (39%)	0	17 (29%)	6 (10%)	13 (22%)		

The finding Table 4.13 displays a statistically significant association between the location where students drank, with $p < .05$. Students in both public and private schools were most likely to drink from home compared to other locations.

4.3.11 Combined analyses for the reasons students drank alcohol

Table 4.14: Combine analysis between reasons students drink and alcohol use

Students' alcohol use	Peer Pressure	It makes me smart	It makes me relax	It makes me Active	All my friends consume it	Test / Significance	P-value
Public	62 (39%)	30 (19%)	24 (15%)	22 (15%)	20 (13%)	Pearson Chi-square / Sig	0.370
Private	27 (46%)	13 (22%)	9 (15%)	8 (14%)	2 (3%)		

The findings from Table 4.14 shows no significant association between the reasons why students drank alcohol in both public and private schools. However, peer pressure was the most dominant reason for alcohol consumption in all schools.

4.3.12 The association between variables associated with school-based alcohol use policies

Table 4.15: Combine analysis between variables associated with school-based alcohol prevention policies in the public schools

Students' alcohol use	Students who had used alcohol N=158	Students who had never used alcohol N= 62	Test / Significance	P-value
Students awareness of anti-drug rules				
Aware	130(82%)	62 (100%)	Pearson Chi-square / Sig	0.000
Not aware	28 (18%)	0		
School policy on alcohol				
Alcohol prohibited for only students	38(24%)	23 (37%)	Pearson Chi-square / Sig	0.020
Alcohol prohibited for all	63(40%)	17 (27%)		
Drink but don't get drunk	30 (19%)	15 (24%)		
I am not aware of school policy	24 (15%)	3 (5%)		
No school policy	3 (2%)	4 (6%)		

From Table 4.15, findings show an association between awareness of anti-drug rules and alcohol use among students in public schools, with $p < 0.01$. Majority of the alcohol users reported that they were aware of the anti-drug use rules. Furthermore, the findings also indicated that school policy is significantly associated with alcohol use among students in public schools, with $p < .05$. Although more students confirmed that there was alcohol use restriction in the schools, yet some claimed that the policy was drink but do not get drunk, while some were not aware of any school policy on alcohol use.

Table 4.16: Combine analysis between variables associated with school-based alcohol prevention policies in the public schools

Students' alcohol use	Students who had used alcohol N=59	Students who had never used alcohol N= 121	Test / Significance	P-value
Students awareness of anti-drug rules				
Yes	54(92%)	121 (100%)	Pearson Chi-square / Sig	0.010
No	5 (8%)	0		
School policies on alcohol use				
Alcohol prohibited for only students	7 (12%)	30 (25%)	Pearson Chi-square / N/s	2.020
Alcohol prohibited for all	17 (29%)	80 (66%)		
Drink but don't get drunk	15 (25%)	2 (2%)		
I am not aware of school policy	11 (19%)	9 (7%)		
No school policy	9 (15%)	(0)		

Like the public schools, there was also a significant association between student's awareness of anti-drug rules and alcohol use among students in private schools, with $p < 0.05$. However, there was no significant association between school policy on alcohol and alcohol use among students in the private school.

4.3.13 Combined analysis for association with risks linked to alcohol use.

Table 4.17: Combine analysis between risks awareness and alcohol use

	Students aware of risks associated with alcohol use (%)	Students not aware of risks associated with alcohol use (%)	OR of student's awareness of alcohol-related risks (95%CI)	X ² P value
Alcohol users	143 (68%)	66(32%)	1	0.000
Non-alcohol users	65 (46%)	75 (54%)	2.50(1.61-3.89)	

As displayed in the table above, in both school systems, the majority of the students were aware of risks associated with alcohol use.

Table 4.18: Combine risks exposure analysis

	Students exposed to any known alcohol use risks (%)	Students not exposed to any known alcohol use risks (%)	OR of students exposed to known alcohol-related risks (95%CI)	X² P value
Alcohol users	118 (58%)	86 (42%)	1	0.000
Non-alcohol users	20 (24%)	65 (76%)	4.46(2.51-7.91)	

In Table 4.18, there is a statistically significant association between alcohol use and exposure to alcohol use risks. The result indicates that exposure to alcohol-related risk was 58%, with $p < 0.01$.

Table 4.19: Combine analysis for alcohol influenced related sex

	Students who ever had sex after using alcohol (%)	Students who had never had sex after using alcohol (%)	OR of students having sex after alcohol use (95%CI)	X² P value
Alcohol users	20 (26%)	56 (74%)	1	0.000
Non-alcohol users	75 (61%)	47 (39%)	0.22(0.12-0.42)	

Table 4.20: Combine risk analysis for using protection during sex after alcohol use

	Students who used protection during sex (%)	Students who did not use protection during sex (%)	OR of students using protection during sex after alcohol use (95%CI)	X² P value
Alcohol users	102 (79%)	27 (21%)	1	0.000
Non-alcohol users	45 (31%)	98 (69%)	8.23(4.74-14.29)	

In the combined analysis for association with risks related to having sex under the influence of alcohol and not using protection, there was statistically a significant association, with $p < 0.01$ for all related variables.

Chapter 5:

Discussion

5.1 Introduction

The primary purpose of this portion of the dissertation is to discuss the findings relative to the known research questions in Chapter One: "Is there any difference in the prevalence of alcohol use between secondary school students in the public school and the private school in Liberia?"

This research question had arisen from the associated literature identified before the survey. Through the literature review, I clearly understood the historical development and pattern of alcohol consumption in Liberia, particularly among students in secondary schools. The purpose of the study was to grasp a better insight into the nature and extent of the differences in school-based alcohol use control programs between private and public secondary schools in Liberia. The study sought to examine the prevention work of the school-based programs by comparing the alcohol use proportions between public and private schools. Besides, the research was equally engaged to determine the influencing factors that motivated students drinking behaviors by assessing the evidence about the association between demographic characteristics and alcohol use among students.

5.2 Alcohol consumption prevalence among secondary school students in Liberia: The difference between public and private schools

The current findings epitomize a soaring onus of alcohol use among high school students in Liberia, with a wide-ranging rise in prevalence, although a significantly statistically different by site (public schools 71.8% and private schools 32.8%). The average

of the summed prevalence in this study appeared to be higher and consistent with three other studies conducted in Liberia, Nigeria, and Ghana in previous years. The first study, "substance use behavior of secondary school students" held in Liberia reported 51% prevalence (Harris et al. 2012); the second study, "prevalence of alcohol consumption among secondary school students" carried out in Port Harcourt, Nigeria reported 30.6% prevalence (Alex-Hart et al. 2015); and the latter, conducted in the Central Region of Ghana indicated a prevalence of 42% (Hormenu et al. 2018).

However, the prevalence of alcohol consumption was two times higher in public schools compared to private schools (71.8% vs. 32.8%), respectively. The reasons for this huge difference and the towering burden of drinking among secondary school students in the public schools is indistinguishable (and far beyond the scope of this research), given that there exist alcohol use control programs in the two school systems (public and private). Nonetheless, one can probably reference the main explanation to reasons ranging from family history and culture, religious prohibitions, the social order in the schools and socioeconomic position of students' parents among many. Several studies have acknowledged that the proximity of young people to family members with the history of alcohol use is a risk factor for drinking among young people. With this background, the findings in this study demonstrate that more alcohol users in public schools live with alcohol-brewing parents or relatives. As such, most of these students are highly exposed to alcohol in the homes or on the farms during alcohol brewing works.

Consequently, everyday exposure to alcohol either on the farms or at homes was a significant factor for drinking alcohol in public schools. Culturally, it is customary in Liberia for students to help their parents on the farms or in whatever ventures to raise money for the

family support, including the payment of school fees and healthcare. Accordingly, most of public schools' students are involved in brewing locally made liquor along with their parents.

More besides, high proportion of these students (48.9%) acknowledge that they drank on the farms, why (20%) reported that their parents gave them alcohol. On the other hand, most private school students live with religious parents. The dogma or doctrine of most of these religions is that alcohol is prohibited. Therefore, most of these parents neither brew alcohol nor drink. As a result, these parents also discouraged alcohol use among their children, which is one of the primary reasons why private school students are less exposed to alcohol than public schools' students.

Additionally, regarding how the alcohol use control policy was maintained and enforced in each of the schools, the study found out that school-based alcohol prevention programs in the private schools were firmer compared to the public schools. In public schools, only 11.4% claimed that the schools actively implemented the alcohol use control policy. Contrastingly, 71.1% of private school students reported that the school actively enforced the alcohol use control policy. This finding confirms that the private schools compared to public schools acceptably maintained the social order relating to student's alcohol use practices. Economic wise, the Socioeconomic position of students' parents is presumed to be one of the underlying factors that contribute to the high occurrence of drinking among public school students. Private school students have better placement than public school students in terms of income, education, living environment, and the standard of living. By (Mulia et al. 2014) investigation, "people affected by economic loss show increased drinking habit." This investigation concurs with the current status of public school

students in Liberia. Most of these parents are frustrated over their socioeconomic status. Hence, they turn to alcohol as cure for their frustration, thereby exposing their children to high risk of alcohol use. Often, they pay less attention to their children, which make these children outlaw and engage in different risky behaviors, including alcohol use.

On the other hand, when compared to public school student's parents, most parents of private schools' students have vibrant economic status by the standard in Liberia. These ably provide for their family; thus, their children are well controlled and instructed to avoid risky practices, including alcohol use. These and many more might measurably rationalize why drinking alcohol remains high among students in the public schools in Liberia.

This study engaged 220 public school students and 180 private school students using an anonymous self-administered questionnaire. Students aged 12-25 years participated in the study. Males (64% public school and 58% private school) students who had shared in the study were higher than females (36% public school and 42% private school) students. The reason for this is that male students' enrolment in all sample schools was higher than female students' enrolment. This gender distribution is not astounding since it is consistent with the previous studies conducted by (Harris et al. 2012; Pullen et al. 2016; Reda et al. 2012) whose investigations also revealed more male participants than female participants.

I separately analyzed the demographic characteristics of the respondents according to the school system. Using a chi-square (X^2) test for independence in an eventuality table, the study discovered that there is a non-significant association between alcohol use and "age group ($p=0.4$)," "grade levels ($p=0.3$)," "school-based club affiliation ($p=3.4$)," "students' living arrangement (living with) ($p=2.1$)" and "age of parents/guardians ($p=9.1$)" in the public school system. However, prior studies showed approval of a correlation between

social demographic characteristics and alcohol use among students. For example, in a study to determine the social demographic factors associated to alcohol abuse among the Egerton University students in Kenya (Boitt et al. 2016) found out that such social demographic factors as living arrangement (with whom) and year of study (grade level) were closely associated with alcohol use among students. In a similar study, (Kang et al. 2014) confirmed a significant correlation between age, gender, and alcohol use.

In this study, most of the students who use alcohol were in the age group (14-16) for the public schools which account for 30.4% and the least recorded was age group (Above 20 years). Unlike public schools, the most frequent users of alcohol in private schools were in the age group (19-20), and the least recorded was in the age group (Below 14 years). The results shown for the public schools concur with (Osei-Bonsu, 2017), which indicated that "alcohol consumption decreases with increasing age." These participants, in terms of living arrangements, lived under the guardianship of different family members and relatives who were at different ages also. However, most alcohol users in the public schools live with "Parents (mom & dad) and single mom" (32.9% and 32.3%) respectively, whereas in the private schools, most alcohol users reported living "on their own as well as parents" (28.1% and 32.2%) respectively. This finding indicates that parents of school going children apply little or no efforts to prevent or reduce drinking among their children. Unlike other studies conducted in Liberia on alcohol use, this study also found out that in terms of grade level, most alcohol users in both public and private schools were found in 9th grade (23.4%) for the public schools and 11th grade for the private schools (32.2%). Concomitantly, the study also revealed that there is a statistically significant association between "grade level (p=0.000)" and "school-based club affiliation (p=0.000) in the private school system.

Contrastingly, in comparison to the public school system, nearly all alcohol users in the private schools did not form a part of the school-based anti-drug club. The anti-drug club is the medium through which education on the damaging effects and other aspects of alcohol use were being discussed in the schools to facilitate the prevention and reduction of alcohol use among students.

The findings indicate that alcohol use was highly prevalent amongst male students compared with female students in the two school systems. Majority of male students (68% public), $n = 158$ and (80%) private, $n = 59$) were currently using alcohol while the number of females that were current users of alcohol is (32%) public school and (20 %) private school students. This finding is in harmony with a study conducted in Ghana to measure the prevalence of alcohol consumption and associated factors among the youth in Tokorni-Hoe, where the results also indicated that males (73.7%) were current users of alcohol, whereas (26.3%) females were current users of alcohol (Osei-Bonsu, 2017). Reasons for this difference could be linked to cultural norms because the local culture encourages male's alcohol drinking and not female alcohol drinking.

However, there is a significant association between alcohol use and gender ($p=0.020$). The study found out that alcohol use was highly prevalent amongst male students as compared with female students in the public school system.

Findings on how often students use alcohol indicate that more respondents in the public-school use alcohol daily than their private school counterparts. Also, students in public schools were mostly found to drink alcohol on other occasions as compared to private school students. One of the reasons for such could be that the alcohol prevention programs

in private schools were more robust in implementing alcohol use control policies than the public schools. The result indicates that most of the students consume alcohol daily, followed by weekly, monthly, and occasionally, respectively.

Before the survey, the researcher had some understanding of the most common sources of alcohol. Questions such as, 'where you got alcohol to drink' was included in the questionnaire. This question was per the availability theory; which states that: "the greater availability of alcohol in society, the higher the average alcohol consumption" (Single, 1998). "Alcohol availability remains an outermost challenge for youth drinking prevention" (Friese et al. 2013). The findings reveal that students who used alcohol acquired it from familiar sources such as farms, homes, and parents or relatives as compared to commercial sources like shops or bars. This result is in accord with my investigation before the administering of the questionnaire that participants in the studies were familiar with social and commercial sources and much rely on this acquaintance to assess alcohol.

Moreover, the acquisition of alcohol from social sources had linked with the most frequent types of alcoholic beverages consumed by students. It provides for a closed association, i.e., students are living with parents who rely on home brewing of 'Poyo and Cane juice' for economic reasons. However, the price at which the majority of students bought alcohol was also closely associated with alcohol use. Most students predominantly drank Poyo and Cane juice. The study found out that the cheapest drinks on the local market at the time of the study, which was subsequently confirmed by the respondents was Poyo and Cane Juice. Poyo is sold on the local market in most communities for less than 20\$LRD equivalent to approximately 0.13\$USD for a liter or one cubic decimeter; while cane juice

price on the same market is 20\$LRD equivalent to about 0.13\$USD for ¼ or a quarter of a liter.

Given the above, however, social sources like farm and homes, low price for alcoholic beverages, most especially locally brewed alcohol are found by this study as major influencing factors for alcohol use among students in Liberia.

The results revealed that the main reason for which students use alcohol was peer pressure, which is a form of social influence. Many students believe that to remain in a closed tie with their peers, they ought to behave in the same manner. Others also stated different reasons such as 'it makes me active' and 'it makes me relax' for using alcohol. These are reasons associated with coping with stress or anxiety. These students in their own beliefs considered alcohol as a cure to sadness and shyness and thus used it as an alternative means to regulate their mood. Therefore, like many places around the world, social influences and drinking to cope with stress and anxiety (Hanson, 1974; Brennan et al. 1986) are predominant factors leading to drinking among students in secondary schools in Liberia.

One of the most pertinent indicators that the research aimed to have understood was students' sentiments about a campus-wide policy on alcohol use among in-school youth. The finding illustrates that a more considerable amount of the students in both public and private schools were aware of existing school-based alcohol use control policies and programs. However, the views or opinion of students differ in the implementation procedures. Majority of students in the public-school system viewed the policy on alcohol as weakly enforced. On the contrary, the majority in the private school system acknowledged that the school-based policy on alcohol use was being implemented reliably to ensure that alcohol use is controlled and reduced among students. This simplified view

of the students in both public and private schools is in harmony with the difference in the alcohol use prevalence between the two school systems. The finding showed that the development of alcohol responsiveness information and school staffs participation in the delivery; besides, exploring student's attitudes to educational activities on alcohol use was more effective in the private school system as compared to the public school system.

Lastly, the closure of this discussion is concerned with student's awareness of, and their pre-disposition to alcohol use-related risks. The constant and far-reaching practice of alcohol use among youth has had an overstressed emphasis by health experts and the world health organization for many years due to its health-related risks. As mentioned in the review of literature in this paper, alcohol consumption is associated with more than 200 disease and injury conditions with an all-inclusive contribution of 5.1% global burden of disease and injury (WHO, 2018). Alcohol use among students is a risk factor for experimenting with smoking/other drugs and engaging in unsafe sexual practices (Malta et al. 2014). While there are several risks associated with alcohol use; however; hitherto, in terms of risks, the study focused mainly on alcohol-related sexual risk.

As described in Chapter Four, students in both public and private schools were aware of some of the known risks associated with alcohol use. Nonetheless, most alcohol users, youths, in particular ignored those potential risks. It can also be recalled that alcohol use is a risk factor for adolescent engaging in sexual malpractices, as noted in the literature review of this study. Alcohol use is associated with risky sexual practices, including unprotected sexual intercourse and having multiple sexual partners (Hutton H.E. et al. 2008). Several studies have accentuated the increased likelihood of contracting sexually transmitted diseases (STD) including HIV/AIDS because of alcohol use (Wilson K.S., Odem-Davis K.,

Shafi J., Kashonga F., Wanje G., Masese L., Mandaliya K., Jaoko W. and McClelland S., 2015; Cook R.L. and Clark D.B., 2005).

Most students who used alcohol acknowledged engaging in unprotected sex practices and having sex with multiple partners after using alcohol. Some reported being urged or forced to engage in sex when under the influence of alcohol. This finding was in concurrence with the odds ratio (OR) analysis displayed in Chapter Four (see Table 4.17, Table 4.18, Table 4.19, and Table 4.20). Statistically, there was a significant association between the following variables and alcohol use in both public and private schools. Student's awareness of alcohol-related risks $p < 0.01$, students exposed to known alcohol-related $p < 0.01$, students were having sex after alcohol use $p < 0.01$ and students using protection during sex after alcohol use $p < 0.01$. This finding shows that the majority of the students were predisposed to sexual risks associated with alcohol use.

Chapter 6:

Conclusion and Recommendations

6.1 Introduction

This concluding section of the thesis trails on from Chapter five, where the results are discussed to answer the research question flowed by recommendation, identified gap, and limitation of the study.

6.2 Conclusions

This research aim was to investigate the difference in the prevalence of alcohol use between students in public and private secondary schools in Liberia. And, the research has established a better insight into the scope and extent to which school-based programs prevent and reduce alcohol use among in-school youth in the separate school systems (public and private) schools. One research question was constructed to carry out this investigation:

- *Is there any difference in the prevalence of alcohol use between secondary school students in the public school system and the private school system in Liberia?*

And, the following null and alternative hypotheses were set out to guide this research:

- *H₀: prevalence of alcohol use among students in public equals to the prevalence of alcohol use in private schools.*
- *H₁: alcohol use prevalence in public schools is higher than alcohol use prevalence in private schools.*

This study emerged from a postulation that alcohol use among youths in Liberia is high, with the involvement of in-school children increasingly becoming distressing, despite

the existing school-based programs to prevent and reduce alcohol use among students. Hence, this study has examined the issue of alcohol use prevalence among secondary school students with a focus on two independent population samples of subjects in the public and private schools in Lofa County, Liberia. The hypothesis aimed for the difference in alcohol use prevalence between public and private schools in Liberia, which could help answer the research question. The findings showed that there is a significant difference between public and private schools in the alcohol use prevalence, with $p\text{-value} = 0.000$. Thus, with such results, one can reliably conclude that alcohol use prevalence in public schools is higher than the private schools thereby, ardently stating that the school-based alcohol use control program in the privately controlled school system is effective in comparison to the publicly owned school system.

The study applied a cross-sectional survey approach to collect primary data using a self-administered questionnaire distributed to a sample of students in the age groups of below 14 years, 14-16 years, 17-18 years, 19- 20 years and above 20 years, who were studying in secondary schools in public and private institutions. This approach was convenient in that it allowed the researcher to describe the prevalence of the exposure and the status of alcohol use in two independent populations. As far as the study participants' social demographic characteristics were concerned, the study divulged, that male students were predisposed to alcohol use than female students in all school systems. And, the youngest age group 'below 14' in this study showed the highest level of alcohol use initiation. At the same time, students in grade 11 and 10 had the inclination or tendency to drink alcohol than students at other grade levels in the private school system. The results have shown that students' membership affiliation to the school-based anti-drug club—the

club that provides alcohol, and related drugs education was high in the private school systems than the public school system. Students who engaged in alcohol use in the private schools were more likely nonmembers of the school-based anti-drug club. Contrarily, there was a mixed result in the public-school system. The study revealed that a high number of school-based anti-drug club members, as well as nonmembers in the public schools, were equally enmeshed by alcohol use. Furthermore, most students who drank alcohol in the two school systems lived with single parents or aged grandparents. Most of these results are in harmony with the results of many studies mentioned in the literature review (Chapter Two).

The surveys permitted the researcher to collect data from the two school systems about how students acquired alcohol with regards to sources, types, including price; if purchased from a commercial source, reasons for drinking and drinking frequency. The most commonly mentioned source was: social sources (on the farm, and at home). Notwithstanding, a considerate number of students cited commercial sources like shops and bars. Although there are many different types of alcohol in Liberia, 'Poyo and Cane juice' were the most frequent type of alcohol used by students in all schools. These were mostly gotten on the free basis from the farms and homes or purchased most frequently at trifling prices. Accordingly, home brewing of alcohol is one of the contributing factors to student's alcohol use. The most common frequency of drinking was "daily" in the public schools and "on occasions" in private schools. As testified by the study participants included in the two samples, the most recurrent reason for alcohol use was the social influence, manifested through peer pressure. However, some of the respondents mentioned coping with stress or anxiety.

The study also obtained data about the students' perceptions of the existing school-based alcohol use control programs, awareness, and predisposition to risks associated with alcohol use. The data showed that, even though students were aware of the school-based alcohol use control programs and risks related to alcohol use, but the majority of those in the public schools were disappointed in the way the schools implemented the agenda, and therefore recommended improvement. Unlike those in public schools, private school's students expressed satisfaction in the implementation progressions of the alcohol use control programs. However, they stressed the need for improvements. Above all, the study established that nearly all the students who reported using alcohol in the two school systems were pre-disposed to mainly alcohol use-related sexual risks. Most respondents said been coerced or forced into unprotected sex when under the influence of alcohol.

Nonetheless, the burden of drinking alcohol among youngsters, including students, has been reiterated by several studies to have damaging health-related repercussions as well as mediocre school-related accomplishments and behavior. "Such include unfortunate academic performances like poor GPA, mass failure in examinations, and school drop-out" (Perkins, 2002).

Such aftereffect suggests that school-based programs in Liberia must set specific alcohol prevention and control strategies that are grounded in a culturally unambiguous and contextualized implementation policies that will involve the students' social and cultural communities. Salvador-Llivina et al. 2004, argued that the corporate planning and mutual affiliation between schools and local communities could help to integrate dependable and relevant health message to improve and encourage better awareness of health issues among students.

6.3 Recommendations

Alcohol has become a drug of choice among Liberian youths. It is more prevalent, and its use has remained more resistant and normative among students, especially those of public secondary schools. To considerably assuage this problem, school-based alcohol use control programs need to adopt more comprehensive intervention strategies that encompass more realms associated with students' social environment, including the community, school, and family.

School-based programs in all schools must without fail have a culturally explicit and contextualized health promotion education alongside the alcohol use control programs to minimize the risks of alcohol users engaging in precarious practices like unprotected sex. For more effective results, school-based alcohol use programs should appropriately engage parents or guardians who are involved in brewing alcohol so that they can seek to limit or to disengage their children from brewing activities. Parents should uphold and promote robust, constructive influence on alcohol use.

Above all, research has shown that "increase in alcohol price leads to a reduction in alcohol consumption." Wherefore, a policy which might control the price for locally brewed alcoholic beverages is needed. There exists a need to highlight that all forms of alcohol, including Poyo and Cane juice, are not safe.

6.4 Further research with the extensive student population in Lofa County and other regions in Liberia

In pursuance of upholding the generalizability and transferability of the findings of this study, one can steer and extend further research to the total population of students in Lofa county inclusive of other regions or counties in the country. Such would be a useful pursuit that will substantiate my findings of the difference in the high prevalence of alcohol

use between the students' population in the private and public schools in Liberia. What's more, instead of sheer repetition of the same study on another population; a focused towards acquiring add-on astute insights and an overlying understanding of prevalent alcohol-related problems, and associated factors are worth undertaking. In especial, a study that will look at drinking patterns and behaviors among students; social and school environmental factors associated with the high prevalence; and drinking norms, including drinking consequences among in-school youths in Liberia. Such an undertaking might lead to uncovering the potentiating effect of the foremost predictors of alcohol use problems among in school youths in Liberia. Further inquiry in this direction would unquestionably fill a gap, given that there is either a scanty or no available research in this area in Liberia.

6.5 Limitations of the Study

This survey was reliant on the statements given by subjects (students) indiscriminately selected from the five sample schools (three public and two private) for the determination of alcohol consumption prevalence. Bearing in mind the number of schools and student size in the country, the sample schools and sample size for this study was to a certain extent not a fair representation of the general population to which one can conclude reasoning.

Time as well as the location of the study (Liberia), were other challenges for this research. For my master's program, the duration of the study was in a timeframe of two years, which was insufficient to conclude with more accurate findings. The location of the study population (Liberia), paired with bad roads made travel to the study site quite expensive. This situation affected the budgeted funds for transportation, which in turn compromised the time used for data collection.

At the same time, alcohol use in Liberia is culturally a delicate issue. Thence, participants might have given a biased response. And, finally, the absence of prior experience on the part of the researcher in conducting and producing academic papers of such nature, might have had a bearing on the scope of discussion in this study.

Taking into an account these and many others, of course, the findings of the study are dependable; however, the generalizability and transferability depend solely on personal judgment.

References

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-221.
- Ajzen, I. (2001). Nature and Operation of Attitudes. *Annual Review of Psychology*, 52(1), 27-29.
- Alex-Hart B.A., Opara P.I. and Okagua J. (20015). Prevalence of alcohol consumption among secondary school stuents in Port Hartcourt, Sourthern Nigeria. *Nigeria Journal of Pediatrics*, 42(1)
- Annor, J. N. (2016). Alcohol Use among Senior High School Students
- Austin, E.W. & Knaus, C. (2000). Predicting the potential for risky behavior among those "too young" to drink as the result of appealing advertising. *Journal of Health Communication*, 5(1), 13-27.
- Barnes, G.M. and Welte J.W. (2015). Patterns and Predictors of alcohol use among 7-12th Grade Students in New York State. *Journal of Studies on Alcohol*, 47(1), 53-62.
- Bazargan-hejazi S., et al. (2012). Alcohol Misuse and Multiple Sexual Partners. *Western Journal of Emergency Medicine*, 13(2), 151-159.
- Berridge, V., Herring R., and Thom, B. (2009). Binge Drinking: A Confused Concept and its Contemporary History. *Social History Medicine Journal*, 22(3), 597-607.
- Bobo, J.K. & Husten, C. (2000). Sociocultural influences on smoking and drinking. *Alcohol Research & Health*, 24(4), 225-232.
- Bonnie R.J. and O'Connell M.E. (2004). *Reducing Underage Drinking: A Collective Responsibility*. Washington DC, USA: The National Academies Press.
- Bonnie, R.J & O'connell, M.E. (2004). Consequences of Adolescent Alcohol Involvement. In: Tapert, S.A. & Brown, S.F (Ed), *Reducing Underage Drinking A Collective Responsibility* (pp. 383-396). Washington, DC: The National Academies Press.
- Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse*, 13(4), 391-424.
- Botvin, G.J. & Griffin, K.W. (2007). School-based programs to prevent alcohol, tobacco and other drugs use. *International Review of Psychiatry*, 19(6), 607-615.
- Botvin, G.J., Malgady, R.G., Griffin, K.W., Scheier, L.M., & Epstein, J.A. (1998). Alcohol and marijuana use among rural youth: Interaction of social and intrapersonal influences. *Addictive Behaviors*, 23(3), 379-387.
- Brake, A.B. and Soellner, R. (2016). Alcohol drinking cultures of European adolescents. *European Journal of Public Health*, 26(4), 581-586.
- Brandão, Y.S.T., et al. (2011). The Prevalence of Alcohol Consumption among the Students Newly Enrolled at a Public University. *Journal of Pharmacy & Bioallied Sciences*, 3(3), 345-349.
- Brennan A.F., Walfish S., Aubuchon P. (1986). Alcohol use and abuse in college students: II. Social/environmental correlates, methodological issues, and implications for intervention. *Int. J. Addict*, 21(4-5)475-493.
- Brook, J.S., Whiteman, M., Gordon, A.S., Nomura, C., & Brook, D.W. (1986). Onset of adolescent drinking: A longitudinal study of intrapersonal and interpersonal antecedents. *Advances in Alcohol and Substance Abuse*, 5(3), 91-110.
- Burke, T. R. (1988). The Economic Impact of Alcohol Abuse and Alcoholism. *Public Health Reports*, 103(6), 564-568.
- Coffie, C. N. (2010). *Social and Behavioral Science Prevalence of Substance Use among Junior High*. (Unpublished doctoral dissertation). University of Ghana.

- Coleman, L., & Cater, S. (2005). A qualitative study of the relationship between alcohol consumption and risky sex in adolescents. *Archives of Sexual Behavior*, 34(6), 649-661
- Cook R.L and Clark D.B. (2005). Is there an association between alcohol consumption and sexuality transmitted diseases? A systematic review. *Sexually Transmitted Diseases*. 32(3), 156-164.
- Coombs, R.H. (1988). *The Family Context of Adolescent Drug Use*. United States of America: The Haworth Press.
- Creswell, J. W. (2013). *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (3rd ed.). Thousand Oaks, CA: SAGE.
- Currie et al. (2004). *Young People's Health in Context. Health Behavior in School-aged Children (HBC) Study: International Report from the 2001/2002 Survey*.
- Engs, R.C. (1995). Do Traditional Western European Drinking Practices Have Origins in Antiquity? *Addiction Research*, 2(3), 227-239.
- Ezard, N., Oppenheimer, E., Burton, A., Schilperoord, M., Macdonald, D., Adelekan, M., Sakarati, A., & van Ommeren, M. (2011). Six rapid assessments of alcohol and other substance use in populations displaced by conflict. *Conflict and Health*, 5 (1). Retrieved 11th December 2017 from <http://www.biomedcentral.com/content/pdf/1752-1505-5-1.pdf>
- Fishbein, M. A., and Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior*: Reading, MA: Addison-Wesley.
- Friese B., Grube J.W. and Moore, R.S. (2013). Youth Acquisition of Alcohol and Drinking Contexts: An In-Depth Look. *Journal of Drug Education*, 43(4), 385-403.
- Fullan, M. (2007). *The new meaning of education change* (4th Ed.). New York. Teacher College Press.
- Gerbner, G. (1995). Alcohol and the Mass Media: Issues, Approaches and Research Direction. In Martin, S.E (Ed), *the Effects of the Mass Media on the Use and Abuse of Alcohol* (pp. 277-294). Collingdale, PA: Diane Publishing Co.
- Glaser B, Shelton H. K, Bree M. (2010). The Moderating Role of Close Friends in the Relationship between Conduct Problems and Adolescent Substance use. *Journal of Adolescent Health*, 47(1), 35–42.
- Gore, F. M., Bloem, P. J. N., Patton, G. C., Ferguson, J., Joseph, V., Coffey, C., Sawyer, S. M., & Mathers, C. D. (2011). Global burden of disease in young people aged 10–24 years: a systematic analysis. *Lancet*, 377; 2093-2102.
- Graham, K. & Livingstone, M. (2011). The Relationship between Alcohol and Violence – Population, Contextual and Individual Research Approaches. *Drug and Alcohol Review*, 30(5), 453-457.
- Grunbaum, J.A. (2005). Youth Risk Behavior Surveillance—United States. *Morbidity and Mortality Weekly Report*, 54(24), 608.
- Hanna, F.B. (2017). World Health Organization, Alcohol and substance use in humanitarian and post-conflict situations. *Eastern Mediterranean Health Journals*, 23(3).
- Hanson DJ. (1974). Drinking attitudes and behaviors among college students. *J. Alcohol Drug Education*, 19(3), 6–14
- Harris B. et al. (2012). Substance use behaviors of secondary school students in post-conflict Liberia: a pilot study. *International Journal of Culture and Mental Health*, 5(3), 190-201.
- Hasin, D.S. and Grant B.F. (2015). The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Waves 1 and 2: Review and Summary of Findings. *Psychiatry and Psychiatric Epidemiology*, 50(11), 1609-1640.
- Health grove by graphic. (2013). 'Global Health Statistics'. Retrieved 2nd January 2018, from
- Hellandsjø Bu, E.T., Watten, R.G., Foxcroft, D.R., Ingebrigtsen, J.E. & Relling, G. (2002). Teenage Alcohol and Intoxication debut: The Impact of Family Socialization Factors, Living Area and Participation in Organized Sports. *Alcohol and Alcoholism*, 37(1), 74–80.

- Hinde, E. R. (2004). School culture and change: An examination of the effects of school culture on the process of change. *Essays in Education*, Retrieved 12th November 2017 from:
- Hormenu T., Hagan J.E. and Schack T. (2018). Predictors of alcohol consumption among in-school adolescents in Central Region of Ghana: A baseline information for developing cognitive-behavioral interventions. *PLoS One*, 13(11), <http://www.global.health.healthgrove.com/>
- Human Rights Watch (HRW). (2004.) How to Fight, How to Kill: Child Soldiers in Liberia. Human Rights Report A1602. Retrieved 12th November 2017 from: <http://www.unhcr.org/refworld/docid/402d1e8a4.html>.
- Hutton H.E., McCaul M.E., Santora P.B., and Erbeling E.J. (2008). The Relationship between Recent Alcohol Use and Sexual Behaviors. *Alcohol Clin Exp Res*.32 (11), 2008-2015.
- in the GA Central Municipality. (Unpublished doctoral dissertation). University of Ghana.
- Jernigan D. H. & World Health Organization (2001). Management of Substance Dependence Team. Global status report: alcohol and young people Global Status Report: Alcohol Retrieved 1 January 2019, from <http://www.who.int/iris/handle/10665/66795>
- Johnson, K., Asher, J., Rosborough, S., Raja, A., Panjabi, R., Beadling, C., & Lawry, L. (2008). Association of Combatant Status and Sexual Violence with Health and Mental Health Outcomes in Post-conflict Liberia. *JAMA*, 300(6):676-690.
- Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (2001). Monitoring the Future national survey results on drug use, 1975-2000. Volume I: Secondary school students (NIH Publication No. 01-4924). Bethesda, MD: National Institute on Drug Abuse
- Karlsson, P., Magnusson, C., & Svensson, J. (2016). Does the familial transmission of drinking patterns persist into young adulthood? A 10-year follow up. *Drug and Alcohol Dependence*, 168, 45-51.
- Kask, K., Markina, A., & Podana, Z. (2013). The Effect of Family Factors on Intense Alcohol Use among European Adolescents: A Multilevel Analysis. *Psychiatry Journal*, 2013(250215), 1-12.
- Liberia Institute of Statistics and Geo-Information Services (LISGIS), the Ministry of Health and Social Welfare, Liberia, the National AIDS Control Program, Liberia, ICF International Inc. USA. (2014). the 2013 Liberia Demographic and Health Survey. Retrieved 15th November 2017, from <http://www.dhsprogram.com/pubs/pdf/fr291/fr291.pdf>
- Liberia Institute of Statistics and Geo-Information Services (LISGIS). (2008). National Population and Housing Census, Lofa County Profile Information. Retrieved 1st December 2018, from <https://www.lisgis.net/county.php?&f8991f9c121952a4b8958addf7124023=NTA%3D>
- Lilienfeld, S.O., et al. (1994). A critical examination of the use of the term and concept of comorbidity in psychopathology research. *Clinical Psychology-Science and Practice*, 1(1) 71-83
- Maisto, S. A., Carey, K. B., & Bradizza, C. M. (1999). Social learning theory. In K. E. Leonard & H. T. Blane (Eds.), *The Guilford substance abuse series. Psychological theories of drinking and alcoholism* (pp. 106-163).
- Malta D.C., Mascarenhas M.D.M., Porto D.L., Barreto, S.M., and Neto O.L. (2014). Exposure to Alcohol among Adolescent Students and Associate Factors. *Rev Saude Publica*, 48(1), 52-62.
- McHenry, E. (2002). *Forgotten Readers, Recovering the Lost History of African American Literary Societies*. USA: Duke University Press.
- Mcintosh, C., and Chick, J. (2004). Alcohol and the Nervous System. *Journal of Neurology, Neurosurgery, and Psychiatry*, 75(3), 16-21.

- Michaud, P. A. & Fombonne, E. (2005). Common mental health problems. *British Medical Journal*, 330(7495), 835-838.
- Miniño, A.M. (2010). Mortality among Teenagers Aged 12-19 Years: United States, 1999-2006. *NCHS Data Brief*, # (37), 1-18.
- Moreno, M.A., Furtner, F. & Rivara F.P. (2011). Media Influence on Adolescent Alcohol Use. *JAMA Pediatrics*, 165(7), 680.
- Mulia N. et al. (2014). Economic loss and alcohol consumption and problems during the 2008 to 2009 U.S. recession: The moderating role of perceived family support. *Alcoholism: Clinical and Experimental Research*, 38(4), 1026-1034.
- Norman, Z. B. (2012). *The Perceptions of Liberian Public-School Principals about their Leadership Development Needs in Post-Conflict Liberia*. (Unpublished doctoral dissertation). Northeastern University Boston, Massachusetts, USA.
- Obot, I.S., Karuri, G., & Ibanga, A.J. (2003). Substance Use and Other Risky Behaviours of Secondary School students in a Nigerian Urban area. *African Journal of Drug and Alcohol Studies*, 2(1&2), 5765.
- Odenwald, M., Hinkel, H., Schauer, E., Schauer, M., Elbert, T., Neuner, F., & Rockstroh, B. (2009). Use of khat and posttraumatic stress disorder as risk factors for psychotic symptoms: a study of Somali combatants. *Social Science and Medicine*, 69(7):1040-1048.
- Onya, H.E. and Flisher A.J. (2008). Prevalence of Substance Use among Rural High School Students in Limpopo Province, South Africa. *African Journal of Drug & Alcohol Studies*, 7(2), 70-78.
- Osei-Bonsu E. et al. (2017). Prevalence of Alcohol Consumption and Factors Influencing Alcohol Use among the youth of Tokorni-Hohoe, Volta Region, Ghana. *Science Journal of Public Health*, 5(3), 205-214.
- Oshodin, O.G. (1981). Alcohol Abuse among High School Students in Benin City, Nigeria. *Drug and Alcohol Dependence*, 7(2), 141-145.
- Oshodin, O.G. (1981). Alcohol Abuse: A Case Study of Secondary School Students in a Rural Area of Benin District, Nigeria. *Drug and Alcohol Dependence*, 8(3), 207-213.
- Peltzer, K. (2009). Prevalence and Correlates of Substance Use among School Children in Six African Countries. *International Journal of Psychology*, 44(5), 378-386.
- Perkins H.W. 2002. Surveying the Damage: A Review of Research on consequences of Alcohol Misuse in College Populations. *Journal of Studies on Alcohol, Supplement*, (14), 91-100.
- Perry, C. L. Williams, C. L., Veblen-Mortenson, S., Toomey, T. L., Komro, K. A., Anstine, P. S., McGovern, P. G., Finnegan, J. R., Forster, J. L., Wagenaar, A. C., and Wolfson, M., (1996). Project Northland: Outcomes of a Communitywide Alcohol Use Prevention Program during Early Adolescence. *American Journal of Public Health*, 86(7), 956-965.
- Pihl R.O. & Peterson J. (1995). Drugs and aggression: correlations, crime and human manipulative studies and some proposed mechanisms. *Journal of Psychiatry Neuroscience*, 20(2), 141-149.
- Popovici, I., et al. (2012). Alcohol Use and Crime: Findings from a Longitudinal Sample of US Adolescents and Young Adults. *Alcoholism: Clinical and Experimental Research*, 36(3), 532-543.
- Pullen, J.S., et al. (2016). A Qualitative Analysis of Substance Use among Liberian Youth: Understanding Behaviors, Consequences, and Protective Factors Involving School Youth and the School Milieu. *International Journal of Mental Health and Psychiatry*, 2(1), 116.

- Quiterio, N., Harris, B.L., Borba, C. P. C., Henderson, D. C. (2013). Substance Use and Sexual Risk Behaviours amongst In-School Youth and Young Adults Living in Liberia. *African Journal of Drug and Alcohol Studies*, 12(2).
- Rahm, J., Imtiaz, S. (2016). A Narrative Review of Alcohol Consumption as a Risk Factor for Global Burden of Disease. *Substance Abuse Treatment, Prevention, and Policy*, 11(37).
- Ramesh, S., Goldsmith, R.J. & Anthenelli, R.M. (2002). Alcoholism and Psychiatric Disorders. *Alcohol Research & Health*, 26(2), 90-98.
- Reda A. A., et al. (2012). Alcohol drinking patterns among high school students in Ethiopia: a cross sectional study. *BMC Public Health*, 12(1), 01.
- Rehm J, Shield KD, Joharchi N, Shuper P.A. (2012). Alcohol consumption and the intention to engage in unprotected sex: systematic review and meta-analysis of experimental studies. *Addict*, 107(1):51–59.
- Rehm, J., Mathers C., Popova S., Thavorncharoensap M., Teerawattananon Y., Patra J. (2009). Global Burden of Disease and Injury and Economic Cost Attributable to Alcohol Use and Alcohol-Use Disorders. *The Lancet*, 373(9682), 2223-2233.
- Renna, F. (2008). Teens' alcohol consumption and schooling. *Economics of Education Review*. Elsevier, 27(1), 69-78.
- Republic of Liberia Truth and Reconciliation Commission (TRC). 2009) Final Report, Volume 1: Findings and Determinations. Retrieved 10th March 2018 from
- Rittenhouse, J.D. & Miller, J.D. (1984). Social learning and teenage drug use: An analysis of family dyads. *Health Psychology*, 3(4), 329–345.
- Roche, A. M., Bywood, P., Freeman, T., Hughes, C., et al. (2009). *The Role of Schools in Alcohol Education*. Adelaide, South Australia: National Centre for Education and Training on Addiction, Flinders University.
- Saffer, H., & Dave, D. (2006). Alcohol advertising and alcohol consumption by adolescents. *Health Economics*, 15(6), 617–637.
- Sancho, F.M. (2011). Factors influencing youth alcohol consumption intention: An approach from consumer socialization theory. *Journal of Social Marketing*, 1(3), 192-210.
- Sherwood, H.N. (1917). The Formation of the American Colonization Society. *The Journal of Negro History*, 2(3), 209-228.
- Shield KD, Rehm J. (2015). Global risk factor rankings: The importance of age-based health loss inequities caused by alcohol and other risk factors. *BMC Res Notes*. 8(1):231.
- Silveri, M.M., & Spear, L.P. (2002). The effects of NMDA and GABAA Pharmacological Manipulations on Ethanol sensitivity in Immature and Mature Animals. *Alcoholism: Clinical and Experimental Research*, 26(4), 449-456
- Socio-cultural environmental. *BusinessDictionary.com*. Retrieved 12th January 2019, from <http://www.businessdictionary.com/definition/socio-cultural-environment.html>
- The West African Examination Council (2018). West African Senior School Certificate Examination (WASSCE) Results. Retrieved 20th April 2019 from <https://www.liberiawaec.org/news.html>
- White A. and Hingson R. (2014). The burden of alcohol use: excessive alcohol consumption and related consequences among college students. *Alcohol /research Current Review*, 35(2), 201-218.
- White, A.M., et al. (2000). Binge Pattern Ethanol Exposure in Adolescent and Adult Rats: Differential Impact on Subsequent Responsiveness to Ethanol. *Alcoholism: Clinical and Experimental Research*, 24(8), 1251-1256.

- WHO Regional Office for the western pacific. (2015). *Young People and Alcohol: A Resource Book*. Retrieved 10th February 2019, from https://books.google.co.jp/books/about/Young_People_and_Alcohol.html?id
- Wilson K.S., Odem-Davis K., Shafi J., Kashonga F., Wanje G., Masese L., Mandaliya K., Jaoko W., and Mcclelland S. (2015). Association between Alcohol Use and Sexually Transmitted Infection Incidence among Kenyan Women Engaged in Transactional Sex. *AIDS and Behavior*, 18(7), 1324-1329.
- Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors*, 18(1), 19–30.
- World Health Organization (2008). *Global Survey on Alcohol and Health*. Retrieved 10th August 2018 from http://www.who.int/substance_abuse/activities/gad/en/
- World Health Organization (2010). *Injuries and violence: the facts*. Geneva. Retrieved 11th January 2019 from https://www.who.int/violence_injury_prevention/key_facts/en/
- World health organization Management of Substance Dependence team. (2004). *Neuroscience of Psychoactive Substance Use and Dependence: Summary*. Retrieved 2nd January 2019, from <http://www.who.int/iris/handle/10665/42863>
- World health organization. (2011). *Global Status Report on Alcohol and Health*. Retrieved 25th December 2017, from https://www.who.int/substance_abuse/publications/alcohol_2011/en
- World health organization. (2012). *Global Status Report on Alcohol and Health*. Retrieved 20th December 2017, from https://www.who.int/substance_abuse/publications/alcohol_2012/en
- World health organization. (2014). *Global Status Report on Alcohol and Health*. Retrieved 18th January 2018, from https://www.who.int/substance_abuse/publications/alcohol_2014/en
- World Health Organization. (2018). *Adolescent mental health*. Retrieved 10th January 2019, from <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>
- World health organization. (2018). *Fact sheet on the harmful use of alcohol*. Retrieved 10th September 2018, from https://www.who.int/topics/alcohol_drinking/en/
- World health organization. (2018). *Global Health Observatory (GHO) Data*. Retrieved 5th December 2018, from <https://www.who.int/gho/alcohol/en/>
- World health organization. (2018). *Global Status Report on Alcohol and Health*. Retrieved 17th October 2018, from https://www.who.int/substance_abuse/publications/alcohol_2018/en
- World Population Review. (2019). *Liberia Population 2019*. Retrieved 22nd January 2019, from <http://worldpopulationreview.com/countries/liberia-population/>
- Worldpopdata. (2017). *World Population Data with Focus on Youth*. Retrieved 30th January 2019, from <https://www.prb.org/2017-world-population-data-sheet/>
- Yi, H., et al. (2001). *Surveillance Report #56: Trends in Alcohol-related Fatal Traffic Crashes, United States, 1977-99*. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.

Appendices

Appendix A: The questionnaire for the survey study

Assessment of Alcohol Use Control Programs in Public and Private Secondary Schools in Lofa County, Liberia: Cross-Sectional Study

(Anonymous: do not write your name)

These questions are only intended for research. If you have accepted to contribute to this survey, carefully read and answer all questions

Name of School	
Category of School	Public <input type="checkbox"/> Private <input type="checkbox"/>
Location	City/Town: _____ District: _____

SECTION A: DEMOGRAPHIC INFORMATION (choose one answer for each question)

1. How old are you?

- Below 14yrs
- 14-16yrs
- 17-18yrs
- 19-20yrs
- 20yrs or above

2. What is your gender?

- Male
- Female

3. What is your current class level?

- 7th grade
- 8th grade
- 9th grade
- 10th grade
- 11th grade
- 12th grade

4. Are you currently a member of any club in your school?

- Yes
- No

5. If yes to the question above, which of the following club are you a member?

- Health
- Arts & Drama
- Sports
- Anti-Drug
- Sports
- Science
- Reading
- Others (Specify) _____

6 With whom do you currently live?

- Self
- Parents (Mum & Dad)
- Single Mum
- Single Dad
- Grandparent (s)
- Others (Specify) _____

7 How old are the parents/guardians you live with?

- Below 30 yrs.
- 30-40yrs.
- 40-50yrs.
- 50-60yrs.
- 60-70yrs.
- Above 70yrs.

SECTION B: ACCESS TO ALCOHOL (choose one answer for each question)

8 Have you ever taken alcohol?

- Yes
- No

9 If yes above, how old were you, when you first took alcohol?

- Below 12yrs.
- 12-14yrs.
- 14-17yrs.
- 17-20yrs
- Above 20yrs

10 When you first took alcohol, where did you get it? (select all that apply)

- Friend or Friends
- Parent or Parents
- Shop/Bar
- School
- House
- Farm
- Others (specify)

- 11 Do you currently take alcohol?
- Yes
 - No
- 12 If yes above, which types of alcohol do you drink? (select all that apply)
- Piassava wine
 - Palm wine
 - Cane juice
 - Stout
 - Beer
 - God father
 - Army bitter
 - Old soldier
 - Other (Specify) _____
- 13 How often do you take alcohol?
- Daily (every day)
 - 2-3 times a week
 - Once a week
 - Twice a week
 - Once a month
 - On occasions (Big days)
 - Others (Specify) _____
- 14 When you take alcohol, where do you get it from?
- I buy it in a shop on the school campus
 - I buy it in a shop around the school campus
 - I buy it far from the school
 - Friend (s) offer me
 - Parents/relatives offer me
 - Others (Specify) _____
- 15 At what price do you buy alcohol? (Liberian currency)
- Below 20\$
 - 20-50\$
 - 50-100\$
 - Above 100\$
- 16 Where do you consume alcohol? (take all that apply)
- School
 - At home
 - In the shop/bar
 - Anywhere
 - Other (Specify)

- 17 In your opinion, consumption of alcohol is?
- Good
 - Bad
 - Good and Bad
- 18 If you consume alcohol, what is your main reason for that?
- Peer pressure
 - It makes me smart
 - It makes me relax
 - It makes me active
 - All of my friends consume it
 - Others (specify)_____

SECTION C: YOUR VIEW ABOUT SCHOOL POLICIES AND PROGRAMS

- 19 Do you think, alcohol use is a problem for students in your school?
- Yes
 - No
- 20 Are you aware of any rules against alcohol and drug use in your school?
- Yes
 - No
- 21 If yes above, who implements the rule (s) in your school?
- Teachers
 - Prefects
 - Students
 - Parents
 - Don't know Others(specify)_____
- 22 What is your school policy about alcohol use in school by students, staff, and faculty?
- Alcohol prohibited for only students
 - Alcohol is prohibited for everyone regardless of age and position
 - Drink but don't get drunk
 - I am not aware of school policy
 - No school policy on alcohol use
- 23 In your opinion, how strongly does your school enforce alcohol policy?
- Strongly enforced
 - Weakly enforced
 - Not enforced at all
 - No school policy about alcohol
- 24 Do you agree with the way your school is dealing with students' alcohol use?

- Agree strongly
- Agree
- Disagree
- Disagree strongly

SECTION D: AWARENESS OF RISKS ASSOCIATED WITH ALCOHOL

25 22. Are you aware of any risks posed by use of alcohol?

- Yes
- No

26 Do you think use of alcohol exposes you to any of the risks above?

- Yes
- No

SECTION E: PRE-DISPOSITION TO RISKS ASSOCIATED WITH ALCOHOL

27 Have you ever had sex?

- Yes
- No

28 If yes above, which of the following types of sex have you had?

- Boy-Girl penetration
- Girl-Girl penetration
- Licking of sexual parts
- Just kissing
- Touching of sexual parts
- Others (specify)_____

29 How old were you when you first had sex?

- Below 12yrs.
- 12-14yrs
- 14-16yrs
- 16-18yrs
- Above 18yrs.

30 Are you currently having sex?

- Yes
- No

31 How many different people have you had sex with so far?

- One
- Two-Three
- Three-Five
- Above Five

32 If yes in question 32 above, when you have sex do you use protection?

- Yes
- No

33 If yes above, which protection methods do you use when you have sex?

- Condom
- Withdrawal of ejaculation
- Birth control pills
- Having sex only on save days
- Others (Specify) _____

34 If no above, why did you not use protection?

- I don't know why
- I don't like to use
- My partner did not like
- It was not available
- I don't know how to use
- Others (Specify) _____

35 Have you ever had sex after taking alcohol?

- Yes
- No
- I can't remember

36 If yes above, was it:

- Willingly
- Unwilling
- Forced
- Coaxing
- Others (Specify) _____

37 Where do you have sex?

- At school
- At home
- At a friend's place
- At a party
- Others (Specify) _____

Appendix B: Standard Drinks Table (approximates)

Name of Beverages	One Standard Drinks	Alcohol Content (%)	Serving size
Large Beer	341 ml	7%	750 ml bottle
Guinness Stout	341 ml	7.5%	331.2 ml bottle
Godfather	43 ml	42%	250 ml bottle
Army Bitter	43 ml	45%	250 ml bottle
Old Soldier	43 ml	43%	250 ml bottle
Cane juice	43 ml	50-52%	250 ml bottle
Poyo	142 ml	12-15%	1000 ml can

One standard drink equals approximately 10 grams of absolute alcohol.

Appendix C: Alcohol Policies and Interventions in Liberia

Written national policy (adopted/revised) / National action plan	No/-	National maximum legal blood alcohol concentration (BAC) when driving a vehicle (general / young / professional), in %	0.05/0.05/0.05
Excise tax on beer / wine / spirits	Yes/Yes/Yes	Legally binding regulations on alcohol advertising / product placement	No/No
National legal minimum age for off-premise sales of alcoholic beverages (beer / wine / spirits)	18/18/18	Legally binding regulations on alcohol sponsorship / sales promotion	No/No
National legal minimum age for on-premise sales of alcoholic beverages (beer / wine / spirits)	18/18/18	Legally required health warning labels on alcohol advertisements / containers	No/No
Restrictions for on-/off-premise sales of alcoholic beverages: Hours, days / places, density	No/No/No/No	National government support for community action	No
Specific events / intoxicated persons / petrol station	No/No/No	National monitoring system(s)	No

Source: World Health Organization (2014). Liberia Retrieved 15th February 2019 from

https://www.who.int/substance_abuse/publications/global_alcohol_report/profiles/lbr.pdf

Appendix D: Informed Permission

Dear Student,

My name is Macklin Marvin Korvah, a Liberian student currently studying at in the Graduate School of Asia Pacific Studies at the Ritsumeikan Asia Pacific University in Japan. I am currently undertaking a research in a quest to measure the current prevalence of alcohol use among secondary school students in Liberia; concurrently explore the efficacy of the existing school-based programs to prevent and reduce alcohol use among students. The aim of today's exercise is to provide the researcher with answers regarding your alcohol consumption. You are under no obligation to participate in this survey. Participation in this study is absolutely of a voluntary basis. However, should you choose to partake please truthfully fill in your responses.

Read the instructions for each section carefully and reliably provide answer to each question. Every answer is important. Your answers will be private and used for the purposes of this survey only.

I hope you find this an encouraging and a fascinating involvement.

Consent Statement

I have read and understood the purpose of the study and I am willing to partake in the study.

Signature: _____

Date: _____

Name: _____

School: _____

If you have any questions or comments about any part of this survey, kindly feel free to contact:

1. Mr. Macklin M. Korvah (principal researcher): Mobile number (81) 8096606173 or by email; mackko17@apu.ac.jp/korvahmacklin@gmail.com
2. Mr. Jacobson K. Kollie (Survey Assistant): Mobile number 0777931938 or by email; jacobsonkollie@yahoo.com
3. Seepo M. Koilor (Survey Assistant) Mobile number 0776392981 or by email; skoilor1015@gmail.com