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DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

KNOWLEDGE, ATTITUDE AND PRACTICE OF TOBACCO USE AMONG SECONDARY SCHOOL STUDENTS IN NAIROBI: THE CASE OF STUDENTS IN KANGEMI HIGH SCHOOL

BY

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DECLARATION

This is my original work and has not been submitted for examination in this or other university.

Signatureí í í í í í í í í í í í í í í í í í Dateí í í í í í í í í í í í í í í .

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This project paper has been submitted for examination with my approval as University
Supervisor.

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Prof. Charles Nzioka.

University supervisor.

DEDICATION

This study is dedicated to my dad for sacrificing a lot to see me through my education. This study is also dedicated my mum and brothers for their unending support and motivation throughout the course.

To my wife Ruth, son Gabriel and daughter Georgina, who are the jewels in my life.

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May God bless each one of you abundantly.

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ABBREVIATIONS

WHO FCTC	World Health Organization Framework Convention on Tobacco Control
ETS	Environment Tobacco Smoke
TCA	Tobacco Control Act
GYTS	Global Youth Tobacco Use Survey
GATS	Global Adult Tobacco Use Survey

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ABSTRACT

In Kenya, there has been a rapid increase in the prevalence of smoking among the younger generation. Every effort needs to be made to stop the uptake of smoking among this category.

This study focused on male secondary school students enrolled in Kangemi High school. The study explored the students' level of awareness in relation to tobacco products and risks associated to their use on health, their attitudes towards smoking as well as their smoking habits. The study adopted a cross-sectional research design, and used a multi-stage sampling technique to select 156 respondents. The study used mixed methods of data collection and collected both quantitative and qualitative data from the respondents.

This study established that a majority of students had a low level of knowledge regarding the health threats caused by smoking and positive attitudes towards smoking were found among the students. It was found that the prevalence of smoking among the students was 10.9%, mainly attributed to a student being; between 16-18 years, a Christian, a resident of Kangemi ward, and having extra sources of income. Family members and peers were found to influence students to take up smoking and also to expose them to ETS.

This study concludes that smoking behavior is still present among male students. The study therefore recommends the need for concerted efforts from government, teachers and parents to educate and protect students from easy access to cigarettes and exposure to tobacco smoke.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Tobacco use is the most preventable cause of death worldwide and is responsible for the deaths of half of its long-term users. Statistics indicate that in the 20th century, there have been 100 million deaths caused by diseases related to tobacco use. In addition, there are 5.4 million deaths, equivalent to one death every six seconds attributed to tobacco related illness (WHO 1, 2008).

Globally, the use of tobacco has gradually shifted from the developed countries to the developing countries (ASH, 2007). This implies that, while people in developed countries increasingly cease to use tobacco, those living in developing countries are taking up the habit. The above change has been attributed to the unregulated marketing and advertising campaigns by tobacco companies as they expand into these new markets (ASH, 2007).

Due to lack of regulation in developing countries, tobacco companies have been able to cultivate brand loyalty from customers at a young age through media campaigns, sponsorships as well as other marketing strategies (OXFAM, 2012). Therefore, unless urgent action is taken to stop young people from taking up the habit of tobacco use, by 2030 there will be more than 8 million deaths annually, of which more than 80% of these deaths will be in developing countries (WHO 1, 2008).

Across Africa (excluding North Africa), the estimated prevalence of smoking by people aged fifteen years and above is 18% (Jha et al., 2006). This translates to approximately 6% of the

world's smokers. Due to the rapid population growth that is taking place in Africa, and with all else remaining constant, the number of smokers in the region is expected to grow substantially up to 14% of the world's adult smokers. This means that by 2060, Africa will have the second highest number of smokers in the world, behind Asia (Blecher and Ross, 2013).

In Kenya, the most recent statistics indicate that there are approximately 2.5 million adults who currently use tobacco. This represents 11.6 percent of the adult population (GATS, 2014). Similar studies point out that the majority of tobacco users start at young ages before they are fully aware of the dangers of tobacco (GYTS, 2007). In addition to this, both studies above are in agreement that over half of Kenyan smokers started smoking before they were 20 years old, and almost all started before 25 years of age.

It is estimated that tobacco kills one of every two users, a mortality rate higher than any other disease (WHO 1, 2008). This means that approximately half of the life time users of tobacco will die from tobacco related diseases in their most productive years, between the ages of 30 and 60 (GATS, 2014). Due to this high mortality, the use of tobacco by the youth population is a big threat to the future population in Kenya.

1.2 Problem Statement

Tobacco use is the single most avoidable cause of death in the world and the most important public health issue of our time (WHO 1, 2008). Developing countries, especially on the African continent, have since the last decade experienced a persistent increase in the prevalence of smoking, the most noticeable among the young generation (African Union, 2014).

In Kenya, the tobacco epidemic is a growing concern for Kenya's government and its population as a whole. Studies have found that relatively more males smoke as compared to females. Generally, about 19% of Kenyan males between 15 and 49 years of age use tobacco products, while less than 2% of Kenyan women of the same age who use tobacco (KHDS, 2009). Similarly, this trend is evident among students aged between 12-15 years, where 12.7% of boys smoke as compared to 6.5% of girls (GYTS, 2007). The above mentioned statistics strongly indicate that the problem of tobacco use affects Kenyans at a very young age and that the problem afflicts more males than females.

A closer look into the prevalence of cigarette smoking among secondary school students in Kenya, indicate that there has been an increase in prevalence from 6.6% in 2001, to 8.9% in 2007 and then to around 58.1% in 2012. As a result of this phenomena, cigarettes have become the second most used drug among secondary school students in Kenya today (NACADA, 2012). In light of the above mentioned trend, it is estimated that about 20% of the students who have never smoked cigarettes this year, are susceptible to initiate smoking the following year (GYTS, 2007).

Due to the addictive nature of nicotine, successful cessation of smoking among those who initiate its use, is rare. It is estimated that out of six smokers who attempt to quit, five will fail (WHO 1, 2008). Hence, as more people take up the habit of smoking, very few of them manage to quit. The majority of those who initiate the habit become long term smokers. The consequences of a high prevalence of smoking among the present students population will manifest in the future adult population as increased morbidity and mortality rates, exerting more strain on the already stretched health system in the country.

Following the above, it is evident that every effort needs to be made to reduce smoking and stop the uptake of smoking among male secondary school students in the country. For this reason, an in-depth understanding of the factors that make students smoke is necessary in order to facilitate the implementation of the programs and policies which are geared towards eradication of under-age smoking. This study therefore investigated the knowledge, attitudes and practices of smoking among male secondary school students who persistently present higher smoking rates as compared to their female counterparts.

1.3 Objectives of Study

The main objective of this study was to determine the factors that drive male secondary school students to initiate and maintain smoking behavior.

1.3.1 Specific Objectives

The study was based on the following specific objectives:

1. To determine the level of knowledge of students regarding the adverse effects of smoking.
2. To determine the attitudes of students towards smoking.
3. To explore the socio-demographics of secondary school students who smoke.
4. To explore the smoking behaviors of secondary school students who smoke.
5. To determine the social and environmental factors that make students smoke.

1.4 Research Questions

The study was guided by the following research questions.

1. What is the level of awareness regarding the adverse effects of smoking among students?
2. What are the attitudes of students towards smoking?
3. Which are the socio- demographic characteristics of students who smoke?
4. How are the patterns of smoking among students who smoke?
5. How do social and environmental factors drive students into smoking?

1.5 Justification of the Study

The tobacco industry depends on increasing the number of people who use tobacco regularly by recruiting new users and turning them into lifetime users, in order for the companies to maximize their profits. As a result, women and the youth in Africa have been targeted in this recruitment through advertising and sponsorship (Lee et al., 2012; Njournemi et al., 2011; Pampel, cited in Network of African Science Academies, 2014). By enticing the youth to smoke, tobacco companies ensure the existence of a new generation of consumers who will likely be lifetime buyers (Doku, cited in Network of African Science Academies, 2014). Consequently, tobacco companies specifically target the youth by associating cigarettes with trends which appeal most to the youth such as film, sex appeal, well-being, and sports (WHO, 2011).

The World Health Organization (WHO) came up with a Framework Convention on Tobacco Control (FCTC) treaty, which is based on various principles among them the need to protect every person from exposure to tobacco and also the need to inform everyone about the health consequences, addictive nature and health risks associated with tobacco consumption and exposure to tobacco smoke (WHO, 2003).

It is on the above background that this study sought to understand the level of knowledge with regards to the dangers of smoking, students' attitudes relevant to smoking as well as their smoking behaviors in order to get an insight into the factors that make students more susceptible to initiate and maintain smoking.

1.6 Scope and Limitation of Study

This study focused on male secondary school students enrolled in Kangemi High school. The study explored the students' level of awareness in relation to tobacco products and risks associated to their use on health, their attitudes towards smoking as well as their smoking habits. The study also sought to determine the socio-demographic characteristics, the social and environmental factors that make male students susceptible to smoking.

Since this study collected evidence from Kangemi high school students, the findings are only applicable to the same setting. In addition to this, this study recognizes that smoking is regarded as a disciplinary issue in school settings and hence discouraged by the school authority. This study therefore expected that the ability of the respondents to give truthful answers would be compromised if there was no protection of the respondents from the school authority. Consequently, in order to encourage the respondents to be truthful in their responses, data collection was carried out in the absence of teachers and other authority persons in the school. In addition to this, no names were recorded in order to ensure anonymity of the students. Due to the above, verification and confirmation of responses provided during the interviews was not possible.

CHAPTER TWO: LITERATURE REVIEW

This chapter deals with literature review on tobacco use, and is divided into three parts including; introduction, individual factors related to tobacco use, social factors, environmental factors relating to smoking

2.1 Introduction

Scholars, government agencies and non-government agencies including international organizations such as WHO and the CDC, have done numerous studies on tobacco use among the general population, as well as among other special interest groups such as among students and women. These studies have concluded that there are approximately 1.3 billion smokers in the world, of which 1 billion are men. The current prevalence of smoking contributes annually to 5.4 million deaths globally attributed to non-communicable diseases (NCDs), such as cancer, for which tobacco use is a risk factor. It is predicted that if there are no dramatic changes in cessation rates, no new interventions, and if children start smoking at expected rates, then the number of smokers globally will rise to 1.9 billion which will contribute to 8 million deaths every year attributed to tobacco use by 2030 (Action on smoking and health, 2007). Tobacco use is therefore the worst emerging global health disasters of modern times which warrants immediate action to reverse its effects (WHO 1, 2008).

In Africa, studies on the prevalence of tobacco use have arrived at the conclusion that smoking among the population is increasing at an alarming rate. This high rate of tobacco use among the African population has been attributed to the shift of focus by tobacco companies from developed countries due to increased government regulation of tobacco sales and decreased

demand for the products by the population. Tobacco companies thus found safe haven in developing countries since they lacked of regulation and had high population of potential customers. Tobacco companies expanded into these new markets, targeting lucrative groups such as women and teenagers through unregulated marketing and advertising campaigns, which allowed them to cultivate brand loyalty from customers at a young age (Ash, 2007).

It is the above mentioned situations that lead to the establishment of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC), to provide guidelines that help developing countries to come up with comprehensive tobacco control policies.

2.1.1 The World Health Organization Framework Convention on Tobacco Control (WHOFCTC)

The WHO FCTC is a compilation of six policy measures, commonly referred to as MPOWER measures, which were intended to assist in the implementation of effective interventions to reduce the demand for and supply of tobacco products at the country-level. The six MPOWER measures emphasize on the need to; monitor tobacco use and interventions, protect people from tobacco smoke, offer help to quit tobacco use, warn about the dangers of tobacco, enforce bans on tobacco advertising, promotion and sponsorship (TAPS) and to raise taxes on tobacco, develop sustainable alternatives to tobacco-growing, control Illicit trade and regulate tobacco products. Currently approximately more than 2.3 billion people (a third of the world's population), living in 92 countries are now covered by at least one of the MPOWER measures (WHO 3, 2013).

In Kenya, despite the fact that the WHO FCTC was ratified in the year 2004, and later culminated in the enactment of the tobacco control act in the year 2007, the prevalence of tobacco use has continued to increase at alarming rates and has become one of a major public health concern of this time.

2.1.2 Tobacco Control Act (TCA), 2007

In Kenya, the TCA was passed by parliament in the year 2007, and its main purpose is to control the production, manufacture, labeling, advertising, promotion, sale and use of tobacco products (GOK 1, 2007).

The Act elucidates the roles the Kenyan government will play in order to control the sale and use of tobacco products in the country. The Act is divided into seven parts. Part three of the act describes the need to disseminate information and educate the masses regarding the addictive nature and health threat posed by smoking. The main focus of this education is on the family as well as in schools and other institutions of learning. Part four of the act controls the sale of tobacco in the Kenyan market such as prohibiting the sale or distribution of tobacco products to any person who is under the age of 18 years and also prohibits the sale of single stick cigarettes. Part six of the tobacco control Act protects the public from involuntary exposure to tobacco smoke by prohibiting smoking in all public places (GOK1, 2007).

Despite the enactment of the above Act, most of its specifications are yet to be fully enforced. The delay in the implementation of the legislation above has been mainly attributed to the resistance of tobacco companies conform to the specifications outlined in the Act, as well as laxity on the part of the government to enforce the stipulations of this particular law (WHO 2,

2012). As a result, the use of tobacco products has persisted and is dramatically increasing among Kenyans of all ages, genders and social statuses.

Studies indicate that smoking prevalence among the Kenyan adult population went up from 6.6% in 2001 (GATs 2001), to 18% in 2008 (WHO 3, 2013). Of more concern however, are the findings of similar studies conducted among students in the country, which indicate an exponential increase in smoking prevalence from 8.2% in 2007 (GYTS, 2007) to 58% in 2012 (NACADA, 2010).

The above situation has led many scholars to endeavor to understand the factors that have culminated to the increase in smoking prevalence among the younger generation. The main thematic areas of interest to this study include; knowledge, attitudes and practices in relation to smoking among students as discussed below.

2.2 Knowledge of Tobacco

The great philosopher Plato (428 BC) defined knowledge as a "justified true belief". According to his definition, three conditions must be satisfied in order for one to claim to possess knowledge. First, a person has to believe in something, second the belief must be true and third there must be justification of the truth of that which is believed. If these three conditions are satisfied then one can claim to know.

According to Locke (1632-1704), humans are born void of knowledge, but through experience, they derive the knowledge of external sensible objects. Locke therefore argues that through empirical observation (through our senses), and subsequent reflection of what is sensed, humans

acquire knowledge of an object (Locke, 1960). This therefore means that the awareness of tobacco products as well as their effects on the human body is accessible to students through their senses. For example through hearing or seeing, students can get to learn the types of tobacco products as well as the dangers of using these products on health.

The power of knowledge on smoking behavior is best demonstrated through a study carried out by Cosci et al. (2013), which was aimed at identifying the main predictor to smoking among smokers in Italy. Cosci et al (2003) concluded that the strongest predictor of smoking was the lack of knowledge of adverse effects of smoking and second-hand smoking to health.

In Africa, a study done among students in Addis Ababa, Ethiopia, found that there existed a strong relationship between the level of knowledge regarding adverse effects of smoking and smoking behavior. According to the findings of this study, students who believed that smoking was harmful to health had lower likelihood of being smokers compared to those who did not (Rudatsikira et al., 2007).

In Kenya, studies to understand the level of knowledge and its influence on a person's smoking behavior have arrived at different conclusions from the studies discussed above. According to a study by Kwamanga et al., (2003), which was conducted among students in Kenyan secondary schools, it was found that knowledge of the adverse effects of smoking did not in any way deter students from taking up and maintaining the behavior of smoking. The study found out that students were aware of health effects of smoking, through reading the warnings on the cigarette packs or in the media. However, their knowledge did not play a significant role either in discouraging the uptake of smoking or encouraging the cessation of smoking among the smoking students. Contrary to other studies discussed above, this particular study found out that the level

of knowledge of the adverse health effects of smoking was the same between smoking and non-smoking students (Kwamanga et al., 2003).

Another study conducted by Khor et al., (2006) among Kenyan students also found that knowledge of the adverse effects of smoking among students did not automatically translate to abstinence of smoking. In this study, most students in the country were found to have high level of knowledge regarding the harmful effects of smoking. Despite this high level of knowledge the study noted that there was still a high prevalence of smoking among the same students (Khor et al., 2006).

Based on the above discussion, this study recognizes that knowledge of the adverse effects of smoking is a factor that ought to influence smoking behaviors among students in Kenyan schools. This study therefore hypothesized that the higher the level of knowledge the lower the chances that a student will smoke. Further, this study will seek to confirm whether there is indeed a low level of knowledge regarding the health effects of smoking among secondary school students and most important my study will seek to verify if the level of knowledge influences smoking behavior of students.

2.3 Attitude towards Smoking

Attitude can be defined as the intensity of positive or negative effect for or against a psychological object such as a symbol, person or phrase (Thurstone, 1964). Attitudes are acquired through social learning for example through observing the actions of others or through mass media. Attitudes are to study because at times they can help predict peoples behavior (Baron and Bayrne, 1999).

Attitudes related to smoking behavior therefore range from positive attitudes, which are in favor of smoking; to negative attitudes which are against cigarette smoking. As these attitudes vary in strength, so too would we expect the individual's susceptibility to smoke to vary, making smoking a more or less desirable or acceptable behavior to the individual (Mettlin, 1973).

According to a study conducted in china, it was found that favorable attitudes toward smoking were an important determinant of the desire to smoke among adolescents (Chen, 1988). Some of the positive attitudes associated with cigarette smoking include the belief that students who smoke cigarettes have more friends and are more attractive. This view is held by a majority of students who are smokers in India (GYTS, 1999-2001). Similarly, a study conducted in Malaysia, found that a high percentage of female students believed that smoking caused weight loss. As a result, there was higher permissiveness of smoking among female students which translated to the high prevalence of female smoking at about 21 % (Khor et al., 2006). In the Philippines, a study to understand the attitudes of female smokers it was found that among female Filipino smokers, smoking is seen as a substitute for expressing feelings, particularly anger and unhappiness (Kaufman and Nichter, 2001).

In Kenya, it was found that the perceptions of students regarding drugs contributed to their behavior towards drug abuse. Students who had positive attitude towards drug use were themselves drug users (Kyalo and Mbugua., 2011). In a study conducted in various schools across Kenya, it was found that at one out of five of the respondents thought that boys and girls who smoked cigarettes had more friends, while at one out of ten of the respondents thought that

boys and girls who smoke were perceived to be more attractive (GYTS, 2007). This study sought to explore these common perceptions among the students of Kangemi high school.

The above situation has led many scholars in the country to conduct studies in order to understand the factors that have contributed to this increase in tobacco use among the student population. The scholars identified several factors that contribute to smoking among students which can be categorized into; individual factors, socialization and environment factors, as discussed below.

2.4 Practice of Smoking

According to scholars, the practice of smoking among students, relate to each students individual factors, social factors as well as environment factors around him.

2.4.1 Individual Factors

These factors are also called socio-demographic characteristics, have been in a large way linked to the initiation and sustained use of tobacco products. These factors relate to individual students and vary from one student to the other.

2.4.1.1 Age

Age is an important factor that scholars have used to predict the start and the effect of smoking on a person. Statistics indicate that out of 6.2 billion people world, 186 million are estimated to be age 13-15 years and currently in school. Out of the 186 million students, it has been found that 10% of the students used tobacco products. In addition to this the scholars found that a majority of the students who used tobacco, initiated use before they were ten years old (GYTS,

2002), which means that the effects of smoking will set in earlier in their health as compared to individuals who initiate smoking when they are older.

Early initiation of smoking exacerbates the global smoking problem because youth who start smoking before age 14 years are less likely to quit smoking and more likely to continue smoking into adulthood than those who start smoking after age 16 (Breslau and Peterson, cited in Network of African Science Academies, 2014).

In Ghana, studies on adult tobacco use in Ghana found that tobacco use is initiated when individuals are as young as 11 years (Mamudu et al., 2013). Similarly, it is largely agreed that over half of Kenyan smokers started smoking before the age of 20 years and almost all started before the age of 25 years (GATs, 2014). A study conducted in Kenya on smoking among students came up with an average onset age at 14 years (Lore, 1987). A similar study in Kenya noted that the age at which experimentation with cigarettes starts had reduced to a low of 5 years. The age at which regular smoking begins was also found to have gone down from 18-24 years, to 12-16 years (Kwamanga et al., 2003).

The trends discussed above imply that the age at which smoking is started, among the present young population in the country, is dramatically reducing. As a result, the current younger generation is taking up the smoking habit earlier than the older generation did. This will result to addiction very early in their life and translate to future increase in morbidity and mortality rates caused by long term smoking. This study therefore sought to test the hypothesis that students initiate smoking when they are below 10 years of age, and commence regular smoking within the four years of secondary school.

2.4.1.2 Gender

Gender has been a major predictor of smoking in some countries across the globe. A study conducted in 76 countries, located in the six WHO regions including; African, American, Europe, south East Asian region and the Western Pacific region; inquired into the gender differences in tobacco use among young people who were in school. The most unexpected finding from this global study was the lack of gender difference in rates of cigarette smoking and other tobacco use in half of the study was done. However, there was significantly high gender difference in cigarette smoking rates the rest of the sites (GYTS, 2003).

In sub-Saharan Africa, cigarette smoking prevalence among men has been found to range from 8.0% to 27.3% with regional and country differences in prevalence. However cigarette use was largely found to be negligible among women in the same countries (Pampel, 2008).

In Kenya, approximately 2.5 million adults or 11.6 percent of the adult population currently use tobacco. Of great concern, one in five men or 19.1% of the male adult population use tobacco as compared to about 2% of Kenyan women who use tobacco (GATS, 2014). There is therefore a significant difference in smoking rates between males and females. The difference in prevalence is also evident among Kenyan students, where 12.7% of male students smoke, compared to 6.5% of females (GYTS, 2007).

The trends above clearly indicate that the problem of tobacco use affects more males than female students. Therefore this study sought to confirm if indeed the prevalence of smoking among male students is at 12.7%.

2.4.1.3 School Grade Level

Studies carried out in school settings generally agree that the higher the grade a student is, the higher the chances that the student smokes cigarettes. Findings of a study conducted in Zambian schools, to assess cigarette smoking among the school going adolescents, found out that male students in Grade 8 were 43% less likely to have been smokers than male students in grade 9 (Siziya et al., 2007). Similarly, a study conducted in Kenya indicated that prevalence of smoking among the secondary school students in Nairobi was spread through the grades in such a manner that form one students had the lowest rate while the form four students had the highest rates of smoking in both public and private schools (Kwamanga,et al., 2003).

This study therefore hypothesized that the higher the grade, the higher the chances that a student will be a smoker. Hence, it is expected that more smokers will be found among students in higher grades (form 3 and 4), while fewer smokers will be in lower grades (form 1 and 2).

2.4.1.4 Religion

The influence of religion on smoking behaviors has been studied by various scholars across the globe. A study to determine the influence of religion on smoking also came about with conclusion that religious affiliation was very important in explaining health behavior. The study found out that Protestants were less likely to smoke cigarettes and to consume alcohol than Catholics and those belonging to other denomination. In addition the study found that the involvement in church services reduced the probability that a person will take up the habit of smoking (Wasserman and Trovato, 1996).

A similar study conducted in U.SA found a strong link between church attendance and smoking behavior. This study came to a conclusion that people who subscribed to the church were least

likely to smoke as compared to those people who had no religious identity. In addition, it was found that Christians who never attend church services were almost three times as likely to smoke, than Christians who attend church on weekly occasion (Newport and Himelfarb, 2012).

In Kenya, studies on tobacco use have not explored the possible relationship between smoking and religious affiliation and more specifically the involvement in religious activities. This is despite the country having diverse religious groups such as; Christians, Muslim, Hindu and other indigenous religions, which require the involvement of their followers in their activities. This study therefore hypothesized that students who do not participate in religious activities were more likely to smoke than students who participated in the activities of their religion.

2.4.1.5 Residential Area

According to a study to find out the effects of retailer density on students smoking behavior, it was found that in urban areas there was a higher prevalence of smoking as compared to other areas. This was associated to the density of cigarette retailers in those areas (Mcathy et al., 2009)

Other studies have argued that the surrounding environment can influence a person's smoking behavior. Among adults in china a study found out that high concentrations of convenience stores were associated with higher levels of individual smoking (Chuang et al.,2005) and that communities with a high density of tobacco outlets have a higher smoking prevalence (Li et al., 2009).

The illustrations above clearly imply that people who live in residential areas where there are many shops retailing cigarettes are more likely to have higher levels of smoking than those who

live in areas where there are minimal retailers. This study sought to examine the extent to which retailer density in the students areas of residence, influence the students to take up smoking.

2.4.1.6 Income

There is common agreement among researchers that the availability of cash to students, as pocket money and travel allowances, can be redirected into purchasing of drugs especially if the money is excessive (Ngesu et al., 2008).

A study carried out in Zambian schools found out that students who received pocket money were 2.3 times more likely to be smokers as compared to those students who did not receive pocket money. This is because the disposable cash influenced the adolescents to buy tobacco products (Siziya et al., 2007).

Another study conducted in Kenya came to a similar conclusion that when students have excess money they are more likely to engage in drug, alcohol and tobacco use. The scholars found that when a student gets what he considers to be excess pocket money, he is likely to buy drugs not only for himself, but also for his friends (Ngesu et al., 2008).

The above mentioned studies imply that students, who receive money, especially if the money is in excess, are more likely to smoke than students who do not receive excess money. This study therefore sought to test the hypothesis that the higher the income of a student, the more likely that they smoke.

2.4.2 Social Factors

Social factors relate to socialization. Socialization is the process by which individuals learn their culture and learn to live according to the norms of society. Through socialization, we learn how to perceive the world, gain a sense of our own identity and discover how to interact appropriately with others (Newman and O'Brien, 2008).

Some of the most influential agents of socialization include; the family, peers, media among others. These agents or social influences are among the most consistent and important factors associated with adolescent smoking (Kobus, 2003).

2.4.2.1 Parents, Siblings and Peers Influence

A study conducted in India by Ravishankar and Nagarajappa (2009), sought to determine the factors attributing to initiation of tobacco use in adolescent students of Moradabad in India. The scholars came to the conclusion that tobacco use by parents was the most likely influence that drove adolescents to initiate use. The scholars found out that adolescents, whose parents used tobacco, developed positive attitudes towards tobacco use and were more likely to be users of tobacco products (Ravishankar and Nagarajappa, 2009).

The findings of the above study concur with similar studies in Zambia as well as in Kenya which both came to the associate current smoking habit of students, to them having parents or other family members who are also cigarette smokers (Siziya et al., 2007; Kwamanga et al. 2003). This study will therefore seek to test the hypothesis that students who smoke are likely to have parents who smoke, and also the hypothesis that students who smoke are likely to have siblings who smoke.

Similarly, there is consensus among scholars that due to peer influence, an adolescent who has friends who smoke is more likely to smoke, or to take up smoking over time than an adolescent whose peers do not smoke (Siziya et al., 2007; Kwamanga et al., 2003;Oteyo and Kariuki, 2009). These studies also found that a teenager who smokes, mostly does so while in the company of his peers (Khor et al, 2006; Von ah. 2005; Kwamanga et al., 2003).

The studies above imply that peers greatly influence the smoking up take and maintenance of smoking among students. This therefore hypothesizes that students who smoke have higher chances of having friends who also smoke cigarettes, and with whom they often smoke with.

2.4.2.2 Mass Media Influence

Mass media is another influential socialization agent. Evidence collected in Zambia indicates that exposure to favorable tobacco advertisements is an important risk factor for adolescent smoking. The Study above suggested that, students who saw pro-tobacco advertisements were more likely to be smokers than those who did not see such advertisements in the mass media (Siziya et al., 2007,).

In Kenya, studies show that students are exposed to both pro-cigarettes and anti-cigarette campaigns in the mass media. It was found that more a majority of students interviewed saw both anti-smoking messages and pro-cigarette advertisements on billboards, magazines and other media (GYTS, 2007).

This means that exposure to such messages in the mass media is still rife and it influences the smoking behavior of individuals. Therefore, this study expected that students are still being

exposed to pro-tobacco messages on the mass media such as cigarette advertisements, which has resulted to increased smoking rates.

2.4.3 Environmental Factors

Environmental factors typically refer to elements outside the control of individuals such as policies and legislation among others, which facilitate or constrain individual behavior (Kerrigan et al., 2003).

In the context of this study, environment factors relate to the legislations contained in the Tobacco Control Act (2007), which were intended to control exposure of tobacco to minors through; prohibition of sales to minors, prohibition of cigarette sale in single sticks, protection from second hand smoke. In addition to the above, this study also considers exposure to environment tobacco smoke (Second hand smoking) as an environmental factor.

2.4.3.1 Anti-tobacco Legislation

Despite the existence of the tobacco control act (2007) and its specifications that control access of tobacco to minors as discussed in the literature review above, studies have found that minors still find it very easy to acquire these same products. According to Schmidt (2015) some youth smokers buy the cigarettes they smoke, either directly from retailers or other kids, or by giving money to others to buy for them. Others get their cigarettes for free from social sources (usually other kids), and still others obtain their cigarettes by shoplifting or stealing.

Another study conducted among Americas high school students in grades 9-12, it was found that 18.1 percent of current smokers aged below 18 years had directly purchased their cigarettes from

stores or gas stations (Lenk KM et al., cited in Schmidt, 2015). Similarly a global study found that the majority of youth between the ages of 13-15, purchased their cigarettes from local shops and are not denied sale by the vendors (GYTS, 2002) Similarly in Kenya, a study found out that one out of three students who smoke, buy their own cigarettes directly from shops and very few are denied sale (Kwamanga et al., 2003). The above studies show that despite the existence of laws prohibiting sale of tobacco to minors, the practice is still rampant. This therefore means that students purchase cigarettes from local vendors because they are ignorant of this law. Further, the above means that minors purchase cigarettes because vendors never deny them sale of the products. This study was guided by the above hypothesis that the lack of students' awareness of this law that prohibits the sale of cigarettes to minors, and irresponsible sale of cigarettes to minors by vendors, results to students purchasing their own cigarettes.

In addition, a study conducted in Kenya found that most young smokers preferred to buy their cigarettes in single stick rather than in packets (Kwamanga et al., 2003). The sale of cigarettes in single sticks is therefore another important factor that encourages smoking among students. This is because single stick cigarettes are cheaper to purchase than a whole packet. Currently, the price of a single stick of cigarette in Nairobi ranges from four to eight shillings per stick, as compared to a packet which sales from 100 shillings onwards, depending on the cigarette brand.

According to the WHO, a 10% price increase on cigarettes may cause 8% drop in tobacco consumption in low- and middle-income countries (WHO, 2008). This study therefore expected that the idea of a total ban of the sale of single sticks cigarettes, to entice smoking students to consider to cessation.

This study therefore sought to explore this line of thinking with the hypothesis that students are less likely to buy cigarettes in packet quantities. And further that an increase in the cost of one cigarette will encourage smokers to quit.

2.4.3.2 Environmental Tobacco Smoke

Environmental tobacco smoke (ETS) refers to exposure to tobacco smoke from other people who smoke. Studies done globally and locally indicated that non-smokers continue to be exposed to second hand smoke from their houses to public places. According to the global youth tobacco survey (2002), 48.9% of the students sampled in 75 countries, reported that they were exposed to second hand smoke from others in their home (GYTS, 2002).

In Kenya, studies done among student indicate ETS exposure is high with 20 percent students reporting to live in homes where others people smoke in their presence (GYTS, 2007). This study investigated the extent to which students were exposed to ETS at home based on the hypothesis that the level of exposure of students to second hand smoke at home is high among students.

2.5 Theoretical and Conceptual Framework

There are three theories that this research adopted to explain the interactions between the knowledge, attitudes and use of Tobacco by secondary school students in Nairobi

2.5.1 Psycho-analytic Theory- Sigmund Freud (1923)

Freud believed that basic biological instincts combine with societal factors to shape personalities. According to Freud, personality development of an individual is controlled by two parts, the

basic drives and the libido. To Freud, a normal individual's personality consists of 3 components.

The first is the Id, which is unconscious and occurs at birth. They are basic drives and psychic energies that can be stored, used, and repressed. This aspect of the personality is selfish and does not think of society and culture.

The second part is the Ego which gradually emerges as the ID is repressed as growth takes place. This aspect of the personality is the intelligence. It allows for reason, to distinguish between right and wrong. The ego therefore becomes the mediator between the Id and the super ego, because it is conscious and is guided by society for the most part.

The third part is the Superego. The super ego is responsible for how an individual sees their gender and how they feel about the opposite sex. The conscience develops through interaction in society hence it coincides with society's norms.

The above parts of the personality therefore, make demands upon individuals that are incompatible with the other two. This brings about an inner conflict which the Ego then must act as a referee to mediate this conflict. Freud stated that the ego employs a range of defense mechanisms. Defense mechanisms operate at an unconscious level and help ward off unpleasant feelings (i.e. anxiety), such defense mechanisms include, repression, denial, projection, displacement among others. For example through the Egos deploying the defense mechanism of denial, smokers may refuse to admit that smoking is bad for their health (McLeod, 2009).

In relation to this study, the above theory implies that smoking behavior develops as a result of the failure of the Ego to repress the Id. This is because while the Id which seeks out gratification through smoking, the super ego, by virtue of being knowledgeable about the mortal threat posed by tobacco use, encourages the person to avoid smoking in order to live healthy life. Smoking behavior is however retained when the Ego tries to mediate this conflict by deploying defense mechanism, such as denial, which are subsequently represented in the individual attitudes towards smoking.

Freud also believed that a normal individual passes through five stages in development. If an individual makes it through these stages smoothly, then they become a well-developed adult, however If an individual dwells too much or too little in any one stage, they might become fixated. A person could also get stuck in a stage or return to an earlier stage. This would result into inappropriate behavior and the individual would become labeled.

The first stage an individual passes through is the Oral Stage. This is the age from birth to one year. During this period the mouth is a major focus for pleasure, hence satisfaction is usually achieved through sucking, chewing, and biting. The Anal Stage is the second stage which occurs from about 1-3 years. During this stage the child focuses on their bowels for gratification. This is also when the ego starts to emerge. The Phallic Stage is the third stage, which occurs around the age of 4 to 6 years. During this period the child begins to focus on the genital area for gratification. The Oedipus Conflict also takes shape. The fourth is the latency stage, which is a period that last until the age of 12. It is quite peaceful and nothing seems to alter the personality. The fifth and last stage is the genital stage, which begins when puberty starts and ends once a mature adult.

In the context of this study, smoking behavior among students who have aged beyond the phallic stage, like secondary school students, can be interpreted to mean that the individuals have returned to the oral stage of development. Smokers therefore either lingered too much or did not linger enough at the oral stage as a result they become fixated to getting gratification orally hence smoking behavior.

2.5.2 Social Learning Theory-Albert Bandura (1962)

According to Albert Bandura (1962), Social learning theory approaches the explanation of human behavior in terms of a continuous reciprocal interaction between cognitive, behavioral, and environmental determinants. To Bandura, there are three core concepts at the heart of his social learning theory. Firstly, Bandura puts forth the idea that people learn from the environment through observation. Here, Bandura identified three basic models of observational learning; a live model, which involves an actual individual demonstrating or acting out a behavior, a verbal instructional model, which involves descriptions and explanations of a behavior, and last a symbolic model, which involves real or fictional characters displaying behaviors in books, films, television programs, or online media.

Secondly, Bandura described intrinsic reinforcement/ personal factors that influence learning and behavior. They include the knowledge a person has regarding the behavior; the expected outcomes of the behavior as well as his personal attitude towards the behavior. These will result to a form of internal motivation such as pride, satisfaction, or a sense of accomplishment once behavior is successfully reproduced.

In the context of this research, the initiation of smoking by students is understood as a modeled behavior, whereby the students, through observation of people in their environment, learn from them and imitate this behavior from those whom they consider to be their role models such as peers, family, and teachers or characters they see in the mass media.

After the observation and retention of smoking behavior, a student's knowledge, attitude as well as the expected outcomes of that behavior, are the intrinsic reinforcements which then determine whether the smoking behavior is replicated or not.

This study sought to explore these intrinsic/ motivational factors that drive students to replicate smoking behavior. This study was therefore guided by the hypotheses that; individual, social and environmental factors can predispose a student to smoke, and also that the level of knowledge and a student's attitudes towards smoking influence the uptake of smoking.

The social learning theory above however, does not fully explain the difference in cigarette smoking prevalence, which has been persistently been found between boys and girls students. This is because while both sexes are exposed to the same social environment, the literature review has shown that boy students have presented a higher prevalence of tobacco use than girls.

2.5.3 Human Ecology Theory -UrieBronfenbrenner (1979)

This theory is based on the idea that everything in a child and the child's environment affects how a child grows and develops. According to Bronfenbrenner (1979), each person is significantly affected by interactions among a number of overlapping ecosystems. He labeled

different aspects or levels of the environment that influence children's development, including the microsystem, the mesosystem, the exosystem, and the macrosystem.

The Microsystem is the first level of interaction where most direct interaction to a child, takes place, for example through interaction with teachers, parents and peer group. Here, good interactions bring about positive behavioral growth while negative interactions lead to the acquisition of negative behaviors.

In the context of this study, smoking can result from poor relationship between a student and his parents or peers. By watching his parents or peers smoke, the student is then acquires the smoking behaviors.

The Mesosystem is the second level of interaction which refers to the relationship between different parts of the microsystems and how they work together for the good of the child. The positive involvement of a parent or guardian with teachers in the school environment has a very positive role in the child's overall growth. However, poor relationships among the parents, teachers or peers of the child, will result to development of negative behaviors.

The third level is the Exosystem which refers to the community. It includes the other people and places that the child herself may not interact with often, but that still have a large effect on him/her. In the context of this research, the presence of users and retailers of tobacco products who sell cigarettes to minors, have an effect of encouraging the consumption of tobacco by students in schools.

The fourth level is the Macro system which is the actual cultural context involving the socioeconomic status of the child and/or his family, his ethnicity or race and living in a still developing or third world country.

In the context of the research, this level implies the developmental state at which Kenya is, being a developing country. As a result tobacco companies are presently concentrating on expanding their markets in this country, through crafty marketing strategies targeted to woo young people into initiating and sustaining smoking.

This theory however has a weakness to the extent that it does not explain conclusively all the factors that result to cigarette smoking among male secondary school students, by downplaying the ability of each student to make a sound judgment of what is right and wrong based the knowledge and attitudes they possess.

2.6 Conceptual Framework on Smoking

Conceptual framework is defined as a hypothesized model identifying the module under study and relationship between the dependent and independent variables (Mugenda and Mugenda, 2003).

Based on the model below, individual factors including the age, sex, grade level, income and religion, are influenced by social factors through socialization by parents, peers and siblings as well as the environmental factors in the country such as the development stage. However, the uptake or lack of uptake of smoking is based on the students' knowledge, attitudes and Practices of each student in relation to smoking.

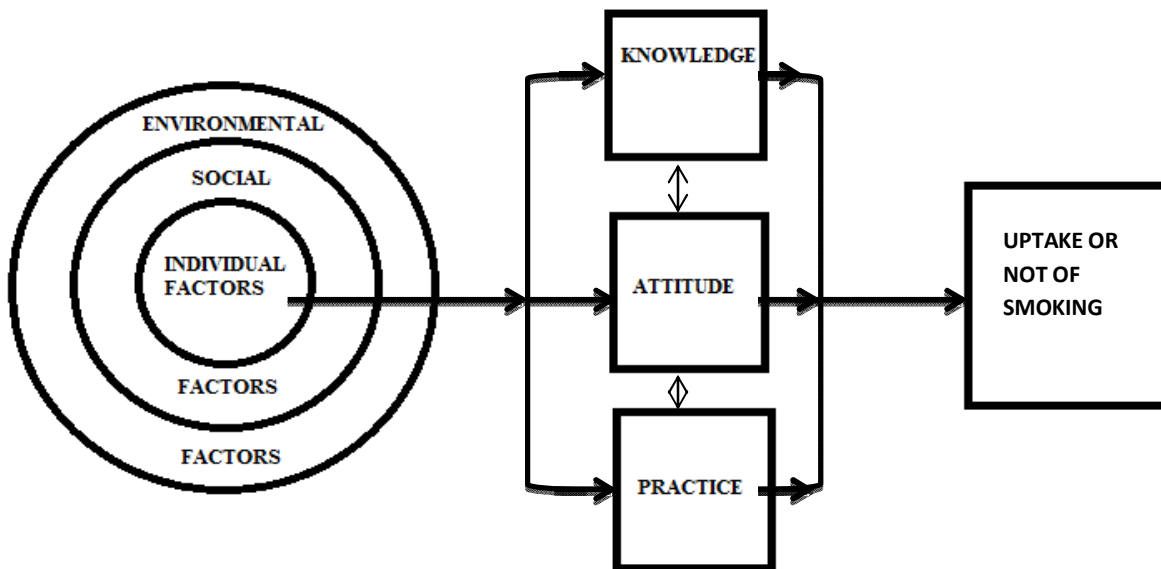


Figure 2-1: Conceptual Framework on Uptake of Smoking

2.7 Study Variables

The independent variables in this study are;

- Individual characteristics which will include; age, religion, level of education, amount of pocket money received, parents marital status, primary care giver.
- Social factors include; family members smoking habits, peers influence, mass media influence.
- Environmental factors include lack of implementation of existing legislations including prohibition of; sale to minors and sale of single stick cigarettes, as well as exposure to environment tobacco smoke.

The intervening Variables are;

- Knowledge of tobacco and the adverse effects of use on health.

- Attitudes those are common among students in relation to uptake and use of tobacco.
- Practices of smoking among smoking students.

The dependent variable is the uptake of smoking among secondary school students.

2.8 Definition of Concepts and Operationalization of Terms

Knowledge; refers to awareness of tobacco products and the diseases caused by smoking. The level of knowledge will be categorized into low, moderate and high level of knowledge. A low level of knowledge will be indicated by the inability of a student to name more than two health risks caused by tobacco use. The medium level of knowledge is when a student names three to five health risks caused by tobacco use, while a high level of knowledge will be when a student names more than five health risks caused by tobacco use.

Attitude; refers to positive or negative beliefs associated to the use of tobacco. Positive attitudes are those beliefs which support the use of tobacco by indicating the perceived benefits of use. Negative attitudes on the other hand refer to beliefs that discourage the use of tobacco among students.

Practice refers to smoking behavior of students based on their socio demographic characteristics, influence from those around him as well as the effect of not implementing the law prohibiting access to minors that is enshrined in the TCA 2007.

Tobacco; refers to cigarettes.

Socialization refers to the effects that result from persons sustained interactions with others near him or the mass media.

Mass media refers communication through television, radio, advertising, movies, the internet, newspapers, and magazines

Environment factors refer to laws in the TCA (2007), seek to control exposure of tobacco to individuals below the age of 18 years.

Pocket money refers to disposable income provided to a student by parents, relatives or friends for sustenance while in school.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter deals with the research methodology and it explores the target population, sampling methods and data collection procedures. It also describes how data was analyzed.

3.2 Site Selection

The study was conducted in Nairobi County which is one of the 47 counties in Kenya. As shown in the diagram below.

Nairobi County is divided 17 parliamentary constituencies of which Westlands is one of them. Westlands constituency is further divided into four electoral wards namely; Highridge, Kitisuru, Mountain-View and Kangemi. Highridge ward and Mountain-View ward are formal settlement areas, whose residents are people of high socio-economic status. Kitisuru ward is an area which is composed of both formal and informal settlements. In this ward, the residents are a mixture of people from high socio-economic status as well as those of low socio-economic status. Kangemi ward however, is largely an informal settlement area, characterized by a high population density of residents within the lower socio-economic statuses.

At Kangemi ward, there is an open air market, which sells goods from food stuffs to hard-ware building materials. The market is usually a crowded place with a high number of cigarette vendors and users. Kangemi high school is also located in this ward and is situated about 500

meters from the market. The school is a Nairobi County council (NCC) government school which admits only male students.

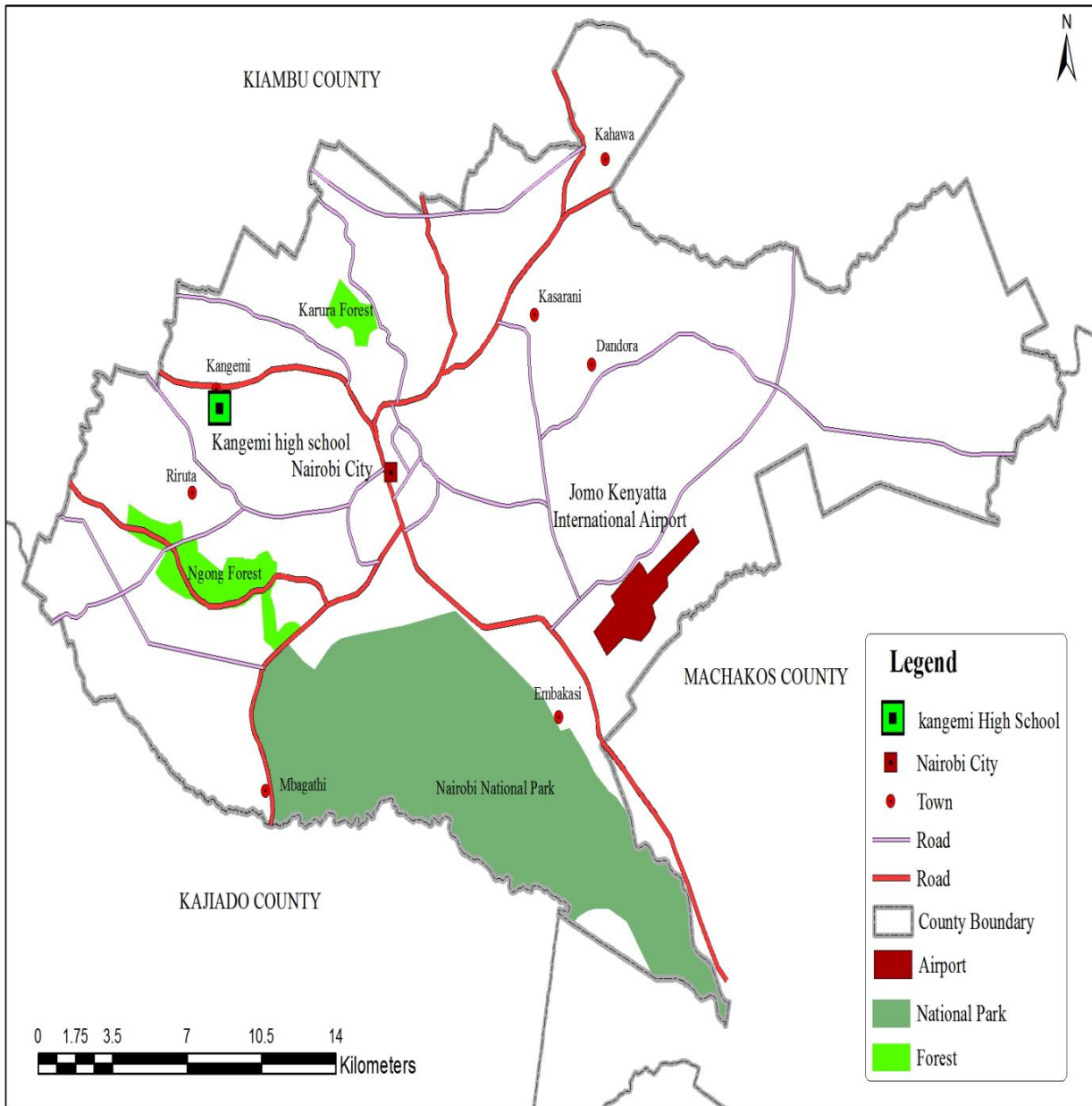


Figure 3-1: Map of Nairobi

3.3 Unit of Analysis

Singleton (1998) defines the unit of analysis as the entity under study and could include people, social roles, or positions and relations.

In this study, the unit of analysis was secondary school students at Kangemi High school.

3.4 Unit of Observation

Unit of observation refers to the objects that are observed and about which information is systematically collected (Schutt, 1996).

The units of observation in this research were the knowledge, attitude and practice of smoking among secondary schools students in Kangemi High school.

3.5 Research Design

The study adopted a cross sectional research design. According to Moser and Kalton (1972), a cross sectional survey is research which makes observation at only one period in time. It is analogous to taking a still picture of the population or group being investigated.

Therefore, the researcher endeavored to collect comprehensive information from each selected respondent in order to get a clear picture of the knowledge, attitudes and practice of tobacco use among secondary school students.

3.6 Target Population

The Study targeted all students who were enrolled in Kangemi High school.

3.7 Sampling Procedure

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Mugo, 2002). A multi-stage sampling technique was used in this study. This technique was most suitable because it will enhance the representativeness of the sample.

This technique involved sampling at four stages. The first stage was to draw representative sample from the total population of students in the school. This was done by using the formulae for finite population (Reid &Boore, 1991).

$$n = \frac{N}{\left[1 + N(e)^2\right]}$$

Where n= sample, N= Total population of stratum and e=accepted level of error taking alpha as 0.05;

Since the total population of students in the school was 258, by working out the above formula, the sample size is a total of 156 students.

The second stage of sampling was based on the recognition that the school is stratified into four grade, including; form 1, form 2, form 3 and form 4 with a different number of students in each grade. At this stage, the sample was derived based on the assumption that students in the same grade have the same age. A proportionate sample size was therefore derived by use of the formula;

$$n_h = (N_h / N) * n$$

Where n_h is the sample size for stratum h , N_h is the population size for stratum h , N is total population size, and n is total sample size. By substitution of this formula, we get the proportionate samples for each grade as represented in *Table 3-1* below.

Table 3-1: Distribution of Sample Size per Grade.

Grade	Number of Students	Sample Size
Form 1	25	15
Form 2	66	40
Form 3	73	44
Form 4	94	57
Totals	258	156

Source: Kangemi High school records.

The third stage of this sampling technique took into account that each grade had three streams including West, North and East streams, with different number of students in each stream.

At this stage, the formula below was again used to get the proportionate sample size for each stream in every grade;

$$n_h = (N_h / N) * n$$

Where n_h is the sample size for stratum h , N_h is the population size for stratum h , N is total population size, and n is total sample size. By substitution of this formula, the population for stream is thus represented in the **Table 2 below;**

The fourth and the last stage involved the selection of the individual students who participated as respondents in the study from their respective streams. This was done in each stream through a simple random sampling technique known as the lottery method.

Each student in each stream was arbitrarily allocated a number from 1, to the last, depending on the population of that stream. Thereafter, the table of random numbers was used to select the required sample size of students. To do this, we randomly selected a number on the table and subsequently move downwards, and read the first digit if the number of students in that stream was less than ten or the first two digits if the number of students was more than ten. This was done until the proportionate sample size was acquired in each stream.

3.8 Data Collection

3.8.1 Sources of Data

The main source of data for this study was primary data from subjects under study.

3.8.2 Methods and Tools for Data Collection

The study used mixed methods of data collection. Mixed methods of data collection focus on collecting, analyzing, and mixing both quantitative and qualitative data in a single study (Fielding & Fielding, 1986). The central premise here is that the use of quantitative and qualitative approaches provides a better understanding of research problem rather than using either approach alone.

Based on the above, my study used two methods of data collection namely a survey and focus group discussion. The above methods were applied in a way that they enriched each other's findings, and therefore the reliability and validity of the study results were enhanced.

3.8.2.1 Survey

For the survey, qualitative data was obtained through conducting interviews that made use of a structured questionnaire to collect data. Research assistants conducted one on one interviews on the selected respondents by use of the structured questionnaire and collected quantitative data.

A questionnaire is a group or sequence of questions designed to obtain information on a subject from a respondent (Fellegi, 2010).

The questionnaire was divided into four parts. The first part explored the socio-demographic or individual characteristics of the respondents, the second part of the questionnaire explored smoking habits of the students, and the third part inquired into the knowledge of the adverse effects of smoking as well as exposure to ETS. The fourth part of the questionnaire sought to assess the various attitudes that the students have regarding the use of tobacco. To do this, the study adopted a three point Likert Scale to measure the respondents' perceptions towards a collection of sentences relating to smoking.

The questionnaires which were administered to each of the 156 respondents by four research assistants prior recruited and trained to administer them. The assistants were aged between 19 to 23 years, the assumption being that the relative age closeness with the respondents would allow the respondents to easily express themselves.

3.8.2.2 Focus Group Discussions

Krueger (2002) defines a focus group as a discussion that is carefully planned and designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment.

Morgan (2002) states that focus groups discussion is a research technique that collects data through group interaction on a topic that the researcher determines.

Focus group discussions were conducted in order to collect qualitative data. This is because the interviews only collect quantitative data on trends of smoking but not the reasons underlying these trends.

Data obtained through focus group discussion was therefore used to make sense of the trends observed. The FGDs also provided forums for clarifications of issues through follow-up questions and probing.

Since FGDs enrich the data gathered by use of a questionnaire as discussed above, four focus group discussions were held, comprising of 10 students each from each of the four grades. In determining which students to participate in the FGD, I specifically targeted students who were not interviewed by the research assistants. By so doing, I endeavored to involve more students in the study in order to get all the different perspectives that students have towards smoking. The selection of the 10 students from each grade was done using simple random sampling the Lottery method except in form one where 10 students remained after the initial sampling. As a result all of them participated in the FGD.

The FGDs were conducted by the research assistants, who worked in pairs, adopting the roles of a moderator and an assistant. The moderator led the focus group discussion by use of the discussion guide and while the assistant recorded the discussions.

Two sets of FGDs were conducted in different locations at the schools play field, with each lasting for about 50 minutes. The first set of FGDs was with form1 and form 2 while the second set was with form 3 and form 4 students. The discussion took place outdoors at the schools ground, in order to create a permissive and non-threatening environment which would encourage the students to be free in the discussion.

3.8.3 Ethical Considerations;

Permission to carry out the study was sought from The National Council for Science and Technology as well as the school administration prior to the survey. In addition to the above, verbal consent was sought from every respondent at the beginning of the interview and focus group discussion. Only the respondents who were willing to participate in this study were involved.

This study recognized that smoking among students is a sensitive issue which if revealed to school authority can result to intimidation or punitive measures taken on the student. In order to alley this fear of identification and intimidation by the teachers and those in authority, this study maintained anonymity of the respondents during the survey. The questionnaires were administered in the absence of teachers, on a one on one basis with a research assistant who was not affiliated to the school authority and no names were recorded in the questionnaire.

3.8.4 Validity of Instruments

According to Trochim, (1996) validity has to do with how much accurate the data obtained in the study represents the variable of study. The validity is compromised positively or negatively

depending on the tools used to gather data, to increase validity of the tools that were used during this study, the University supervisor was consulted for expert opinion.

3.8.5 Reliability of Instruments

To ensure reliability of the research instruments, the questionnaire was pre-tested at Kabete secondary school to ensure that questions were easily understood by the students. Corrections were made where it was necessary to do so.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the data analysis, interpretation and discussion of research findings. The findings are mainly qualitative and therefore descriptive statistics were used.

This chapter examines the categories and tabulates the evidence so as to address the research questions. Quantitative data was obtained from a sample comprising of 156 respondents, while qualitative data was obtained from 4 focus group discussions.

The main objective of this study was to determine the factors that drive secondary school students to smoking. To achieve the above, the study also sought to achieve the following specific objectives;

- (i) to understand level of knowledge of students regarding the adverse effects of smoking
- (ii) to determine the attitudes of students towards smoking
- (iii) to understand the socio-demographic characteristics of secondary school students who smoke,
- (iv) to explore the smoking behaviors of secondary school students who smoke, and
- (v) to understand social and environmental factors that make students smoke.

4.2 Socio-Demographic Characteristics of Respondents

In this study, a total of 156 respondents were interviewed majority (62.8%) were between the ages of 16 and 18 years, while the least proportion (1.9 %) of the respondents were aged over 21 years as indicated in *Table 4.1* below.

Table 4-1: Socio-demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Age		
13-15	21	13.5
16-18	98	62.8
19-20	34	21.8
Over 21	3	1.9
Total	156	100.0
Religion		
Christian	125	80.1
Muslim	27	17.3
Traditionalist	2	1.3
Hindu	1	0.6
Other	1	0.6
Total	156	100.0
Residence		
Kangemi Ward	59	37.8
Mountain View	27	17.3
Kitisuru	27	17.3
Other	43	37.6
Total	156	100.0

As indicated in *Table 4-1* above, in terms of religion, it was found that about four out of five students interviewed were Christians. The highest proportion of respondents was found to be

residents of Kangemi ward, an area largely characterized by informal settlements for people within the lower socio-economic status.

Table 4-2: Parental Availability and Care

Parents Status	Frequency	Percentage (%)
Both Alive	132	84.6
Father Alive	6	3.8
Mother Alive	10	6.4
None Alive	8	5.1
Total	156	100.0
Care Taker		
Both Parents	84	53.8
One Parent	42	26.9
Siblings	6	3.8
Relatives	21	13.5
Non-Relatives	2	1.3
Self	1	0.6
Total	156	100.0

The data displayed in *Table 4-2* above indicates that the majority of the students (84.6%) reported that both their parents were alive while only 5.1% reported that none was alive. In addition, it was evident that slightly more than half of the respondents were living with both parents.

In relation to the respondents' income, the evidence collected shows that at least 9 out of ten respondents got pocket money mostly from a family member. It was also noted that the amount of pocket money received each term varied widely among students, with 39.3% receiving five hundred shillings and below while the highest income was received by 2.7% of the respondents, who reported to receive more than Ksh 2,500 per term. It was further evident from the data that

two out of five respondents received income from other sources mainly by engaging in part time work.

4.3 Knowledge of Tobacco

In this study, it was important to establish the tobacco product that students were most aware of other than cigarette. In this regard, from the evidence collected, it was found the most known tobacco product, other than cigarettes, was snuff. This was mentioned by 2 out of 3 respondents interviewed as illustrated in the *Table 4-3* below.

Table 4-3: Awareness of other Tobacco Products

	Frequency	Percentage (%)
Snuff	106	67.9
Kuber kahin	30	19.2
Shisha	13	8.3
Other	2	1.3
Do not know	5	3.2
Total	156	100.0

This study sought to establish the level of knowledge that students have regarding the adverse health effects of smoking. Based on data in *Table 4-4* below, it is clear that 68.6% of the students had low level of knowledge while only 30% had a high level of knowledge. This gives the impression that the level of knowledge regarding tobacco is low among male students as about 2 out of 3 students were not aware of two diseases caused by smoking. In addition, about 1 out of 8 students were aware of two to five diseases caused by smoking while about 1 out of 5 were aware of more than five diseases caused by smoking.

Table 4-4: Students' Level of Knowledge

	Knowledge Level			Totals
	Low	Medium	High	
Smokers	10 (58.8%)	1 (5.9%)	6 (35.3%)	17 (100.0%)
Non smokers	97 (69.8%)	18 (12.9%)	24 (17.3%)	139(100.0%)
Totals	107 (68.6%)	19 (12.2%)	30 (19.2%)	156 (100.0%)

- Low level- Respondents aware of less than 2 diseases
- Medium level- Respondents aware of 3-5 diseases
- High level- Respondents aware of more than 5 diseases

Based on the evidence in *Table 4-4*, it is clear that at least 3 out of 8 students who have a high level of knowledge also smoke cigarettes. This observation suggests that having knowledge of the adverse health effects of smoking does not necessarily imply that a student will not smoke.

Therefore, this study concludes that the awareness of the health effects of smoking does not influence smoking behaviors of students.

The above findings are in line with sentiments aired by a participant in one of the FGDs that,

“Students do not know many of the diseases caused by smoking; however most of us know that smoking kills. Most of the students who smoke also know this but they ignore it. None of the students who smoke believe that they can be seriously harmed by smoking.”

Another FGD participant also noted that;

Just being aware of the diseases that are caused by smoking cannot most deter students from smoking. This is because students are more concerned about impressing other peers than living with their principles. Therefore, despite the fact that a student is aware about its dangers, that student is will easily end up smoking just to show off to his peers that they are growing up

The above findings concur with a previous study conducted by Khor et al., (2006) among Kenyan students which also found that knowledge of the adverse effects of smoking among students did not automatically translate to abstinence of smoking.

4.4 Attitude

Investigation into the various attitudes associated to smoking form an integral part in this study.

Evidence on the students' attitudes towards smoking is represented on the *Table 4-5* below;

Table 4-5: Attitudes Towards Statements About Smoking

Smokers have more friends	Frequency	Percent (%)
Disagree	64	41.0
Unsure	6	3.8
Agree	86	55.1
Totals	156	100.0
Smokers are more attractive	Frequency	Percent (%)
Disagree	128	82.1
Unsure	6	3.8
Agree	22	14.1
Totals	156	100.0
A total ban on smoking is necessary	Frequency	Percent (%)
Disagree	40	25.6
Unsure	4	2.6
Agree	112	71.8
Totals	156	100.0
Sale in packets will deter smoking	Frequency	Percent (%)
Disagree	61	39.1
Unsure	34	21.8
Agree	61	39.1
Totals	156	100.0
Smoking is a good relaxation	Frequency	Percent (%)
Disagree	102	65.4
Unsure	31	19.9
Agree	23	14.7
Totals	156	100.0
Smoking keeps weight in check	Frequency	Percent (%)
Disagree	111	71.2
Unsure	28	17.9
Agree	17	10.9
Totals	156	100.0

According to the data above, more than half the students interviewed agreed that indeed smokers had more friends. Further, it was found that 8 out of 10 of the respondents disagreed that smokers were more attractive, while 7 out of 10 of the respondents agreed that a total ban on smoking is necessary in order to protect students from taking up the habit.

Based on the above evidence, it was noted that in all statements, there was a good number of students who responded either by agreeing or disagreeing with the statements. This implies that both positive and negative attitudes exist among students within the school.

The above argument came out clearly during a focus group discussion where one of the participants claimed that;

“Smoking cigarettes makes people relax especially those who carry out physically demanding labour. This is the main reason why laborers smoke more than those whose work doesn’t require a lot of physical energy.”

According to the focus group discussions it also came out that the attitude a student has towards smoking was greatly influenced by the smoking status of the people closest to that student and that attitude the student developed greatly influence his decision to initiate or maintain smoking behavior.

“On the one hand, if a student interacts with peers who smoke, the student starts to believe that smoking is acceptable and consequently ends up smoking. On the other hand, if a student interacts with a group where members do not smoke, the student does not develop positive attitudes and is less likely to smoke”

4.5 Patterns of Smoking among Smokers

This study also sought to understand the characteristics of smokers and their smoking habits. As such, respondents were asked a variety of questions in order to understand the above. The evidence collected is discussed below.

4.5.1 Socio-demographic Characteristics of Smokers

The third objective of this study was to determine the socio-demographic characteristics of students who smoke cigarettes. These characteristics are age, grade, religion, residential area, and income.

4.5.1.1 Age of Smokers

Age of respondents in the adoption and sustenance of smoking behavior is an important component in this study. According to the findings, the highest frequencies of students who have ever smoked were between the ages of 16-18 and 19-20. See *Table 4-6* below.

Table 4-6: Age Distribution of Ever Smokers

Age	Ever Smoked		Totals
	Yes	No	
13-15	3 (14.3%)	18(85.7%)	21(100.0%)
16-18	30(30.6%)	68(69.4%)	98(100.0%)
19-20	7(20.6%)	27(79.4%)	34(100.0%)
Over 21	0(0.0%)	3(100.0%)	3(100.0%)
Totals	40(25.6%)	116(74.4%)	156(100.0%)

It was also found that 1 out of 2 of students who had ever smoked, reported having had smoked their first cigarette at 5-9 years of age as indicated in *Table 4-7* below. This finding is similar to GYTS (2002) study which found that smoking was initiated when below ten years old.

Table 4-7: Age Distribution of Smoking Initiation

Age	Frequency	Percent
5-9 years	21	52.5
10-15 years	15	37.5
16-20 years	4	10.0
Totals	40	100

It was also found that the highest frequency of students who currently smoke were at 16-18 years age bracket, as indicated in the *Table 4-8* below;

Table 4-8: Distribution of Current Smokers Ages

Age	Smoking status		Totals
	Smoker	Non smoker	
13-15	2	19	21
16-18	14	84	98
19-20	1	33	34
Over 21	0	3	3
Totals	17	139	156

The above observations suggest that more smokers in secondary schools are aged between 16-18 years. The above finding is slightly different from Kwamanga et al (2003) study findings which came up with the average age bracket smokers to be 12-16 years.

4.5.1.2 Grade Level of Smokers

Table 4-9 below shows the distribution of students who currently smoke cigarettes in relation to the grade they belong to. Based on the evidence below, the highest number of smokers are in form 3, where 1 out of 5 of the respondents reported to smoke, while the least number of smokers was recorded in form one where only one out of fifteen respondents reported to smoke.

Table 4-9: Grades Distribution of Smokers

Grade	Smoking Status		Totals
	Smokes	Does not smoke	
Form 1	1 (6.7%)	14 (93.3%)	15 (100.0%)
Form 2	3 (7.5%)	37 (92.5%)	40 (100.0%)
Form 3	9 (20.5%)	35 (79.5%)	44 (100.0%)
Form 4	4 (7.0%)	53 (93.0%)	57 (100.0%)
Totals	17(10.9%)	139 (89.1%)	156 (100.0%)

Evidence in *Table 4-9* above shows that the proportion of smokers was highest in form three than in any other grade in the school. This observation therefore seems to indicate that grade level does not influence smoking among students.

The above findings are contrary to findings from previous studies which found that prevalence of smoking among the secondary school students in Nairobi spread through the grades in such a manner that form one students had the lowest rate while the form four students had the highest rates (Kwamanga,et al., 2003).

4.5.1.3 Religion

Religious affiliation is important factor in this the endeavor to understand smoking behavior among students. According to the data in *Table 4-10* below, the highest frequency of smokers

was found among respondents who belong to the Christian religion while the lowest frequency was found among the students who are affiliated to the Hindu religion.

Table 4-10: Smokers Religious Affiliation

Religion	Smoking status		Totals
	Smokes	Does Not Smoke	
Christian	12 (9.6%)	113 (90.4%)	125 (100.0%)
Muslim	3 (11.1%)	24 (88.9%)	27 (100.0%)
Traditional	1 (50.0%)	1 (50.0%)	2 (100.0%)
Hindu	1 (100.0%)	0 (0.0%)	1 (100.0%)
Other	0 (0.0%)	1 (100.0%)	1 (100.0%)
Totals	17 (10.9%)	139 (89.1%)	156 (100.0%)

However, it is worth noting that the percentage of smoking is higher among students in the Hindu and African traditionalist religion, owing to them being the minority among the respondents. The above therefore means that religion influences smoking among male secondary school students.

This study sought to explore the influence of participation in religious activities on smoking behavior. As *Table 4-11* below illustrates, while 9 out of 11 students who never attend church smoke, only 1 out of 23 who always attend church smoke.

Table 4-11: Influence of Religious Participation on Smoking

Regularity of attendance	Smoking Status		Totals
	Smoking	Non-smoking	
Never	9(81.8%)	2(18.2%)	11(100.0%)
Sometimes	5(6.8%)	69(93.2%)	74(100.0%)

Always	3(4.2%)	68(95.8%)	71(100.0%)
Totals	17(10.9%)	139(89.1%)	156(100.0%)

The evidence in the table above mean that increased participation in religious activities lowers susceptibility to smoking. Therefore this study concludes that smokers are more likely to be found among students who never participate in their religious activities.

The finding are similar to findings of Newport and Himelfarb, (2012), who found Christians who never attend church services to be almost three times more likely to smoke, than Christians who attend church on weekly occasion.

4.5.1.4 Residence

According to the evidence collected, the majority of smokers (10 out of 17) reside in Kangemi Ward while the minority reside in Mountain View and Highridge respectively as illustrated on the *Figure 4-1* below.

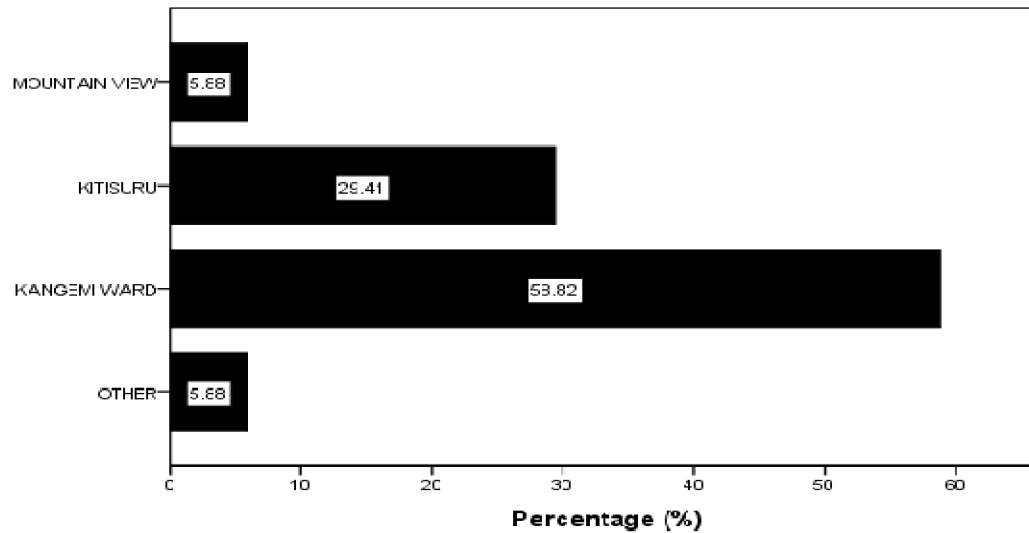


Figure 4-1: Distribution of Smokers Based on Residence

This study also sought to establish the influence of tobacco retailer density on smoking behavior of students. Our data shows that all students who resided in Kangemi ward reported that there were many cigarette vendors in the area, while the least number of vendors was reported in Mountain-View.

The evidence above confirms that prevalence of smoking is likely to be higher among students who reside in informal settlement areas than among students who reside in formal settlements

The above findings are similar to Chuang et al., (2005) study conducted among adults in china which found that high concentrations of convenience stores that sale cigarettes, are associated with higher levels of individual smoking.

4.5.1.5 Income

According to the data collected having received pocket money from family members or friends and smoking were not to be statistically significant. See *Table 4-12* below.

Table 4-12: Influence of Pocket Money on Smoking

	Smoking Status		Totals
	Smoker	Non Smoker	
Receives Pocket Money	16 (10.7%)	133 (89.3%)	149 (100.0%)
No Pocket Money	1 (14.3%)	6 (85.7%)	7 (100.0%)
Totals	17 (10.9%)	139 (89.1%)	156 (100.0%)

The evidence therefore confirms that getting pocket money does not influence smoking behavior among students.

The above findings however, are in contrast to the GYTS, (2007) which came to the conclusion that students who received pocket money were three times more likely to smoke than students who do not.

According to the evidence collected and represented in *Table 4-13* below, it seems to suggest that getting additional disposable income influenced a students' smoking.

Table 4-13: Influence of Extra Income on Smoking

	Smoking Status		Totals
	Smoker	Non Smoker	
Receives additional income	12 (19.0%)	51 (81.0%)	63 (100.0%)
No additional income	5 (5.4%)	88 (94.6%)	93 (100.0%)
Totals	17 (10.9%)	139 (89.1%)	156 (100.0%)

The evidence above therefore indicates that students who have extra income are more likely to be smokers than those who do not have other sources of income other than pocket money. The study therefore concludes that the higher the income that a student has, the more likely the student will smoke.

4.5.2 Smoking Habits

The smoking habits of students were determined by inquiry into the smokers' preferences and reasons behind these preferences in relation to smoking.

Generally, the evidence collected showed that the average smoking rate in the school was at 10.9%, meaning 1 out of nine students were found to be smokers at the time of the study. Among the smokers, it was found that the preferred cigarette brands were Sportsman, Supermatch and S.M as shown in *Figure: 4-2* below.

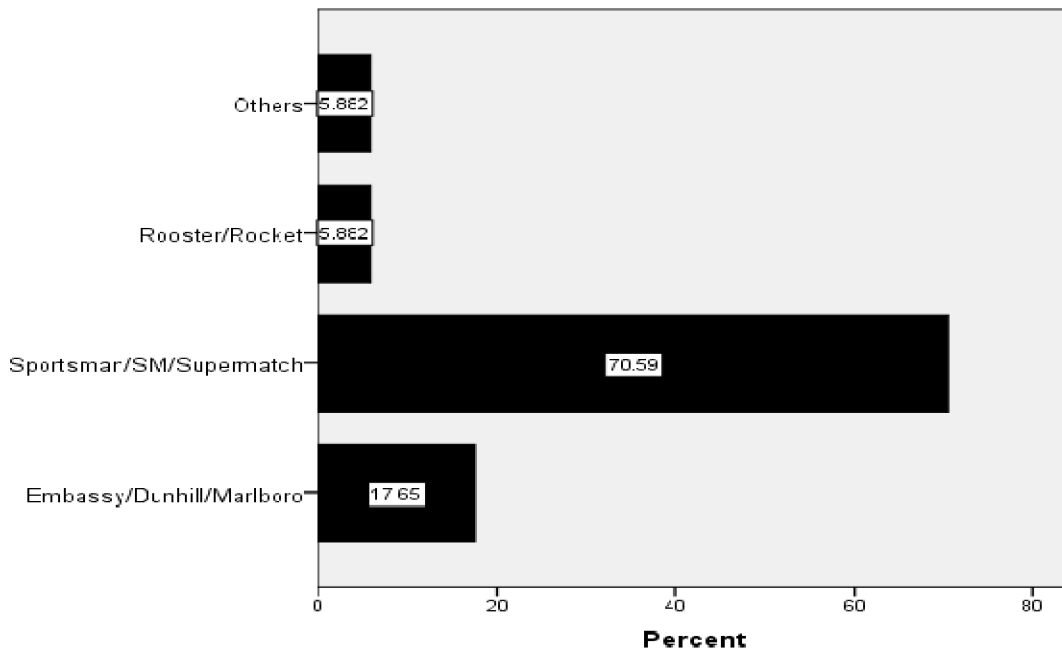


Figure 4-2: Preferred Cigarette Brands.

The main reasons for this preference were because the brands were affordable, with each brand usually costing Ksh 5 shillings per stick and also because they were easily accessible from majority of tobacco vendors as illustrated in the *Table 4-14* below.

Table 4-14: Reason for Brand Preference

	Frequency	Percent (%)
Affordable	9	52.9
Available	7	41.2
Better flavor	1	5.9
Totals	17	100.0

The highest frequency of students who smoke reported that they smoke on a daily basis. This was reported by 10 out of 17 of the students who smoke as illustrated in *Table 4-15* below. This

evidence seems to indicate that more than half of smokers in secondary schools have commenced regular smoking as indicated in *Table 4-15* below.

Table 4-15: Regularity of Smoking

	Frequency	Percent (%)
Daily	10	58.8
Weekly	5	29.4
Rarely	2	11.8
Totals	17	100.0

According to the data collected it was evident that the highest frequency of smokers smoked less than 5 cigarette sticks in a day as shown in *Table 4-16* below.

Table 4-16: Number of Cigarettes Smoked Daily

	Frequency	Percent (%)
Less than Five	12	70.6
5-10 Stick	2	11.8
10-15 Sticks	2	11.8
15-20 Sticks	1	5.9
Totals	17	100.0

It was also reported that over half of the smokers (56.3%) had bought cigarettes in packet quantities for their own use, especially when they have parties or go to discotheques with peers. In addition, 7 out of 10 smokers confirmed that they smoked more cigarettes some days than others. This was mostly owing to their psychological circumstances, especially when there was a need of relaxation and when they were excited.

From the evidence collected, it emerged that a majority (88.2%) of smokers purchase their own cigarettes, mainly from shops and roadside vendors as illustrated in the *Table 4-17* below. The main reasons for this preference are because the vendors readily sale cigarettes to the students without asking questions about who will use the cigarettes.

Table 4-17: Preferred Place to Purchase Cigarettes

	Frequency	Percentage (%)
Super market	1	6.7
Bars and night clubs	2	13.3
Shops and roadside vendors	12	80.0
Totals	15	100.0

According to the data collected, home and school were the most preferred smoking places by students as shown in *Figure 4-3* below.

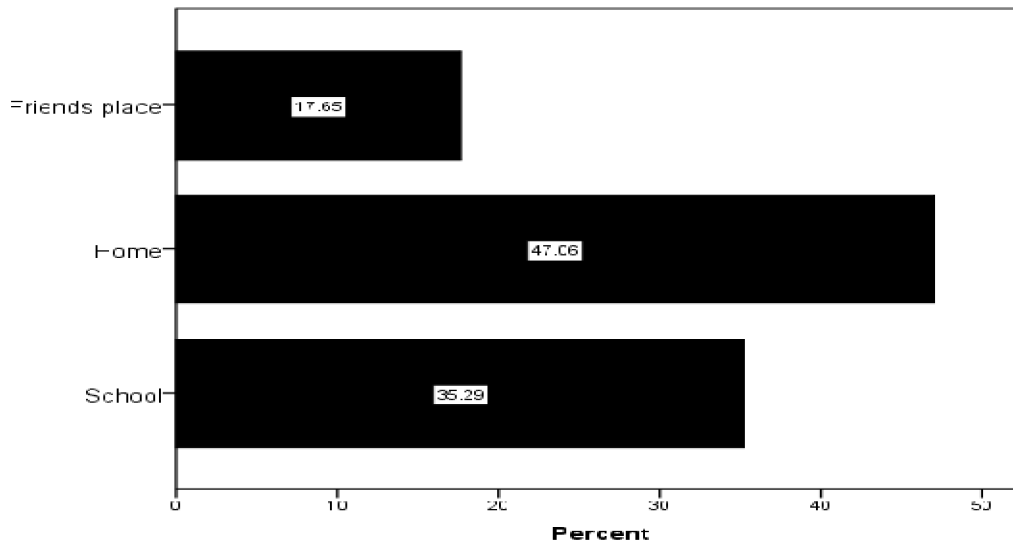


Figure 4-3: Preferred Locations for Smoking

The main reason behind smokers preference of school as a smoking location was found to be availability of peers to smoke with, while those who thought home was most preferred location said that it was more convenient and safe to smoke at home because it was easier to for them to keep out of sight from those considered hostile to this behavior. In addition with this, it was found that majority of smokers preferred to smoke with peers 11(64.4%) or while only a few preferred to smoke alone 6 (29.4%).

In relation to the time when students usually smoke, the data shows that the students usually smoke at morning or at night time, with a few who smoke in the evening as illustrated on *Table 4-18* below.

Table 4-18: Preferred Smoking Time

	Frequency	Percent (%)
Morning	3	17.6
Mid-day	1	5.9
Afternoon	1	5.9
Evening	4	23.5
Night	8	47.1
Totals	17	100.0

The highest frequency 8 (47.1%), prefer to smoke at night while 3 (17.6%) prefer to smoke in the morning. The main reasons behind this time preference were; majority night smokers (53.2%), preferred to smoke at night in order to enable them relax and sleep after a long day in the classroom, while majority of morning smokers (65%)preferred to smoke in the morning for motivation especially before they leave for classes in school.

According to the data collected, 9 (52.9%) of the students desire to quit the habit. Among the smokers who wish to quit, 1 out of 2 desired to quit because they had become aware of the health risks associated with smoking while the rest wanted to quit because they had either been asked by their peers or family members to quit, or because of the high cost of cigarettes as represented in *Figure 4-4* below.

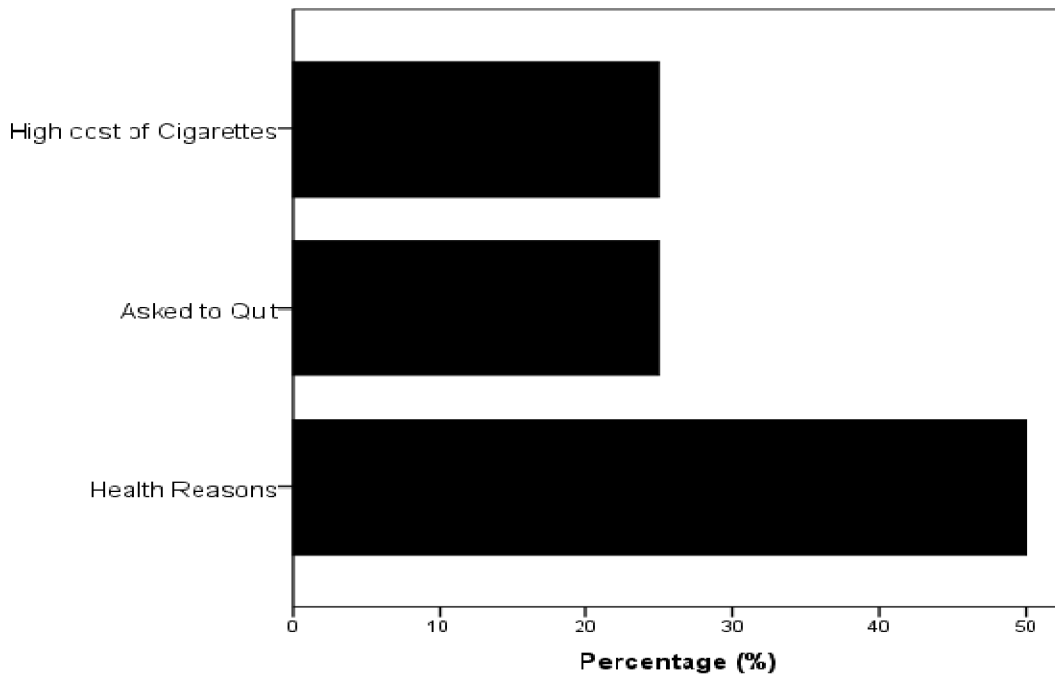


Figure 4-4: Reasons for Intention to Quit

However, 64% of the students said that they had tried to quit but were unable to successfully avoid smoking due to pressure from their peers who offered them cigarettes hence making them relapse.

This study also established that at least 1 out of 8 students interviewed, had used other types of tobacco products other than cigarettes. As illustrated in the *Table 4-19* below, 9 (5.8%) of the respondents had used KuberKahin while 6 (3.8%) had used snuff.

Table 4-19: Use of other Tobacco Products

	Frequency	Percent (%)
Snuff	6	3.8
KuberKahin	9	5.8
Shisha	2	1.3
No use	139	89.1
Total	156	100.0

4.6 Social Factors Relating to Smoking

This study also sought to establish the various social and environmental factors related to smoking. The social factors included; parents smoking, siblings smoking and peers smoking.

4.6.1 Social Influence.

Social influence is an important factor that can shed more light in understanding why students initiate and sustain smoking behaviors. Social influence can be from parents, peer or siblings, who are likely to form role models for students to emulate if they smoke.

The family is the basic and most influential socializing agent of human beings. This is mainly because family members primary source of interact at a personal level. Based on the data collected, it was evident that about one out of five students interviewed had at least one parent who smoked cigarettes as indicated in *Table 4-20* below.

Table 4-20: Distribution of Parents Smoking Status

	Frequency	Percent (%)
Smokers	32	21.2
Non-smokers	118	78.1
Do not know	1	0.7
Totals	151	100.0

This finding was also supported by a member in one of the focus group discussion, who said,

“ Many Parents smoke in the presence of their children without knowing that it makes them curious about the feeling that results from smoking. This curiosity drives them to experiment with cigarettes in order to feel the comfort smoking brings”

Close friends also known as peers influence are other important agents for social influence on a student's smoking. According to the evidence collected, one out of five students who smoke, also have peers who smoke. This observation shows that peer influence causes a student to initiate and maintain smoking as shown in Table 4-21 below,

Table 4-21: Influence of Peers on Smoking

	Smoking Status of respondent		Totals
	Smoker	Non smoker	
Smoking peers	15(20.5%)	58(79.5%)	73(100.0%)
Non smoking peers	2(2.6%)	75(97.4%)	77(100.0%)
Do not know	0(0.0%)	5(100.0%)	5(100.0%)
Totals	17(11.0%)	138(89.0%)	155(100.0%)

This therefore concludes that a student, whose friends or peers smoke, is likely to be a smoker himself.

The above findings are in agreement to what statements aired during the focus group discussions. In one of the sessions, it was reported that,

“When one needs to belong to a crew (rende) that smokes cigarettes or marijuana, then that student smoke to show that they qualify to be in the group. “Kama rende yako inachoma, lazima pia wewe u chome-if your peers smoke, you must also smoke”.

The findings above concur with a previous study by Ravishankar and Nagarajappa, (2009), conducted in India which, found that adolescents, whose parents and peers were users of tobacco were more likely to be users of tobacco products themselves as compared to the rest.

The findings above are also in agreement with Banduras (1962) social learning theory, which posits behavior as being learnt through modeling and hence the use of tobacco products by students is initiated through the students' imitation of role models such as family members and peers.

4.6.2 Mass Media Influence

The mass media is another major influence on human behavior. In this research, it was reported that 46.2% of the respondents had been exposed to messages that encourage smoking on the mass media as *Table 4-22* illustrates below.

Table 4-22: Distribution of Students Exposed to Cigarette Advertisements

	Frequency	Percent (%)
Saw or listened to messages	72	46.2
Did not see or listen to messages	83	53.2
Do not know	1	0.6
Totals	156	100.0

Among the respondents who had been exposed to pro cigarette messages, it was established found that 1 out of 2 saw the messages while watching television. This observation implies that students who are more exposed to messages that encourage smoking are more likely to be smokers.

As was also confirmed by one of the participants in the FGD, that,

“I used to watch many programs, especially western movies and music videos, and I saw many scenes where characters smoke cigarettes in a manner that depicts that smoking is cool. In the recent past, while watching music videos by VybesKartel, Lil Wayne and other recent artists, I became eager to know how it feels to smoke cigarettes the way I had seen on T.V.... I went and bought a cigarette and tried to smoke it the way I had been seeing on T.V... exhaling the smoke in style...”

In addition, in relation to exposure to anti-tobacco messages, the evidence collected indicates that 3 out of 5 students had seen anti-tobacco messages on the mass media especially via the television.

The above implies that many students are being exposed to messages which encourage or discourage smoking. This happens mainly through television, which is one of the most common media platforms locally available. Therefore, this study applies Banduras social learning theory and argues that due to this exposure, students end up identifying and imitating role models who smoke on television programs, which consequently leads to them initiating and sustaining smoking behavior.

4.6.3 Environmental Factors

Environmental factors relate to those factors that make cigarettes easily accessible to students who intend to smoke. Earlier in this section, it was found that a majority of students (88.2%) who smoke purchase their own cigarettes from local shops and vendors. This is despite the law that prohibits them to do so as *Table 4-23* clearly shows.

Table 4-23 Legal Awareness and Purchase of Cigarettes

	Awareness of the Law		Totals
	Yes	No	
Buys cigarettes	7 (46.7%)	8 (53.3%)	15 (100.0%)
Does not buy cigarettes	2 (100.0%)	0 (0.0%)	2 (100.0%)
Totals	9 (52.9%)	8 (47.1%)	17 (100.0%)

Based on the data above, 46.7% of students purchased cigarettes for their own use despite the fact that they were aware of the law prohibiting sale to the under aged. Therefore, the awareness of the above law by students did not deter them from purchasing cigarettes.

The cost of cigarettes is also an important aspect under environmental factors. This study postulated that the more expensive cigarettes are the less likely students will smoke them. According to the data collected, it is evident that almost half (41.2%) of the current smokers said that they would consider quitting if the cost of cigarettes were to be increased. See *Table 4-24* below.

Table 4-24: Effect of Price Increase on Smoking Cessation

	Frequency	Percent (%)
Will quit smoking	7	41.2
Will not quit	5	29.4
Do not know	5	29.4
Total	17	100.0

From observing the above distribution, 41% of students who smoke will consider to quit smoking if the cost of cigarettes were increased. Therefore, the above observation suggests that an increase in the cost of cigarettes is likely to reduce the smoking prevalence among students as stated earlier on.

The exposure to environment tobacco smoke was also a significant factor in this study. See *Figure 4-5* below. According to the data collected, over 32 (21.2%) of all the respondents whose parents were alive, had at least one parent who smokes at the time of the interview as discussed earlier. In addition, the evidence collected shows that among the students whose parents smoke, 8 out of 10 reported that their parents smoke in their presence.

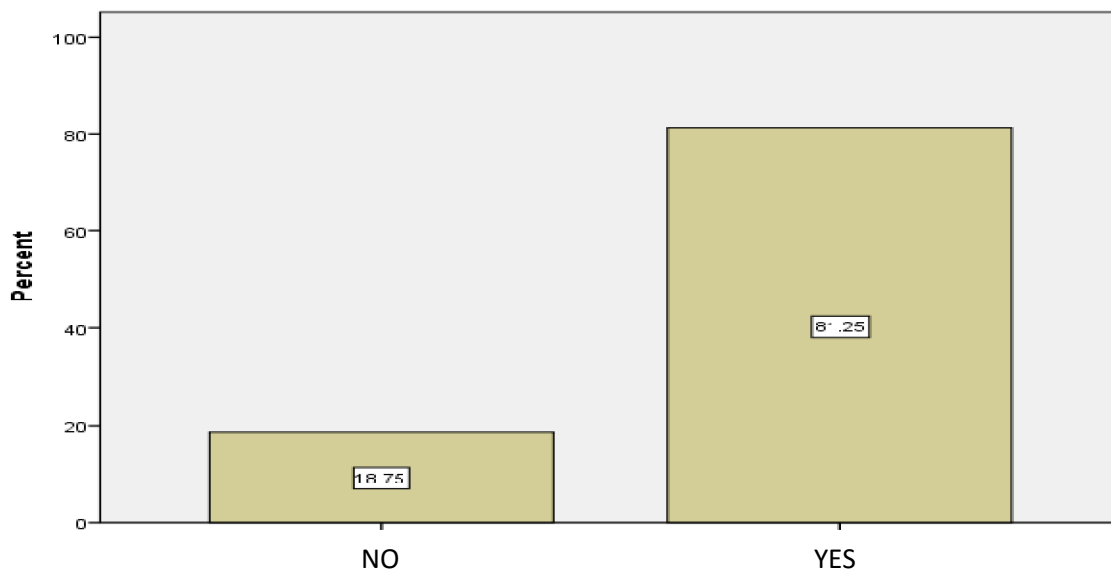


Figure 4-5: Exposure to ETS at Home

The above observations seem to confirm that indeed students are being exposed to ETS at home from their family member smoke. The above observations confirm that the exposure to environment tobacco smoke is still high among students, due to family members who smoke in their homes.

The observation above is supported by information recorded from the focus group discussion where one of the participants said;

“Most adult smokers are not concerned about protecting their children from their tobacco smoke since they smoke in the house when the whole families, including the children are present. Some of students sometimes come to school smelling of cigarette smoke which gets remains on their uniform as a result of parents usually smoking inside the house”

The above sentiments clearly show that exposure to environment tobacco smoke is a real phenomenon that affects students who live in households where at least one parent is a regular smoker.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

In this chapter, a summary of what has already been discussed in the previous chapter is given, conclusion is drawn and finally recommendations for further research are made.

5.2 Summary of Key Findings

In this study, it was established that the majority of students had a low level of knowledge regarding the health threats posed by smoking. It also came to light that knowledge alone cannot deter students from smoking since it was noted that there was a high prevalence of smoking among the students irrespective of their level of knowledge. Therefore the study established that knowledge in itself does not influence smoking behavior among students.

In relation to attitudes of male students towards smoking, this study observed that there are both negative attitudes that discourage smoking as well as positive attitudes that encourage smoking that exist among the students.

In relation to the practice of smoking, this study established that peer and family and media influences are the main factors that lead to smoking initiation among students. The study also found that smokers preferred brands of cigarettes which were cheap and readily available at local vendors. Further, this study also found that regular smoking among the smokers commenced when they joined secondary school mainly because of peer influence.

This study also established that a majority of the students who smoke purchase their own cigarettes from shops and roadside vendors, where they are not denied or questioned about their age.

According to the data it also emerged that over half of the students who smoke desire to quit from smoking mainly due to awareness of health risks associated to smoking or because of the high cost of cigarettes, however most of them relapse into smoking because of peer influence. The study also found out that a large number of secondary school students were being exposed to Environmental Tobacco Smoke (ETS), at their homes by their smoking parents, who smoke in their presence. Last but not least, this study also found that apart from cigarettes, secondary school students use other forms of tobacco especially snuff.

5.3 Recommendations

Based on the findings of this study, it is recommended that;

- Sensitization on the dangers of tobacco should be continuously carried out by parents, teachers as well as through the mass media in order to increase the knowledge level of male students regarding the dangers of smoking.
- The government should increase the levies taxed on cigarettes and other tobacco products to ensure that they significantly increase in price and are not easily affordable to students.
- Boysø schools should have regular guidance and counseling talks that will encourage students to keep away from experimenting with tobacco products and also to encourage students who smoke to cease the behavior.

5.4 Conclusion

This study has found that smoking behavior is still rife among male students in Kenyan secondary schools. According to the findings of this study, the prevalence of smoking is still high among secondary school students, with minimal ceasing rates. It is also evident that the level of knowledge is low among students, therefore smoking behavior can be a consequent of teenagers having made un-informed decisions regarding uptake of smoking habit very early in their lives.

In order to arrest and reverse this behavior among this young generation all stake holders including, the government through the ministry of education and the ministry of Health, NACADA, teachers and parents should embark on a joint sensitization sessions targeting all boy schools in the country, with the aim of sensitizing o the dangers of smoking in order to empower them to resist or to quit smoking.

5.5 Area for Further Research

Recommendation is made for further research on the extent to which other forms of tobacco are being used by students in secondary school.

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APPENDICES

Appendix I: Questionnaire for the Knowledge, Attitude and Practice on Tobacco use Among Secondary School Students Survey

Date _____

Serial number _____

Consent Form

I am a student at the University of Nairobi, and currently undertaking a research to understand the Knowledge, Attitude and Practice of tobacco use among secondary school students in Nairobi. This is important information which can inform on strategies aimed at preventing students from smoking as well the strategies which can help those students who smoke to quit.

Participation in this research is completely on anonymous basis, and therefore your name or registration number will not be written on this questionnaire. Please, answer honestly to all the questions and remember that this is not a test; therefore there are no right or wrong answers.

Do I have your permission to continue with this interview? Yes [] No [].

If you don't want to participate, why _____

No	Questions	Options	Answer
SECTION 1. INDIVIDUAL CHARACTERISTICS			
1.	Record gender of respondent	1=Male 2=Female	
2.	Kindly tell me how old are you?	1=10-12 Years 2=13-15 Years 3=16-18 Years 4=19-20 Years 5= 21 Years and over	
3.	What is your religion?	1=Christian 2=Muslim 3=Traditionalist 4=Hindu 5=Other (specify)___	
4.	How regularly do you attend your place of worship?	1=Never 2=Sometimes 3=Always 99=Do not know	
5.	In what class are you?	1= Form 1 2= Form 2 3= Form 3 4.=Form 4	
6.	Where do you live?	1=Kangemi ward 2=Mountainview ward 3=Kitisuru ward 4=Parklands ward 5=Other (specify)	
7.	How would you describe the number of cigarette vendors in your neighborhood?	1=None 2=Few 3=Many	
8.	Are your parents alive?	1= Both alive 2=Father alive 3=Mother alive(skip 7) 4=None alive (skip to9)	
9.	What is the occupation of your father?	1=unemployed 2=casual worker 3=self employed 4=Employed 5=other (Specify)	
10.	What is the occupation of your mother?	1=unemployed 2=casual worker 3=self employed 4=Employed 5=other (Specify)	
11.	Who do you currently live with?	1=Both Parents 2=One parent	

		3=Siblings 4=Relatives 5=Non- relatives 6=Alone 7=other (Specify)	
12.	Do you receive pocket money?	1=Yes 2= No (skip to14)	
13.	Who gives you pocket money?	1=Father 2=mother 3=siblings 4=relatives 5=friends 6=other (specify)	
14.	How much pocket money do you normally receive per day?	1=<500 2=500-1000 3=1000-1500 4=1500-2000 5=2000-2500 6=>2500	
15.	Do you get money from any other source?	1=Yes 2=No(skip to17)	
16.	Which source? (multiple responses)	1=Part-time work 2=own business 3=other (specify)	
17.	How much do you receive from this source(s) per day?	1=<500 2=500-1000 3=1000-1500 4=1500-2000 5=2000-2500 6=>2500	
SECTION 2; SMOKING STATUS			
In this section, I want to talk about smoking. Please tell me;			
18.	Have you ever smoked cigarettes?	1=Yes 2=No (Skip to 32) 99= Do not know	
19.	How old were you when you smoked your first cigarette?	1= less than 5 years 2=5-9 years 3=10-15 years 4=16-20 years	
20.	If you can please tell me, why did you smoke your first cigarette?	1=Curiosity 2=Peer influence 3=Stress/depression 4=Availability 5=other(specify) 99=Do not know	
21.	Do you currently smoke?	1=Yes (skip to 22) 2=No 99= D0 not know	
22.	Why did you quit?	1=Awareness of health threat	

		2=Persuasion by parents or peers 3=High cost of cigarettes 4=Other	
23.	Why do you presently smoke cigarettes?	1=Addiction of cash 2=Availability of cash 3=Peer influence 4=Stress relief 5=Relaxation 6=Other 99=Do not know	
24.	How regularly do you smoke?	1=daily 2=weekly 3=rarely 99=Do not know	
25.	Which brand of cigarettes do you usually smoke?	1=Embassy/Dunhill/Marlboro 2=Sportsman/SM/Su permatch 3=Rooster/Rocket 4=Others (Specify)	
26.	Why do you prefer this brand of cigarette?	1=Affordable 2=Available 3=Good taste 4=other reason (Specify)	
27.	How many cigarettes do you smoke in a day?	1=less than 5 sticks 2=5-10 3=10-15 4=15-20 5= over 20 sticks	
28.	Are there days you smoke more cigarettes than others?	1=Yes 2=No(skip to 28) 99=Do not know	
29.	Why?	1=Sadness 2=Happiness 3=Relaxation purpose 3=more money to spend 4=while using other drugs 5=While partying with peers	
30.	Do you buy the cigarettes that you smoke for yourself?	1=Yes 2=No(skip to 33) 99=Do not know	
31.	Kindly tell me, where do you usually buy your own cigarettes from?	1=Super market	

		2=Bars and Night clubs 3=Mini Shops and road side vendors 4=Other (specify) 99=do not know	
32.	How many cigarettes do you normally buy for your own use?	1=1-9sticks 2=10-19 sticks 3=1packet 4=over 1 packet.	
33.	Have you ever bought cigarettes in a packet?	1=Yes 2=No 99=Do not know	
34.	Are you aware that according to the law of Kenya, cigarettes should not be sold to individuals who are below the age of 18 years?	1=Yes 2=No (If does not smoke skip to 44)	
35.	Has a vendor ever refused to sale you cigarettes because you are below 18 years?	1=Yes 2=No 3=Do not know	
36.	Where do you usually smoke cigarettes from?	1=At school 2=At Home 3=At friendsøplaces 4= Other (Specify)	
37.	Why do you prefer to smoke there?	1=privacy 2=Peer company 3=convenience 4=other (specify) 99=Do not know	
38.	At what time(s) do you usually smoke cigarettes? (Multiple responses)	1=Morning 2=Noon 3=afternoon 4=evening 5=night	
39.	Why do you prefer to smoke during this period (s)?	1=Desire to smoke 2=Motivation 3=To suppress hunger 4=Relaxation 5=So as to sleep 6=other (specify)	
40.	With whom do you usually smoke cigarettes?	1=Alone 2=Peers 3= Siblings 4=others (specify)	
41.	Have you ever tried to quit smoking?	1=Yes 2= No(Skip to 43) 3=Do not know	
42.	Why did you want to quit smoking?	1=Awareness of health risk of smokin 2=Sickness	

		3=Family/ peers asked me to quit 4=Cost of cigarettes is too high 5=other (specify)___	
43.	Would you say it easy to for you to quit smoking?	1=Yes 2= No 3.Do not know	
44.	Why?	1=Peers pressure 2= Availability of cigarettes 3=Addiction 99=Do not know	
45.	If the prizes of cigarettes were to increase would you still smoke?	1=Yes 2=No 99=Do not KNow	
46.	Do any of your parents smoke cigarettes?	1=Yes 2=No (skip to 47) 99= Do not know	
47.	Who?	1=Father 2=Mother 99=Do not know	
48.	Do they ever smoke cigarettes at home in your presence?	1=Never 2=Sometimes 3=Always	
49.	Do any of your siblings smoke cigarettes?	1= Yes 2=No (skip to49) 99=Do not know	
50.	Do they ever smoke cigarettes at home in your presence?	1=Never 2=Sometimes 3=Always	
51.	Do any of your close friends smoke cigarettes?	1=Yes 2=No (skip to51) 99=Do not know	
52.	Do they ever smoke in your presence?	1=Yes 2=No 99=Do not know	
53.	Do any of your teachers smoke cigarettes?	1=Yes 2=No(skip to53) 99=Do not know	
54.	Do they ever smoke in your presence?	1=Yes 2=No 99=Do not know	
55.	In the past 30 days, have you seen or heard an advertisement for cigarettes on the T.V, Radio, internet or other media?	1=Yes 2=No(Skipto56) 99=Do not know	
56.	Which media?	1=T.V 2=NewsPaper/	

		Magazines 3=internet 4=Social Media 5=Radio	
57.	How frequently have you seen this message?	1=once in a while 2=often 3=very often	
58.	In the past 30 days, have you seen or heard anti- tobacco campaign messages on the T.V, Radio, Internet or other media?	1=Yes 2=No (skip to60) 99=Do not know	
59.	Which media?	1=T.V 2=NewsPaper/ Magazines 3=internet 4=Social Media 5=Radio	
60.	How frequently have you seen this message?	1=once in awhile 2=often 3=very often	
SECTION 3. KNOWLEDGE TOBACCO USE			
In this section, let us talk about the effects of smoking on health.			
61.	Please tell me, a part from cigarettes, which other types of tobacco products are you aware of? (Multiple responses)	1=Snuff 2=KuberKhaini 3=Shisha 4=other (specify) 99=does not know	
62.	Among these products you know, which ones have you ever used?	1=Snuff 2=KuberKhaini 3=Shisha 4=other (specify) 99=does not know	
63.	To your knowledge, which tobacco products are safe to use?	1=All of them 2=Cigarettes 3=Snuff 4=KuberKhaini 5=None 99=does not know	
64.	Have you ever discussed about the dangers of smoking with your parents?	1=Yes 2=No 99=Do not know	
65.	Have you ever had an awareness talk on the dangers of tobacco in school?	1= Yes 2=No 99=Do not know	
66.	Please tell me all the diseases caused by smoking that you are aware of? (Probe for Multiple responses and Indicate total number of diseases named)	1=Cancers of lung, 2=cancer of Oesophagus, 3=Stroke 4=Blindness,	

		5=Catarats 6=Pneumonia 7=Asthma 8=Hip fractures 9= Impotence 10= heart disease	
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SECTION 3; ATTITUDE TOWARDS SMOKING

Please indicate whether you 1=DISAGREE; 2=UNSURE; 3=AGREE, with the following statements.

	STATEMENT	CODE	
67.	People who smoke have more friends		
68.	Smoking makes a person look more attractive		
69.	Smoking should be banned in all public places.		
70.	To discourage students from smoking, cigarettes should be sold in packets and not as single sticks.		
71.	Students smoke cigarettes because they do not know the adverse health effects of smoking.		
72.	Smoking is a good way for relaxation		
73.	Smoking is a good way to keep your weight in check		

Thank you for participating in this research.

Appendix II: Focus Group Discussion Guide

Date _____

Facilitator _____

Record Keeper _____

Consent Form

My name is _____, I am a student at the University of Nairobi, and currently undertaking a study to understand the Knowledge, Attitude and Practice of tobacco use among secondary school students in Nairobi. This is important information which can inform on strategies aimed at preventing students from taking up the habit of smoking as well the ways of how to help those students who smoke to quit.

I welcome you to this open discussion and urge you to be free as we discuss this topic. It is important that each and every one of you provides their opinion because all opinions are equally important in this study. The discussion will take about 30 minutes but with your cooperation it can be done faster. Please I urge you to respect the each opinion so that we have a smooth discussion.

If any one is not willing to participate in this discussion, they are free to leave at any time. Do you agree that we start the discussion? YES

1. Why do students your age smoke? (Probe with)
 - In what ways can parents influence students to smoke?
 - In what ways can peers influence students to smoke?
 - How can the media influence students to smoke?
 - What other social issues influence students to smoke and how?
2. Which common beliefs encourage students to smoke?
3. What common beliefs discourage smoking among students?
4. What can be done to reduce smoking among students?