RELATIONSHIP BETWEEN THE IMPLEMENTATION OF SELECTED SAFETY STANDARDS AND GUIDELINES, AND STUDENT SAFETY IN PUBLIC MIXED BOARDING SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA

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A Thesis Submitted to the Institute of Postgraduate Studies of Kabarak in Partial Fulfillment of the Requirements for the Award of Doctor of Philosophy Degree in Education (Management and Leadership)

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This Thesis entitled **"Relationship between the Implementation of Selected Safety Standards and Guidelines, and Student Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya"** written by **Jackline Sigei**, is presented to the Institute of Postgraduate Studies of Kabarak University. We have received the thesis and recommend it to be accepted in partial fulfillment of the requirement for award of the Doctor of Philosophy in Education Management and Leadership.

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May God bless you all abundantly.

DEDICATION

I dedicate this work to God for His provisions, my dear Aunt Sr. Justina Telle and my parents Mr. and Mrs. Reginald Keter. I also dedicate it to my lovely daughters Angela and Adelaide.

ABSTRACT

Globally, researchers have demonstrated the fact that heads of schools have a duty to provide children with a safe, secure, and peaceful environment in which learning can occur (Ministry of Education, Guyana, 2017). However, it is unfortunate that there have been occurrences of various incidences that seem to affect student safety in institutions of learning, as indicated by the inspection reports (Nakuru County Education Office, 2020). The purpose of this study was to establish the relationship between the implementation of selected Safety Standards and Guidelines and student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya. The objectives of the study were to: find out the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure; School Grounds; Drug and Substance Abuse, and Food Safety and student safety in public mixed boarding secondary schools in Nakuru County. The study adopted a descriptive survey design. Krejcie and Morgan (1970) sample determination table was used to determine the sample size for students and comprised 327 form 4 students. Out of the 16 schools, 2 had 2 deputy principals each, thus bringing the number to 18. A census approach was used whereby all 16 principals and 18 deputy principals were used for the study. The study population was clustered into 9 sub-counties. A stratified sampling technique was used to categorise the population into three strata, namely, principals, deputy principals, and form 4 students. Principals and deputy principals were selected using a purposive sampling technique, while the students were selected using a simple random sampling technique**.** Data from students was collected by the use of questionnaires, while that from principals and deputy principals was collected using interviews. In addition, an observation checklist was used to determine the level of implementation of the selected Safety Standards Guidelines in the schools. Prior to use, the instruments were subjected to validity checks with the help of university supervisors and reliability tests guided by the 0.7 Cronbach's Alpha Reliability Coefficient level. SPSS version 22 was utilised for data analysis. The analysis involved the computation of descriptive statistics: frequencies, percentages, and inferential statistics. The data was then presented in tables and textually. The study found that the implementation of Safety Standards and Guidelines for School Grounds and Food Safety have a statistically significant relationship on student safety. The study established that implementation of Safety Standards and Guidelines for Physical Infrastructure and Drug and Substance Abuse do not have a statistically significant relationship on student safety. The school management should consider mobilising resources for enhancing the safety of school infrastructure, school grounds and food in compliance with the safety standards and guidelines. This study is significant because it brings to light that the implementation of selected Safety Standards and Guidelines has a statistically significant relationship with student safety in public mixed-boarding secondary schools in Nakuru County, Kenya. The researcher adhered to all ethical considerations of research.

Key Words: *Implementation, Safety Standards and Guidelines, Student Safety.*

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ABBREVIATIONS AND ACRONYMS

ASSI	ASEAN Safe Schools Initiative
BOM	Board of Management
CCTV	Closed-Circuit Television
CPSC	Consumer Product Safety Commission
CWS	Church World Service
DepEd	Department of Education
DRRM	Disaster Risk Reduction and Management
DSA	Drug and Substance Abuse
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
GPS	Global Positioning System
MoE	Ministry of Education
NACADA	National Authority for the Campaign Against Alcohol and Drug Abuse
NACOSTI	National Council of Science Technology and Innovation
NIMS	National Incident Management System
PE	Physical Education
SPRs	School Premises (England) Regulations
SS	Student Safety
SSGDSA	Safety Standards and Guidelines for Drug and Substance Abuse
SSGFS	Safety Standards and Guidelines for Food Safety
SSGPI	Safety Standards and Guidelines for Physical Infrastructure
SSGSG	Safety Standards and Guidelines for School Grounds
TDI	Traumatic Dental Injuries
UNICEF	United Nations International Children's Emergency Fund
WFP	World Food Programme
WHO	World Health Organization

OPERATIONAL DEFINITION OF KEY TERMS

Safety Standards these are parameters or thresholds that have been designed by educational stakeholders to ensure that students are safe in school. In this study, these refer to parameters that have been put in place by the Ministry of Education to ensure that secondary school students are safe.

School Safety these are the measures undertaken by the learners, staff, parents, and other stakeholders to either minimize or eliminate risky conditions or threats that may cause accidents, bodily injury as well as emotional and psychological stress. This study uses this definition as defined by Safety Standards Manual (2008).

Standard this refers to the level of quality achievement in relation to a school safety component: physical infrastructure, school grounds, drug and substance abuse and food in public mixed boarding secondary schools in Nakuru County, Kenya. This study uses this definition as defined by Safety Standards Manual (2008).

Student Safety this refers to a situation where the learners feel secure and free from external threats arising from weaknesses related to the quality of physical infrastructure, school grounds, drugs and substance abuse and food. In this study, the term refers to a state where secondary school students are free from such external threats.

School Management Policies in this study, this shall refer to the guidelines that guide the operations and activities in a school environment.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the background of the study, the statement of the problem, the purpose of the study, objectives of the study, research hypotheses, and significance of the study. The scope, limitation, delimitations, and assumptions of the study are also in this chapter.

1.2 Background to the Study

Globally, researchers have demonstrated that heads of schools have a duty to provide children with a safe, secure, and peaceful environment where learning can occur (Ministry of Education, Guyana, 2017; Wanzala, 2017). One of the responsibilities of secondary school principals is to ensure that school resources are efficiently used to foster a safe, secure and caring environment in the school (MOE, 2008). Student safety refers to a state in school where students feel protected from harmful situations such as injuries, contaminated food and substance abuse. A safe school is a place free from violence and represented by an environment in which no perceived fear of the school or its disciplinary procedures exists. The safety of schools is a fundamental and essential component of the learning process. The creation of safe schools where teaching and learning can take place is necessary if the school goals are to be met (Grover, 2015). However, studies show that student safety standards are below expectations in many secondary schools across the globe (Maxwell et al., 2017; Yakubu, 2017).

In reality, student safety and security issues are pervasive global issues. According to Musu-Gillette et al. (2018), there were cases of violent deaths among students in the United States. In addition, school officials in Canada, Mexico, Honduras, Trinidad –

Tobago, Guatemala, Argentina, Israel, and the United Kingdom have witnessed safety issues. Similar incidences have been witnessed in Vietnam. South Africa and Kenya all have safety concerns ranging from poisonous snakes, spiders and centipedes to gang violence, terrorism and devastating natural disasters (Dorn, 2016). Interestingly, all these countries had safety guidelines in place, yet student safety was not guaranteed. This is a concern because their educational environment must be safe, secure and orderly for students to succeed.

In the United Kingdom, The Education Act (1996) and the School Premises (England) Regulations 2012 (SPRs) Act specifies that a pupil has "special requirements" if the pupil has any needs arising from physical, medical, sensory, learning, emotional or behavioural difficulties which require provision which is additional to or different from that generally required by children of the same age in schools other than special schools." The Act also covers issues on the suitable toilet and washing facilities provided for pupils' sole use. The Act has been put in place to promote student safety.

In South Africa, provision is made for protecting the rights of children and the safety of learners in the Child Care Act of 1983 (Act 74 of 1983); the Domestic Violence Act of 1998 (Act 116 of 1998); the South African Schools Act, 1996 (Act 84 of 1996), and the Occupational Health and Safety Act, 1993 (Act 85 of 1993). These Acts are all, largely, concerned with protecting the physical and psychological integrity of learners in South African schools. According to Nthate (2017), crime and violence have become common features of many South African schools. Incidents are often captured on social media when videos go viral. Individual incidents grab headlines and spark outrage and condemnation but what are the underlying causes of violence at school and what should be done to make schools the safe havens they should be? This, therefore, indicates that

the problem of student safety could still be a challenge in South African schools despite various Acts put in place to address safety matters.

In Uganda, Sekiwu and Kabanda (2014) mention several cases that show concerns about student safety in secondary schools. For example, 20 students and 2 unidentified adults perished in the fire at Buddo Primary School, and in another case, seven people were buried underneath the rabble while constructing a building at St. Peter Naalya Secondary School. In another study in Uganda, Nabukenya (2019) observed that the learners who were abusing drugs were aged between 16-18 years. The findings also show the high prevalence of drug abuse in pupils from families where another member of the family was also abusing drugs. Finally, in a study in Rwanda by Meyer et al. (2018), gender-stratified analyses indicated that in both contexts, exposure to school violence is significantly associated with school attendance, school fear, and school safety for girls.

In Kenya, Safety Standards Manual for schools was developed in the year 2008 following the experienced of unprecedented insecurity, leading to the internal displacement of over 300,000 people, many of them school children (Ministry of Education, 2008). The Safety Standards and Guidelines were prepared amidst recurrent cases of child abuse reported across the country. Experiences gained from the pilot phase enabled the country to develop this Safety Standards Manual for application nationwide. The Manual captures various aspects of student safety, such as the benefits of school safety, threats to school safety, the importance of safe grounds, indicators of school safety, organisation of the School Safety Programme, Safety Standards and Guidelines and lastly, Monitoring and Evaluation of the School Safety Programme. The Safety Standards and Guidelines address thirteen safety concerns within the school, and these are safety on school grounds, safety in physical infrastructure, health and hygiene safety, safety in the school environment, food safety, safety against drug and substance abuse,

teaching and learning environment, socio-cultural environment of the school, the safety of children with special needs, safety against child abuse, transportation safety, disaster risk reduction and lastly school community relations.

Despite the Safety Standards and Guidelines in Kenya, the problem of student safety is still an issue of concern. Could this be due to a lack of effective implementation? The Government of Kenya shows its commitment to providing quality education as a basic right to every child. This is enshrined in Kenya's Constitution and stressed in Vision 2030 (The Kenya sector of the International Commission of Jurists, 2010). However, student safety remains a great concern. For instance, in the year 2012, eight pupils from Asumbi Girls' Boarding Primary School in Homa Bay County were burnt to death (Oduor & Omoro, 2012). More so, unsafe schools disrupt learning, destruction of resources and, worst of all; lives are lost hence placing head teachers in the spotlight (Kirui et al., 2011). However, some schools have not put safety measures in place in secondary schools, and none has developed a safety policy implementation framework (Kemunto et al., 2012). As a result, it is clear that students may not be safe in some schools, which casts doubts on the implementation of Safety Standards and Guidelines.

Past studies in Kenya show that Student Safety Standards and Guidelines across the country have not been implemented as expected. Alunga and Limo (2019) studied the effect of existing crime prevention practices on student safety in public boarding secondary schools in Trans-Nzoia County. The study also established that most schools had not complied with the ministry of education safety standards, and crime prevention measures were not very effective because cases of crime still prevailed in the schools; therefore, the schools were not fully prepared for student safety. They cited the existence of threats such as penetration of drugs, sneaking of the students and planned attacks from outside the school. This raised doubts as to whether the safety standard guidelines were

complied with within the affected schools. Njoki (2018), in a study in Nyeri, found that school physical infrastructure facilities were not safe, as many schools had not adjusted the doors and windows of classrooms and other school facilities as per the requirements of the Safety Standards Manual. A study in Homabay, Modi et al. (2019) links the rising cases of arson in Secondary Schools in the County to non-adherence to Safety Standards and Guidelines by the school management. The researchers observe that drug and substance abuse among the students is one of the factors. Ayienda (2019) reported a case at Nyabururu High School in Kisii County, where rotting cabbages were quickly buried as parents stormed the school over food poisoning claims.

From the above findings, school safety remains a pressing issue despite interventions by the government through the provision of Safety Standards and Guidelines. It raises questions with regard to the implementation of the school policy on student safety. It means that students may continue to face the problem of a lack of safety and security. Nakuru is one area that appears to have received little attention in research, yet the figures at the County Education office indicate rising cases of lack of safety in public mixed boarding secondary schools, as shown in table 1 and figure 1. For instance, Ogemba (2019), referring to the case related to a dormitory destroyed in a fire at Njoro Girls High School in March 2019, observed that the school failed to put in place adequate safety measures to protect students. The school dormitory was usually locked from the outside. It is apparent the high number of casualties could have been avoided if there had been a clear exit and the students had been sensitised on fire emergency preparedness.

Referring to the Safety Standards and Guidelines, it is instructed that a dormitory should have a door at each end and an additional emergency exit at the middle, which should be locked at all times when learners are in class or on the playing field, and the dormitory

windows must not have grills. In November 2019, a form 3 student died in a dormitory fire at Bahati PCEA Secondary School in Nakuru County (Cheploen, 2020). Still in Nakuru County, Odhiambo et al. (2020) observed a steady increase in drug and substance abuse in secondary schools. They reported that Sources of drugs and substances were chemists, pharmacies, fellow students, peddlers, and members of communities neighbouring schools and that emergency pills, contraceptives, painkillers, alcohol and antibiotics were the commonly used drugs.

Table 1

Number of Cases of lack of Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya

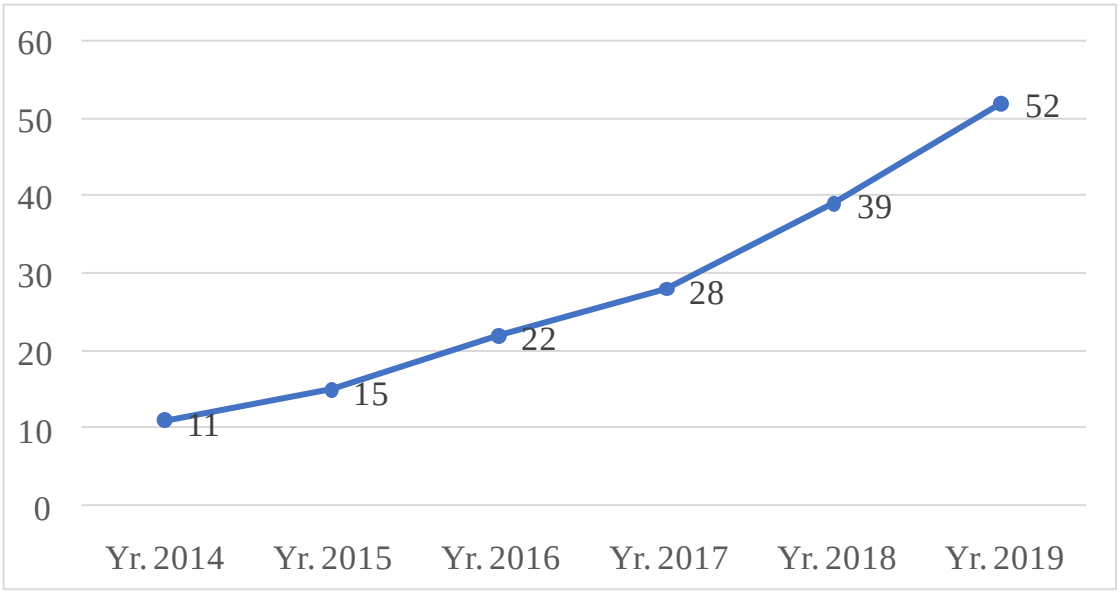
Year	Number of incidences	Incidences
2014	11	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse
2015	15	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse, attempted rape, sexual harassment, pregnancies, fighting
2016	22	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse, poor sanitation, poorly cooked meals, stealing
2017	28	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse, and lack of privacy in girls' sanitation areas.
2018	39	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse, poor sanitation, poorly cooked meals
2019	52	Fires in schools, rape cases, accidents, food poisoning, drugs and substance abuse, attempted rape, sexual harassment, pregnancies, poorly cooked meals, strangers in the school compound, congestion, injuries, and stealing.

Source: Inspection Reports, Nakuru County Education Office (2020).

Table 1 shows that some of the cases, among others, include strangers found in the school compounds, fighting, contaminated food, injuries in the field, dormitories and classrooms, congestion, drug abuse, poorly cooked meals, and stealing, among others.

Figure 1

Cases of Lack of Safety in Public Mixed Boarding Secondary Schools in Nakuru County



Source: Inspection Reports, Nakuru County Education Office (2020).

Figure 1 is an illustration of the trend of cases of lack of student safety in the County in the period between 2014 and 2019. The figure shows an increasing trend in the number of incidences reported in public mixed boarding secondary schools in Nakuru County, and this is a worrisome trend. This is because safety is not only a learner's right, but it is also a prerequisite for the achievement of educational goals. The safety of schools is thus a fundamental and essential component of the learning process (Movchan, 2020). Therefore, this study endeavoured to explore the relationship between the implementation of selected safety standards and guidelines and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

1.2 Statement of the Problem

This study investigated the relationship between the implementation of selected safety standards and guidelines for physical infrastructure, school grounds, drug and substance abuse and food safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. From the background, specifically Table 1, it is evident that there is an increasing trend in terms of the number of safety incidences in schools from eleven (11) to fifty-two (52) between the years 2014 and 2019. There is a worrisome increasing trend in student safety issues, despite the introduction of safety standards and guidelines in secondary schools. This raises questions related to their adoption and implementation in secondary schools, especially in public mixed boarding secondary schools. It suffices that these guidelines were not addressing student safety in the schools. Management of student safety in mixed boarding secondary schools is a complex issue and captures wider aspects of the School Safety and Standards Guidelines. Mixed schools, by their composition, present a complex mix of safety needs that could make the implementation of the guidelines to be problematic. According to table 1 and figure 1, the incidences of lack of safety have been reported increasingly from 2014 to 2019. In 2020, due to Covid 19 and the resultant closure of schools, much was not documented. Muasya (2017) argues that educators in Kenya cannot take for granted the safety of the student's environment. Such incidences include rape, drug abuse, injuries, congestion, and fires, among others.

Despite a decade of introduction of the school Safety and Standards Manual, the UWEZO (2015) report shows that Kenyan schools, Nakuru included are far from achieving safety standards (Kang'ethe & Cierra, 2017). Many food handlers in Kenyan schools lack regular training sessions and or the professional's adequate knowledge on food safety and sanitation (Illés et al., 2021). Drug and substance abuse continue to rise,

the main sources being shops and kiosks near schools (NACADA, 2020). This information, therefore, indicates that the safety of the learners in schools in Nakuru County, especially in public mixed boarding secondary schools, may not be guaranteed. This limitation in student safety in schools translates into physical injuries, as well as emotional and psychological stress. In fact, accidents can lead to disability or death, while emotional and psychological trauma can result in a lack of self-esteem and ultimately lead to poor performance of tasks and responsibilities or even dropping out of school. Past studies have not focused on other aspects of student safety. For instance, Njiru (2015) looked at factors influencing disaster management preparedness in public secondary schools in the Nakuru Sub-County, Nakuru County. Odhiambo et al. (2020) examined contributing factors to drug abuse among girls in secondary schools in Nakuru County. These two studies did not focus on the aspect of Safety Standards and Guidelines. This means that there is limited research on the relationship between the implementation of the selected Safety Standards and Guidelines and student safety in secondary schools in Nakuru County, and this was the motive of the current study.

1.3 Purpose of the Study

The purpose of this study was to establish the relationship between the implementation of selected Safety Standards and Guidelines and student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya.

1.4 Objectives of the Study

This study was guided by the following objectives:

i. To find out the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure, and student safety in public mixed boarding Secondary Schools in Nakuru County, Kenya

ii. To establish a relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

iii. To determine the relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

iv. To establish a relationship between the implementation of Safety Standards and Guidelines for Food Safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

1.5 Research Hypotheses

The study tested the following research hypotheses.

Ho_1: There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

H_{o2}: There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

Ho_3: There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

Ho_4: There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Food Safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

1.6 Significance of the Study

This study is significant because it brings to light how the implementation of selected safety Standards and Guidelines has a relationship on student safety in public mixed-boarding secondary schools in Nakuru County, Kenya. The information obtained from the study will be utilised by key stakeholders in the Ministry of Education in the formulation or review of strategies and policies that promote student safety in public mixed boarding secondary schools. The findings also provide feedback to the Ministry of Education on the efficacy of its policies. The study will further benefit the students and parents as there will be fewer cases of injury to students within the school. The schools will also benefit because they will begin implementing the guidelines. In addition, academicians and researchers will utilise information collected from this study as reference materials guiding future studies related to student safety in public mixed boarding secondary schools.

1.7 Scope of the Study

The study was carried out in 16 public mixed boarding secondary schools in Nakuru County, Kenya. Nakuru County has an area of 2,325.8 km². The study was carried out among the school principals, deputy principals and form 4 students. The choice of the respondents was informed by the fact that they are in a better place to provide the required information for this study. The form 4 students were chosen because they had been in the school for a longer time, thus freer to comment on aspects of student safety and the implementation of related guidelines. The study considered only the Safety Standards and Guidelines for Physical Infrastructure, School Grounds, Drug and Substance Abuse and Food Safety as independent variables. This is because these four guidelines are more important compared to the rest, and their non-implementation could compromise the achievement of the educational goals and objectives. Besides, most of

the incidences reported in the Inspection Reports at the Nakuru Education office are addressed by the four guidelines in the Safety Standards Manual. The study concentrated on student safety in public mixed boarding secondary schools in Nakuru County as the only dependent variable. The study lasted for a period of 18 months with effect from January 2019.

1.8 Limitations and Delimitations

This section presents the limitations and delimitations of the study.

1.8.1 Limitations of the Study

The study was carried out in public mixed boarding secondary schools, and therefore the findings cannot be generalised to today's secondary schools and private secondary schools. The findings are limited to the type of school that was under the study. The tools of data collection were structured in such a way as to enable the generalisation of the findings. Nevertheless, generalisation is possible but needs to be done cautiously. Another limitation of the study is that there was a heavy reliance on the questionnaire tool for data collection. Heavy reliance on the questionnaire tool could have the possibility of it being given dishonest information. To overcome this limitation, the study used other tools for data collection, such as the interview schedule and observation checklist.

1.8.2 Delimitations of the Study

The study was confined to the implementation of selected Safety Standards and Guidelines and their relationship with student safety. The study focused on four safety standards and guidelines despite the fact that there are many other safety standards and guidelines that were left out of the study. This is because there were specific concerns in schools that needed to be addressed by the study focused on these four variables. The

study was also confined to public mixed boarding secondary schools. This means that schools such as boys' only schools and girls' only were left out of the study. The private schools were also left out too. This was because there was little inspection data available from these schools.

1.9 Assumptions of the Study

In undertaking the study, the researcher assumed that:

The respondents would provide honest responses to the questionnaires and interview schedules to enable the researcher to accomplish the objectives of the study.

The respondents were aware of Safety Standards and Guidelines.

The school would allow the researcher permission to move around the school and fill the observation checklist.

The implementation of Safety Standards and Guidelines had a relationship with student safety in public mixed secondary schools in Nakuru County, Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is a presentation of the past studies, both empirical and theoretical, with respect to the influence of the implementation of Safety Standards and Guidelines on student safety in secondary schools. The literature is presented chronologically and thematically according to this study's objectives. The chapter also contains the Theoretical and Conceptual Framework.

2.2 The Concept of Student Safety

Globally, student safety is one of the goals behind efforts to bring about school safety (Mubita, 2021). Student safety is a prerequisite in the acquisition of quality education and learners' attainment of educational goals. According to Lussier and Fitzpatrick (2016), a safe school is the foundation of a good education. The researchers observed that when students feel safe, they learn better. Teachers can become more effective when they know students are under control and can concentrate on instructing the class. The importance of school safety in the provision of education is well documented in various studies (Reyes et al., 2012; Glariana & Solar, 2015; Maxwell et al., 2017).

Various international conventions, notably the United Nations Conference, Hyogo; Japan, in 2005 and the United Nations Conference in Geneva, Switzerland have further underscored the importance of the provision of safety in schools, in 2009. Individual countries have also made efforts to enhance student safety in schools. In Malaysia, for instance, schools have a legal responsibility to ensure the safety of students under the common law doctrine of in loco parentis (Khamsiah et al., 2016). The country has established a system and policy on school safety measures. Directives are given to all

Educational Departments, offices, and schools throughout the country in the forms of circular letters, in particular, "Ikhtisas" Circular Letters (Surat Pekeliling Ikhtisas) (Khamsiah et al., 2016).

Some of the factors that have been mentioned in past studies, which affect or determine student safety are the state of physical infrastructure, school grounds, and discipline amongst students, as well as food safety concerns. Discipline problems in schools have evolved over the decades. In the 1950s and 1960s, discipline consisted of dealing with students who were "talking without permission, being disruptive in class, running in the hallways, or smoking behind the gymnasium" (Denmark et al., 2005). By the 1970s, student violations of the dress code were a heated topic, and the 1980s exposed student fighting as one of the major concerns.

At the end of the 1980s and into the 1990s, fighting had given way to violent gang activity, and "with it came the problems of weapons, substance abuse, and violent assaults against other students and school staff" (Denmark et al., 2005). The 20th century also brought school safety issues to the forefront of American education due to developments in technology and communications. In Bath, Michigan, on May 18, 1927, a school board member, Andrew Kehoe, killed 45 people and injured 58 when he detonated a bomb at the Bath Consolidated School and then set off a car bomb as rescuers and onlookers gathered at the school to help. This act was the worst disaster to ever hit an American school up to that time (Lindle, 2008). However, after the shooting deaths of 13 students and faculty members at Columbine High School in 1999, 32 students at Virginia Tech University in 2007, and 26 students, teachers and administrators at Sandy Hook Elementary School in 2012, school violence not only continued to terrify students and teachers, but the nature of the attacks appeared to change drastically (Jones, 2013; Twemlow & Sacco, 2011).

In some of the developed nations, such as the USA and Britain, as well as developing nations, such as Kenya, there have been cases that affect student safety in high schools and secondary schools (Caroll, 2018). These cases include gang activities, widespread disorder in classrooms, students use of alcohol and illegal drugs, student verbal abuse of teachers, vandalism, theft and robbery and rape, just to mention but a few. Caroll (2018) adds that surveys of more than 54,000 middle and high school students found that the presence of security officers, as well as outdoor cameras, made learners feel safer, according to the report published in the Journal of Adolescent Health. However, cameras indoors made students feel more vulnerable.

According to The American National Boards School Association (2019) research, school leaders and principals of both charter and traditional public schools have many roles, but their number one priority, undoubtedly, is to keep students safe. The research found some significant differences between charter schools and traditional public schools regarding the approach to school safety. After accounting for school characteristics such as school size, type, level, locale and program, the research found that charter schools are more likely to perform one or more random sweeps for contraband such as drugs or weapons, excluding dog sniffs, whereas traditional public schools are more likely to require students to pass through metal detectors each day, use one or more random dog sniffs to check for drugs, and maintain a daily presence of police or security personnel.

Flannery et al. (2013) discovered that the odds of a school shooting occurring in one of the 125,000 elementary and secondary schools in the U.S. were “about once every 6,000 years”. According to Flannery et al. (2013), the number of school shootings represented “less than 2% of the annual homicides of youth ages 5–18 in the US”. However, Fisher (2007) maintained that even though school massacres are statistically extremely rare,

they are still tragically real events, and parent and student populations are profoundly cognizant and frightened at the possibility.

In Kenya, Muasya (2017) points out that time, and again the Kenyan public is alarmed by atrocious acts of senseless violence in public secondary schools. While there have been low incidences of student injuries in schools, it can be argued that it has become the subject of heightened concern, awareness and attention among the government, school students and the public in recent years. Educators cannot ignore the safety of the students' environment. School safety concerns are fast becoming an important part of any dialogue about improving school-wide academic performance.

Due to unprecedented insecurity experienced in Kenya in the year 2007/2008, which resulted in disruption of learning in the country, the Safety Standards Manual was developed in 2008 from this informal point of view (MOE, 2008). The development of Safety Standards and Guidelines was motivated by the conviction that a safe and secure school environment facilitates and fosters quality teaching and learning in educational institutions (Action Aid, 2011). Furthermore, in insecure school environments, delinquency, truancy and absenteeism, especially among girls, are common. Thus, there was a need for a study on the influence of the implementation of Safety Standards and Guidelines on student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya.

The Safety Standards Manual (2008) was also expected to provide a benchmark for monitoring, appraising the safety status of schools, empower members of the school community to handle disasters and thus minimise risks, and provide first-line emergency services to learners and staff who become victims of injury or are taken ill. Additionally, the guidelines anticipated an outcome of counselling, guiding and advising learners and staff on issues relating to school safety. It empowers the school to liaise with parents,

members of the community and other partners in order to increase awareness about issues related to school safety; and helps forge alliances and networks that enhance school and child safety. Prior to the development of the Safety Standards Manual, the problem of student safety in secondary schools was very serious in Kenya (Ministry of Education, 2008).

2.3 Implementation of Safety Standards and Guidelines for Physical Infrastructure and Student Safety in Public Mixed Boarding Secondary Schools

Physical Infrastructure includes facilities such as classrooms, offices, toilets, dormitories, libraries, laboratories, kitchens, water tanks, and playground equipment, among others. Such physical structures should be appropriate, adequate and properly located, devoid of any risks to users or to those around them. They should also comply with the Safety Standards and Guidelines of a given country. Inadequate and poorly maintained toilets and water facilities compromised student safety in many schools in Oyo State (Yakubu, 2017). School Safety Standard No.2 in the Safety Standards Manual in Kenya addresses safety in the physical infrastructure. According to the Safety Standard Manual, the school should ensure classrooms, dormitories, offices, kitchens, toilets, and other physical structures are clean, well maintained, safe and properly utilised. The Safety Manual further gives guidelines with regard to the various types of buildings, such as classrooms, dormitories, sanitation infrastructure, libraries and the administration block. In the dormitories, the guidelines address various aspects, such as the windows being without grills and opening outwards. Furthermore, the dormitory doors should have a door at each end and an additional exit in the middle, which should be clearly labelled "Emergency exit". And in the classrooms, the doorways should be adequate for emergency purposes, open outwards and should not be locked from outside at any time when the students are in (MoE, 2008)

The doorways play a fundamental role in the student safety aspects within the schools. In the United States of America, the National Association of State Fire Marshals (2015) notes that diverse safety concerns are applicable to the doors within the classroom sets within the country. This includes having fire-rated doors and doors with the capability of readily being unlatched from inside the classroom with a single motion and without any key, tool or special knowledge. The fire rated doors refer to doors that are fire resistant (National Association of State Fire Marshals, 2015). In the context of the dormitories, the doorways should be adequate for the student population to exit the building in cases of emergencies. There is thus a need to examine the number of doors available against the number of students occupying a given dormitory (Bachma et al., 2011). The location of the doors is also critical in ensuring an adequate exit plan for the students. In this context, the doors should be easily accessible to students at different locations in the dormitory, and consideration should be put on the door location dependent on the design of the dormitory (Kingshott, 2015).

Steinberg et al. (2018), in their study in Chicago Public Schools, United States of America, observed that windows in the classrooms and dormitories are often utilised for the purposes of allowing air and light to make them conducive for students to engage in diverse activities in these spaces. However, the design and location of those windows can pose a security hazard if not well utilised. Chu (2014) notes that among the aspects of windows that could pose safety issues include mechanical injury from the window in respect to diverse operations of the window. According to a study by Human Rights Watch (2017) in Tanzania, most secondary schools are not accessible to adolescents with physical or other disabilities and are inadequately resourced to accommodate students with all types of disabilities. Many lack adequate learning materials, inclusive

equipment, and qualified teachers. It is important to establish if schools in Nakuru County adhere to this important requirement as per the Safety Standards Manual.

Grover (2015) in the United States of America reported that a classroom is one of the central places that students spend in school in their quest for education. The classroom must pass diverse safety measures and standards to ensure that they are safe for both learners and teachers. Amongst the issues that are important for the classroom include classroom design to ensure that the classroom is adequate in size for the number of students in the classroom (Jaarsveld, 2011). In this context, the classroom should have adequate space for the students to move freely about from one side of the classroom to another. The desks and any other materials in the classroom should be arranged in an orderly manner to avoid injuries and facilitate movement (Carlton, 2017). The classroom should be fitted with an adequate number of windows for ventilation and light purposes (Steinberg et al., 2018). Other key characteristics of classroom design include ensuring that there are no loose electrical wires and no spillage on the classroom floors, and the tiles should not be too smooth in a manner that the students can fall and injure themselves (Nyagawa, 2017).

Birmingham City Council (2011) in London states that while injuries often occur during the regular course of play, there are certain factors capable of dramatically increasing the risks, like not having protective gear, ill fitting, or outdated protective gear. The study found that 12(100.0%) of PE lessons in high-cost schools had the required safety gadgets, middle-cost schools had 10(55.6%), while low-cost schools had 18(60.0%) PE lessons with safety gadgets. It is evident that middle-cost and low-cost schools had the majority of PE lessons without the required safety gadgets. This was not good for pupils were vulnerable to injuries. The majority of schools in Kenya, especially in the area of study, are low-cost schools and may not have requisite security equipment. This study

was to help highlight the situation in public mixed boarding secondary schools in Nakuru County, Kenya.

The use of supportive infrastructure such as Closed-circuit television (CCTV) camera was found to help enhance student safety in schools. Gray and Lewis (2015), in the USA study on public school safety and discipline, stress the need for the use of CCTV cameras. Unfortunately, this is not a common gadget in most boarding secondary schools in Kenya (Ndonga, 2018) and, more specifically, in the current study area. Environments fitted with surveillance gadgets provide children with both physical and psychological security since they will always be aware that their safety in school is taken care of. On the same note, Ndonga (2018) argues that there is a need for boarding schools to have mandatory security features, which include the installation of CCTV cameras in a bid to stamp out the sexual molestation of students. However, research needs to be done to assess the need for these important gadgets, considering the fact that cases of insecurity are still reported in schools across the country and specifically in public mixed boarding secondary schools in Nakuru County, Kenya.

Bevans et al. (2011) in Philadelphia studied physical education resources, class management, and student physical activity levels. The researchers noted access to an adequate number of physical educators per student as well-maintained, safe, and appropriate facilities and sports and exercise equipment will enhance students' opportunities for adequate physical activity. Otherwise, limited and unsafe facilities in schools compromise the safety of the learners. However, the focus of their study was on developed countries with much more advanced physical infrastructure, and thus a study in a third-world country like Kenya is vital, given that the country has limited resources to match the standards of schools in developed countries.

Ismail et al. (2016), in a study on the prospect of implementing safety education in Malaysian Primary Schools, found that the holistic state of the dormitories has an influence on student safety. The dormitories should be free from leaking roofs to ensure that the students are not exposed to elements of weather such as rain. The presence of lockable doors and windows is important in ensuring the safety of the students' items as well as protecting students from physical harm from intruders (Krezmien et al., 2010). The arrangement of the items within the dormitory is important in ensuring that the dormitory is not congested. The students should also have placed any wet items of clothing outside for drying to prevent humidity and stuffiness in the dormitory (Muindi, 2014). The dormitory should not also have loose electrical connections and any hazardous materials. There is, however, limited research in Nakuru County on how the state of dormitories influences student safety in public mixed boarding secondary schools. This study was to thus examine the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure, including dormitories and student safety in public mixed boarding secondary schools in the county.

Al-Shahrani (2016), in a study in Saudi Arabia, found that schools in rural areas, especially within third-world countries, often have pit latrines for the purposes of basic sanitary use. The construction and location of these pit latrines have an influence on student safety. The pit latrines should have a well-secured floor to prevent the students from falling into the pit latrine. The manhole to the pit latrines should always be covered to avoid flies and foul odour from escaping from the latrine (Issue & Kibuthu, 2016). The pit latrine should also have a ventilation pipe to ensure that foul odour escapes into the air without inconveniencing the latrine occupants (Mwangi, 2014). The floor of the latrine should be dry to prevent students from falling and injuring themselves. On the other hand, the latrine should have a secured door, and the walls should be well done to

ensure that students have maximum privacy while relieving themselves (Maore, 2014). Walls with gaps often pose safety challenges to the possibility of sexual harassment, especially for girls (Koskey, 2018). Scholarly information on the state of the latrines in public mixed boarding secondary schools in Nakuru County is scanty. Therefore, this study was also exploring the state of these facilities in relation to student safety.

Glariana and Solar (2015) conducted a study on the status of student safety and security among Elementary Schools in the Fifth Class Municipality in Libertad town, Philippines. The study attempted to determine the status of school safety and security in terms of the school sites, school playground, school canteen services, water safety, fire safety, campus security, building security, and sanitary facilities situation in eight (8) elementary schools. It was found that most of the schools had not met the standards as stipulated in the Guidelines of the 2010 Department of Education Facilities Manual. Therefore, the schoolchildren were not 100% safe and secure in the schools. In a study in Rwanda, Khan et al. (2020) observed that both the government and donor organisations view school infrastructure and resources as an important pathway to positively impact secondary education outcomes. Large increases in secondary enrolment, along with inequality in the distribution of resources across different types of schools, have increased the burden on school infrastructure and resources, especially in small, rural schools. The study thus shows that poor implementation of Safety Standards and Guidelines for Physical Infrastructure can have a negative effect on student safety in secondary schools. It is not clear whether this was the situation in Nakuru County, especially in public mixed boarding secondary schools, and thus this study was to collect information on the same.

In Iran, Shaghaghian et al. (2016), in a study on the safety standards in schools in Shiraz, noted that half the schools in Tehran did not have windows in standard position. This had the effect of the windows not being accessible to students. Another aspect that is important to the safety of the students is the window design, which includes the ability of the windows to open outwards as opposed to inward levels (Ali & Fatima, 2016). However, in Kenya, a study needed to be done to establish the state of windows, especially in public mixed boarding secondary schools in Nakuru County, which according to the Safety Standards and Guidelines should be easy to open, open outwards and be without grills.

Jaarsveld (2011) in Tshwane, South Africa, noted that the pathways at the end of the classroom block must therefore be sufficient for the number of students to pass through without congestion. The congestion poses a risk to student safety due to the possibility of students stepping on other students, theft aspects, the risk of suffocation for the younger students and students' physical injuries (Yusuf & Ahmed, 2016). The classroom block should have a reasonable number of classrooms such that it is not too long to inconvenience students going to diverse sections of the school (Siocha et al., 2016). Such information was lacking in the case of Nakuru County, Kenya, given that there was limited research on the issue in the county.

Xaba (2014) in South Africa found that the state of beds was critical in the function of student safety. The state of the beds indicates that beds are structurally sound in a manner that the students cannot harm themselves during movements from one section to another. The structural soundness of the bed indicates that the students are not at risk of falling off the bed while asleep (Brevard Public Schools, 2014). There is also a need for the beds to be well-painted to ensure that they are not rusting hence compromising their structural integrity (Maore, 2014). The beds need to be arranged within the dormitory to

enable the students to have free spaces for movement during the day and at night. Given that there was limited research on the state of beds in Nakuru County, especially in public mixed boarding secondary schools, it was not possible to state with precision how the state of beds affected students' safety, and there was a need for this study as it would examine this association.

According to UNICEF (2011), in Malawi, the quality and inadequacy of school infrastructure and access to safe water and sanitation services have contributed to low enrolment and high dropout rates, particularly for girls. UNICEF, which worked in collaboration with the Government of Malawi, undertook Priorities to upgrade school facilities, build a washroom for senior girls and access for physically challenged pupils. The idea of separate washrooms for senior girls and the availability of appropriate physical facilities for the physically challenged children ensured concerned groups got psychological comfort and privacy. Information in this Malawian study points to the fact that when proper safety standards are properly implemented, student safety will be enhanced.

School furniture, if not well maintained and taken care of, poses a danger to the students. In this context, well-maintained and clean school furniture, such as clean desks and chairs, reduce the chances of students incurring physical harm (Ogonyo, 2012). The clean desks imply that there are no protruding nails or hinges that are not well nailed to the desk frames leading to them falling on the students. Chairs that are not well maintained present chances of them not being sturdy enough to sustain the weight of students leading to falls and consequent injuries (Eberlein & Moen, 2016). The desks and chairs should be well painted to ensure that students are not exposed to rusting portions of metallic frames since this has the potential to expose them to tetanus challenges (Duszka, 2015). The studies in this paragraph demonstrate the state of chairs can

negatively influence student safety. However, such studies had not been conducted on chairs and other furniture that are in the classroom and other areas within the school and their relationship to student safety.

Iicba (2018), in a paper for UNESCO, pointed out that checking the dormitories is a critical component of student safety. The regular spot-checking of the dormitory ensures that diverse challenges are addressed within the dormitories. These aspects include the students have made their beds to ensure cleanliness is guaranteed. In addition, the spot checks ensure that the dormitories are clean and that there are no obstructions in the doorways and windows that could hinder student movements. The beds and student boxes should be arranged in order to ensure that no students hurt themselves while moving from one location to another (Ismail et al., 2016). Regular checking will also ensure that the boxes, beds and other furniture equipment in the dormitories do not have to protrude sharp edges and other defects that could harm the students (Ogonyo, 2012). In addition, the proper functioning of the taps and dry toilet surfaces are key in ensuring that the students do not fall and hurt themselves due to wet surfaces. The functioning of the toilets ensures that there is no foul odour and that the students are not predisposed to infectious diseases (Ngema, 2013). Therefore, there was a need to find out the relationship between the implementation of Safety Standards Guidelines for Physical Infrastructure, including the dormitory and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

In Uganda, Sekiwu and Milly (2014) indicate that in contexts where dormitories have flush doors then, the students should be trained on how to use them. There should be clear pathways of the doors, and as such, any materials or beds should not obstruct the doors. This ensures that in case of any need to exit the dormitory, then the students are not in any way obstructed from free movement. Koskey (2018) states that the doors also

need to open outwards to avoid students being stuck at the doorway in case of a rush. Furthermore, the doors should be locked from the inside and not outside. This is to prevent intruders from getting into the dormitories while students are asleep. This is critical to ensure students can exit with ease in the event of disasters such as fire. The windows should also not have grills to aid in ease of exit in case of disasters (Kemunto et al., 2015). However, a study needed to be carried out to determine whether public mixed boarding secondary schools in Nakuru County had emergency exits on buildings that could be used in case of a fire outbreak, and this study strove to fill this gap of knowledge.

Insecure infrastructure in schools would include poorly constructed classrooms and playing grounds, insufficient and broken-down toilet facilities, gender insensitive location of toilet and bathroom facilities, and inadequate and inappropriate desks and other furniture (Muendo, 2016). A study by Mwangi (2014) in public secondary schools in Kahuro District, Murang'a County, Kenya, established that hygiene standards in dormitories are critical for the purposes of student safety. The hygiene concerns relate to diverse aspects, including the floors of the dormitory, windows and doors, toilets and bathrooms. Good hygiene removes breeding grounds of disease-causing organisms and other insects. It also ensures that there is fresh air and a conducive environment for the students to stay in the dormitory (Jemima et al., 2015). Mwangi (2014) focused only on the state of the dormitories, and this is only one area in the school's physical infrastructure. Moreover, the study focused on all public secondary schools and not public mixed secondary schools, which is the focus of this study. A study that would cover other aspects of infrastructure was necessary, especially with regard to its relationship with student safety.

Kemunto et al. (2015), while examining a safety policy implementation framework for secondary schools in Kenya, asserted that the unsatisfactory implementation of safety policies was attributable to a variety of factors, including inadequate time, inadequate funds, low technical capacity and a lack of proper coordination and supervision from the Ministry of Education. The researcher's conclusion was that if this was the case, it meant that schools were not safe for the students. This proposition was likely to be worse in public mixed boarding secondary schools, but this conclusion could not have been made without research.

Makau (2016), in a study in Yatta Sub County in Kenya, affirmed that Safety Standards and Guidelines had not been fully implemented in schools in the sub-county due to inadequate financial resources, insufficient training for teachers and students on safety standards and a lack of principals' personal initiative to adhere to safety standards. However, Makau did not find out how the non-implementation of the Infrastructural Safety Standards and Guidelines affected student safety in schools, and this study sought to fill this gap.

Omolo and Simatwa (2010) assessed the implementation of Safety Policies in public secondary schools in Kisumu East and West districts, Kenya. The study found that most schools had employed professionals in selecting, developing and maintaining school infrastructure. However, no single school was found to have implemented all the requirements for school health and safety. Even a simple safety policy like the provision of first aid kits in special rooms was found to have been ignored in certain schools. Despite the fact that the schools had not implemented Safety Standards and Guidelines, the researcher did not explore if this had a relationship with student safety. While Omolo and Simatwa (2010) looked at all secondary schools, the current study focused on the

implementation of selected safety standards and guidelines and student safety in public mixed boarding secondary schools.

Migiro (2012) carried out a study on the implementation of safety standards in public secondary schools in Borabu District, Nyamira County, Kenya. The survey design study was aimed at all 21 public secondary schools. The findings of the study revealed that most public secondary schools in Borabu District, Kenya were aware of the existing MOE safety standards, but the majority of the schools had not implemented them fully. The study revealed that the status of school safety was wanting and that the public secondary schools that tried to implement the MOE Safety Standards faced a number of challenges and obstacles, the key among them being a lack of funds. However, Migiro's study looked at all public schools, day and boarding schools, but the current study narrowed down to public mixed boarding secondary schools.

Chemeli (2014), in a study of Public Boarding Secondary Schools in Nandi North District, Kenya, argues that a well-planned and maintained school promotes an environment that allows for effective teaching and learning. It also promotes safety and reduces the probability of accidental injury. The location of a school directly affects the safety, well-being and educational experience of the student. If a school site is selected in a haphazard manner, the educational experience for both the teacher and the student is likely to be less optimal. To enhance school safety, new buildings should be designed, and an architect should supervise the remodeling of older ones. A school building planning committee should assist the architect. Chemeli's arguments have, however, not been taken in the context of public mixed boarding secondary schools.

Alal (2014) studied the role of classroom conditions in the fight of jiggers. The scholar found that about 2500 children in some parts of Kisumu County were absent themselves from school because of jigger infestation. This implies that school and classroom

environments are in a bad state and unfriendly to learners' safety. Yet, parasites such as jiggers cause physical damage to children's bodies and their feet in particular. Such learners have difficulty walking to school. The discomfort may also make them not concentrate in class. The scholar limited the scope of the study to only one area of the physical infrastructure, the classroom, and paid no attention to the condition of other areas of physical infrastructures, such as dormitories, toilets and other open places, which also negatively affect student safety.

According to Ngige (2010), the gruesome killing of two boys at Endarasha Boys' secondary school in Nakuru County, Kenya, was an indication of the institution's management failing to adhere to the laid down safety procedures. The dormitory where the students met their premature death had its windows fitted with grills and wire mesh, which made it difficult for them to have ample escape routes. Furthermore, the dormitory had the capacity to host 120 students but had 180 students, which meant that the admissions were not tied to dormitory capacity. In addition, the investigation into the tragedy revealed that at the time of the accident, one of the emergency doors of the dormitory had been bolted from the outside. The dormitory was also holding more beds than it is required. This study was done almost a decade ago, and there was thus a need to do another study to establish the influence of the implementation of Safety Standards and Guidelines, especially on physical infrastructure, on Student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

Ogonyo (2012) studied the implementation of Safety Standards and Guidelines in public secondary schools in Marani District, Kisii County. The study found that ventilation in the building is a critical component of student safety. Ventilation ensures that there is sufficient air for all the classrooms, dormitory, laboratories or library so that the learners can breathe well (Brevard Public Schools, 2014). Insufficient ventilation in a building

may lead to students fainting due to the stuffiness of the room and, generally, students being uncomfortable. The researcher used only questionnaires to collect data. Research that would use all the questionnaires, the interview schedules and the observation checklist to collect both quantitative and qualitative data was thus necessary, especially in public mixed boarding secondary schools in Nakuru County, Kenya.

2.4 Implementation of Safety Standards and Guidelines for School Grounds and Student Safety in Public Mixed Boarding Secondary Schools

School grounds refer to the entire enclosure designated for use by the school for any of its activities such as learning, playing, games or sports. School grounds should be large to house the required physical infrastructure, including classrooms, offices, latrines, playing grounds, and assembly walkways, among others (MOE, 2008). The safety of children is every parent's concern, and as Bill Clinton once put it, there is nothing more precious to a parent than a child and nothing more precious to our future than the safety of all our children (Richmond, 2018).

School Safety Standard No.1 in the Safety and Standards Manual for schools in Kenya is on safety on the school grounds. The standard directs that the school should have properly demarcated and fenced grounds with a secure gate. It further states that the grounds should be neat, beautiful and safe for use by learners, staff, parents and community members at all times. It further gives guidelines to ensure safety on the school grounds. Some of these are that: learners and teachers should level the school grounds to make them easier for use. Secondly, the bare areas of the grounds should be planted with grass to minimise the effects of dust. In addition, trees in the school should be labelled, indicating their uses and those that may be poisonous.

According to the Consumer Product Safety Commission (CPSC) (2010), playgrounds should comprise high-quality spaces that offer children concrete learning environments

to complement the formal curricula offered indoors. They should also provide children with experiences that will enhance their physical, emotional, social and intellectual development. They should be located in sites that have proper drainage to prevent washouts of the loose fill materials in the user zones. Schools should thus have clearly demarcated school grounds with proper fencing and secure gates/boundaries. This can be construed to mean that failure to adhere to laid down School Grounds Safety Standards and Guidelines has a negative influence on student safety. There was a need, therefore, to conduct a study to establish this relationship, especially in public mixed boarding secondary schools in Nakuru County, Kenya.

Steinberg et al. (2018) in the United States of America emphasised the need for the safety of walkways, given that these are places, that student passes within the school compound from one area to another. The state of these walkaways is important in relation to student safety in schools (Steinberg et al., 2018). The position of the walkways relative to the school fence and the roads have an influence on whether the students have access to outsiders and, therefore possibility of accessing contrabands in the school, such as drugs and alcoholic drinks (Kahunga, 2013). Bushes and long grasses that could act as potential hideaways for snakes and other harmful animals should not surround the walkways. The presence of huge trees beside the walkways could lead to students facing physical danger if the tree branches were to fall off (Ali & Fatima, 2016). The walkways should also be clean and devoid of rubbish as well as other aspects that could lead to falls.

According to Arizona Schools (2018), the walkways, motorways and parking ways should be sufficient for student safety concerns. The positions of these facilities influence student safety in diverse ways, including their position, usage and state. The location of the parking ways is important in the sense that in the presence of student

traffic in school, the parkways should be located in a manner that the students do not face the danger of being knocked by vehicular movements. This could occur as the drivers are either parking or reversing to exit from parkways (Jaarsveld, 2011). The motorways often have a substantive amount of vehicular traffic that could pose a risk to the students. Drivers speeding could lead to students being knocked, resulting in physical harm (Ali & Fatima, 2016). The motorways should thus be placed away from the students playing areas. This is to prevent collision with students who are often playful in nature. The study was conducted in the context of the United States of America, and the situation of traffic and parking ways may not be the same in Kenya. However, the maintenance of parking ways in Kenya was an issue that needed to be studied with respect to its influence on student safety.

According to ASEAN Safe Schools Initiative (ASSI) (2018), student safety has been a great concern in the Philippines, with an average of 20 typhoons visiting the Philippines every year. Schools are mandated to form a School Disaster Risk Reduction and Management (DRRM) team, which is headed by a designated coordinator. The team is charged with the responsibility of ensuring the establishment of an early warning system for the school and ensuring the students, and the school is safe. This school safety initiative is meant to address natural disasters such as typhoons. The MOE Safety Standards manual also addresses disaster risk reduction but does not address natural disasters, as in the case of the Philippines. Moreover, in Kenya, Nakuru County included, the challenges of natural disasters are minimal.

According to Bachman et al. (2011), in India, the school staff plays critical roles in student safety. The teachers act as the guidance and mentoring persons for the students to shape the student behaviours, attitudes and practices towards diverse issues that may shape their safety (Bachman et al., 2011). These issues include negative peer pressure

and drug abuse that may lead to activities that may compromise their psychological and physical health (Al-Shahrani, 2016). The school staff also put policies and measures that enhance student safety, including policies on school entry and exit points policies on lights off and general student conduct. In this study, the policies and measures are those proposed by the teachers to promote student safety in that specific school. Bachman et al. (2011)'s study describes a situation where policies originate from within the school. In Kenya, guidelines are developed by the government and implemented in all the schools in the republic. The current study focused on safety in public mixed boarding secondary schools, considering the fact that safety policies originated from outside the school and are not developed within the school.

In India, Bhayya and Shyagali (2013) reported that medical and oro-facial factors may predispose a child or adolescent to trauma, but environmental factors could also predispose a child to injuries. The authors have shown that dental injuries in students usually occur at home, but reports also show that injuries occur in schools, particularly during recreation and on playgrounds. Therefore, the school grounds may not be safe for use by the students if the existing National School Safety Policy Guidelines are not effectively implemented. The scholars were concerned with the fact that despite the existence of Safety Standards and Guidelines, student safety could have been compromised through unsafe grounds. Was this case in public boarding secondary schools in Nakuru County?

Xaba (2014) in South Africa found that properly reinforced fence is significant for student safety across diverse countries. Students are often in development mode and, as a result, often seek to experiment with diverse substances such as drug abuse and alcoholic drinks uptake. Properly reinforced fences reduce the possibility of students sneaking out to visit bars and engage in drinking escapades and drug abuse, and other vices (Ali &

Fatima, 2016). These activities pose a danger to the students since when mixed with the general population and adults in entertainment spots, there are possibilities of fights and accidents that pose a danger to the students' physical well-being (Jaarsveld, 2011). The properly reinforced fence also keeps the drug peddlers out of the school, minimising the contact of the students with outsiders. Gaps in the fences lead to potential areas for drug peddlers and outsiders to access the school. The outsiders' access to schools led to cases of theft and student molestation, including sexual molestation for both genders (Ogonyo, 2012). The Safety Standards and Guidelines in Kenya stipulate that a school should have a properly reinforced fence with a security officer. This study will establish whether public mixed boarding secondary schools in Nakuru County have embraced these guidelines and how the guidelines, as implemented, contribute to student safety.

In Nigeria, Eigbobo et al. (2014) observe that playgrounds provide a recreational refuge for children and play a role in the development of their cognitive, psychosocial, and physical coordination skills. Unfortunately, playgrounds may also be a source of traumatic dental injuries (TDI). The researchers found that most of the schools had playgrounds, but teachers considered safety measures in terms of playground size, surfaces, equipment type, height and supervision. It is clear that some schools in Nigeria also face the problem of student safety, especially on the school grounds.

The gate provides access and exit to the school to both the students and visitors. The state of the gate is thus critical in controlling movements in and out of the school (Xaba, 2014). Students need to be locked inside the school and exit the school through the issuance of official permission (Mutua, 2016). The presence of a properly fitted and lockable gate is thus important in this regard. Control of movements in and out of the school ensures that drugs and illegal materials are not sneaked into the school. Amongst the products that should not be sneaked into the school include diverse petroleum

products that are likely to be used to torch the school (Ugwulashi, 2017). Lockable gates also ensure that outsiders do not access the school and steal students' items or molest the students in any way. Thus, an understanding of the state of school gates in the context of this study was crucial.

According to Zhang et al. (2016), the types of trees planted in school have an important bearing on student safety. Different trees have diverse root systems, such as tap and fibrous root systems. The trees with fibrous root systems are susceptible to falling down if the top soil which holds their roots is washed away by rain (Steinberg et al., 2018). This poses a danger to students if trees fall on them and on the school buildings which they occupy (Henson, 2012). The grain pattern of trees plays a significant role in the decision as to whether the trees pose the risk of falling off holistically or branches breaking off from the tree trunks. The trees with cross grains have an increased risk of breaking off compared to those with straight grains (Dahl, 2012). Thus, these trees should not be planted in the walkways and near buildings in schools. The three scholars demonstrate the fact that there is a link between the state of grounds and student safety. There was a need, therefore, to establish the influence of the implementation of Safety Standards and Guidelines for school grounds on student safety in public boarding mixed secondary schools in Nakuru County, Kenya.

Maore (2014) observes that the school grounds provide a good surface for the students to play and engage in diverse activities such as socialising and general movements. The state of these grounds is thus important in diverse ways. Unlevelled playing fields make the students susceptible to falling and injuring themselves. Ground maintenance ensures that there are no bushes and tall grasses that can act as hideout grounds for animals and insects that pose dangers to students (Iicba, 2018). Tall grasses and bushes could also provide good hideouts for criminals out to steal from and harass students or for storing

contraband items the students (Ali & Fatima, 2016). In addition, students engaged in drug abuse and the tendency to sneak out of school would use those bushes and tall grasses for hiding purposes. However, the study was conducted in a different county with distinct cultural and topographical features from Nakuru County, and thus, there was a need to explore this aspect in Nakuru County.

Purdul et al. (2016), in a study done in Isinya District in Kenya, opine that inspection of the school grounds is important to student safety in diverse ways. These inspections lead to the discovery of break-ins in the fences for repair purposes and provide an opportunity for continuous surveillance of the school grounds and fences. This is important in leading to the identification of security lapses and addressing those lapses (Al-Shahrani, 2016). The frequency of the inspection is important in identifying and continuously addressing security breaches as they arise (Xaba, 2014). This is important in ensuring that the school is safe at all times with respect to its grounds. The inspection also identifies opportunities for evolving strategies for better school management with respect to safety issues. However, the studies discussed therein are in different administration and geographical locations that may not have the same outcomes as would be the case of Nakuru County, especially in public mixed boarding secondary schools.

Macharia (2012), in Central Division, Naivasha District, Kenya, describes school playgrounds as the designated outdoor areas located in the school where children play or participate in sports and games with or without stationary and manipulative equipment. The researcher found that despite the many constraints that make it impossible to ensure total playground safety, children continue to use the playgrounds for outdoor activities. There is a need to guarantee the safety of facility users. School facilities must conform to some standard specifications or guidelines to make them safe for students and teachers. It is only through monitoring, supervision, control and regular maintenance that the

provision of these school facilities in an educational institution can be safely guaranteed. Macharia's study may not have been reflective of the situation of the entire Nakuru County. There was, therefore, a need to find out how the implementation of Safety Standards and Guidelines for School Grounds influenced Student Safety in public mixed boarding secondary schools in Nakuru County.

Kang'ethe and Cierra (2017), while referring to the UWEZO (2014) and (2015) surveys, pointed out that despite the formulation and implementation of Safety Standards and Guidelines for school grounds, school safety in boarding secondary schools is still of serious concern. The scholars observed that school safety had been a concern for more than a decade. The Ministry of Education formulated the Safety Standards Manual in July 2008 (Schools as Safe Zones). Their report shows that many preventable cases have ended the lives of pupils and led to the destruction of property worth millions. There are cases where children have been kidnapped, dormitories being reduced to ashes, and pupils collapsing in school with no one capable of administering first aid. However, the analysis by UWEZO 2014 and 2015 surveys were nationwide, and the sample collected may not have reflected the situation in Nakuru County, especially in public mixed boarding secondary schools.

In Kenya, Wayong'o (2018) established that most secondary schools did not have safe playgrounds. Following this, the scholar recommended that in order to ensure safe school playgrounds, the following guidelines have been termed necessary as per the recommendation by the Ministry of Education: Schools are to be properly demarcated, and grounds fenced with a secure gate; the grounds are to be neat, beautiful and safe for use by learners, staff, parents and community members at all times. School grounds are, wherever possible, located in places with the least climatic hazards, such as floods, wind

effects and similar natural hazards. However, Wayong'o did not establish a link between the state of school playgrounds and student safety.

2.5 Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety in Public Mixed Boarding Secondary Schools

MOE (2008) defines a drug as any chemical that changes or modifies one or more body functions. Drug use, misuse or abuse has major implications on the health of individuals. Drug abuse is the chronic habit of using a drug for a reason other than for what it is intended. Frequent drug abuse can lead to drug dependency or addiction of individuals. School Safety Standard No.6 in the Safety Standards Manual for schools in Kenya is on safety against Drug and Substance Abuse. The safety standard stipulates that the school should endeavour to create a safe and caring environment where learners and staff know the dangers of drug abuse and strive to make the school a drug-free environment. The Safety Standards Manual proceeds to give drug instructions that focus on how drug menace in schools can be addressed. For instance, it states that the teachers should, in the subjects they teach, enlighten the learners about the drugs and dangers of drug abuse. It further highlights how the instructions on drugs should be enriched through. Some of the methods and techniques are given to the school and learners, displaying posters promoting a campaign against drug abuse.

According to (EMCDDA) European Monitoring Centre for Drugs and Drug Addiction (2014), the main drugs abused in the world today range from the socially accepted ones like alcohol, tobacco, Miraa and caffeine to the outlawed ones such as heroin, cocaine and cannabis sativa (bhang). The long intake of these drugs leads to drug addiction. Drug addiction is a disease that impairs the structure and function of the brain. Harroff-Tavel and Nasri (2013) attributed drug abuse among youth to the feelings elicited by the drugs, influence from friends and kins, experimentations, medicinal use and stressful lives.

Statistics in Malaysia by National Anti-Drug Agency (NADA) (Malaysia) (2013) revealed that drug types, which were commonly misused by Malaysian secondary school students in 2013, cited opiates as the highest-ranked substance, followed by methamphetamines, cannabis, amphetamine-type substances (ATS) pills, and psychoactive or psych pharmaceutical pills. In Asia, the Ministry of Education (2009), through a health survey conducted in the Maldives on student drug abuse, the findings revealed that school children aged 13-15 years (n=1,971) were found to engage in drug abuse in their lifetime.

Drug abuse affects people at all levels of development. Drugs are introduced at very early ages, between 10-14 years (Kyalo, 2010). Research shows that psychotropic drugs are introduced to 37 per cent of people aged between 10 and 14 years and nearly 75 per cent of those aged below 19 years across the world, thus spreading the unpronounced negative effects to development since these ages consist of young people who could otherwise change the look of nations (Barasa, 2013). It was not clear whether the implementation of the set Safety Standards and Guidelines has managed to positively influence the infiltration of drugs in Public mixed boarding secondary schools in Nakuru County, Kenya.

The findings from the longitudinal College Life Study (CLS) conducted by Caldeira et al. (2015) at the University of Maryland found that there was widespread use of illegal substances, with many students meeting the criteria for substance use disorders. Cheloti and Gathumbi (2016) studied the effectiveness of the school community in curbing Drug and Substance Abuse (DSA) among secondary school students in Kenya. The study employed a descriptive survey design. The study sample consisted of 35 head teachers and 407 students. Questionnaires were used to collect Data from head teachers and students. It was established that students obtain drugs from the school community. Lack

of cooperation from parents and guardians was frustrating DSA intervention efforts in schools. Even though the study revealed that students obtained drugs from the school community, the scholars did not study whether Safety against Drug and Substance Abuse Guidelines had been implemented and how they influenced student safety.

According to the Republic of Kenya (2008), cited by Nyakundi (2012), the causes of insecurity in schools can be categorised as either internal or external. External school factors refer to factors outside the school, which have a great influence on the discipline of students. These factors include drug and substance abuse, varied types of drugs and narcotic substances, which are readily available in some localities where schools are situated. Such drugs and substances are bhang, *marijuana,* tobacco, *changaa*, *kuber*, and glue. Furthermore, rejection of head teachers by the community, insecurity within and outside the school, peer group influence, devil worship, and child labour have all led to indiscipline in schools. Other factors are the unauthorised visitors and human rights awareness, where students agitate for unreasonable demands on the school administration and the role of the mass media, both print and electronic. In light of Nyakundi's work, it is clear that drugs and substances have found their way into secondary schools. This makes it very necessary that school leaders should ensure the implementation of the set Safety Standards and Guidelines. More so, as it was in their study, it was not clear if the guidelines on drugs and substance abuse were having an influence on student safety.

In a study by Nshekenabo (2018) in Tanzania, it was established that drug and substance abuse was a great challenge to student safety in most secondary schools. The study also found that the use of drug abuse among students leads to mental disability, lack of concentration, violence, and health problem. A study by Mpangala (2011) reports that the incidence of drug abuse is on the increase among young people and schoolchildren,

and it becomes more apparent every year, despite the fact that drug abuse is against the school and national acts.

Njoki (2013) studied the extent of drug and substance abuse in secondary schools in Kiambu County, Kenya. The key findings from the study were that drug abuse among students was common; both boys and girls have abused drugs, with the majority being in boys' schools. The greatest ratio of drug abusers to non-abusers among the sampled schools is aged between 16 and 18 years. Also, it was established that there is a significant relationship between drug abuse and age. In addition, the use of drugs by other family members and easy access to drugs greatly led to drug abuse by the learners. However, Njoki's study did not look into the Safety Standards and Guidelines for Drug and Substance Abuse and whether these guidelines had an effect on student safety. This study explored this and narrowed it down to public mixed boarding secondary schools in Nakuru County, Kenya.

Chumo (2012) carried out a study on the challenges facing student leaders in the management of discipline in secondary schools in Kosirai Division, Nandi District, Kenya. The study found that in most of the schools, there was the use of drugs among high school students and those student leaders encountered problems when dealing with students who use drugs. This also posed a security risk to those other students not on drugs. Students' safety was not therefore guaranteed under such conditions. This is the same year when the Safety Standards and Guidelines were introduced. Therefore, the current study was to generate useful information on the influence of Safety Standards and Guidelines for Drug and Substance Abuse on student safety.

2.6 Implementation of Safety Standards and Guidelines for Food Safety and Student Safety in Public Mixed Boarding Secondary Schools

According to the World Health Organization (2010), food safety is defined as the degree of confidence that food will not cause sickness or harm to the consumer when it is prepared, served and eaten according to its intended use. Food safety is an international concern. A considerable proportion of foodborne diseases is owing to unsafe food-handling practices. WHO reported that these diseases were found to affect more than 30% of the population in developed countries. Thus, enhancing the consumer knowledge of safety rules would minimise pathogenic microorganisms in food. Great academic interest has been given to investigate the knowledge and self-reported practices of food safety all over the world. The problem was expected to be even more severe in developing countries like Kenya.

The School Safety Standard No.5 in the Safety Standards Manual for schools in Kenya is on food safety. The Standard states that learners in the school should have access to safe and wholesome food for their proper physical and intellectual development. The guidelines further outline a number of measures that ensure school learners' access to safe food. Some of these are that school administration should undertake measures to protect food from rodents, insects and bacterial contamination. Also, teachers should encourage learners to observe basic hygiene, especially the washing of hands before and after meals. In a school setup, access to and consumption of safe food by learners is important because safe and wholesome food promotes health and, in turn, effective learning. Research has shown that learners who have access to wholesome and safe food have more enjoyable and successful learning experiences (MOE, 2008).

Ismail et al. (2016) in Malaysian Primary Schools found that the school administration should monitor the type of food entering the school to provide security for students. In

doing so, schools have prohibited the hawking/vending of food to students in the school compound. The students are therefore required to eat what the school provides. However, in some cases, schools have a shop to sell loaves of bread, toothpaste and other necessities to students and are fully managed by the school (Mwenga, 2011). Trusted and vetted suppliers should only supply the school with food commodities. In so doing, the school is able to monitor what the students eat while in school (Makau, 2016). A school that strictly regulates the type of food entering the school is able to assure students of their safety concerning food security. It is clear from the study that compliance to set Safety Standards and Guidelines translates into improved student safety. However, the same could not be said with respect to public mixed boarding secondary schools in Nakuru County, for limited studies have been done. This current study thus was to provide the relevant answers.

Shaghaghian et al. (2016) found that hygiene is a very important aspect of ensuring the safety of foods. Teachers, from time to time, encourage students to maintain high levels of hygiene by ensuring that students wash their hands before and after taking meals. Some of the hygienic considerations that students are encouraged to practice include; washing hands with soap before and after having meals, washing their utensils and keeping them in clean places and avoiding storing food in their classes or dormitories (Ali & Fatima, 2016). In light of student hygiene, schools may occasionally conduct inspection of the level of cleanliness of students and how they handle food to ensure that there is a high degree of hygiene among the students. In the event of an outbreak of diseases, a school whose students do not observe a high standard of hygiene suffers the most (Ogonyo, 2012). Therefore, this study was undertaken in public mixed secondary boarding schools in Nakuru County to find out how the existing Safety Standards and Guidelines for food safety had influenced student safety.

People handling food and being mandated to serve food to students are key determinants of food security in the school. This personnel need to be sensitised to observe personal cleanliness in executing their duties (Ali & Fatima, 2016). This is because food can be stored and prepared well by observing all hygienic aspects but get contaminated at the last stage of serving the students (Shaghaghian et al., 2016). The school administration should make sure that the people who are supposed to serve students are clean and observe a high standard of hygiene. This can be done by ensuring their personal level of cleanliness is high and that they wash their hands before serving the food (Cowan et al., 2013a). The team should wear clean uniforms and ensure that their heads are covered. When this is observed, the school is able to attain a safe environment for students in regard to the safety of students against food-related infections and diseases (Mburu, 2012). The unanswered question is if guidelines for food safety spelt out in the 2008 Safety Standards Manual had improved the level of food safety for students.

Avoiding the spread of bacteria when buying, storing and preparing food ensures that food is safe from foodborne illness. This threatens the safety of students in regard to the food they take to school. Schools buy food in bulk and store it in storage facilities for future consumption. The storage facility should be enough in size and number to accommodate all the food to be stored in the school (Bachman et al., 2011). When the storage facilities are inadequate, it will imply that not all food will be safely stored for student consumption. Safety Standards and Guidelines for food encourage food to be stored in three types of food facilities, namely, Perishable foods storage, Semi-perishable foods storage and Staple or non-perishable foods storage (Mburu, 2012). The classification is guided by the perishability of food and safety requirements such as temperature and moisture level (Cowan et al., 2013). Storage for perishable goods should contain foods like meat, milk, vegetables and fruits. This storage should contain a

refrigerator. Ugwulashi (2016), from a Nigerian context, emphasises that the facility for storing semi-perishable foods should contain flour and dried products. Staple or non-perishable foods storage facilities, on the other hand, should contain sugar, cereals, spices and canned goods. In some schools, due to a lack of adequate food storage facilities, food has been stored in classrooms and therefore is at risk of contamination (Shaghaghian et al., 2016). The challenge of food storage needed to be explored in the context of public mixed boarding schools in Nakuru County, especially in the context of laid down Safety Standards and Guidelines provided by the Ministry of Education.

Krezmien et al. (2010) study in the United States of America observed that schools rely on suppliers to supply most of the food products the school. In ensuring the security of food consumed by the students, the school must make sure that the food it purchases for students is in good condition, fresh and safe for human consumption. Schools may put measures to monitor the quality of food that is supplied to the school. One of the measures is to vet the food suppliers and also inspect the food that has already been supplied to the school by the suppliers (Ugwulashi, 2016). From time to time, there is a renewal of contracts and terms of reference in order to improve the quality of food supplied (Ali & Fatima, 2016). Further, from time to time, the school administration appraises the performance of the suppliers to ensure they perform according to the requirements and expectations of the school (Grover, 2015). This helps to ensure that there is food security in terms of the condition and safety of food for human consumption. Contextualisation of such food safety research to Nakuru County was necessary; considering limited studies exist that investigate the influence of implementation of the guidelines on student safety.

In the storage facility, rodents should keep food in a condition that ensures that the food is free from infections by bacteria and attacks. For perishable foods, the school should

ensure that there is a refrigerator to keep such foods like meat, milk and vegetables (Tallo, 2014). For non-perishable food such as sugar and cereals, the school should ensure that the food is kept in a proper condition, free from water and attack by rodents. The school may carry out cereal and grain treatment from time to time to keep them free from attack by rodents and insects (Ngara & Magwa, 2015). In some cases, the school administration seeks assistance from public health officers. If food in the school storage facility is affected by rodents, insects and bacterial contamination, then the food is not safe for human consumption and, therefore, unsafe for students (Siocha et al., 2016).

Food safety should be observed during food preparation. The level of cleanliness of tables where food is chopped or cut as well as the utensils used for such purposes is essential in determining the level of food safety (Kemunto et al., 2012). The entire kitchen or the places in which food is cooked should observe high levels of hygiene. The staff preparing food for students needs to observe a high standard of hygiene. From time to time, school administration is expected to inspect the preparation of food to ensure that it adheres to Food Safety Guidelines (Mutua, 2016). Employing qualified staff to cook for students has been seen as a measure of ensuring food safety for students in the school (Cowan & Painne, 2013). A school that has qualified staff to cook for students and makes sure the food preparation process adheres to safety requirements provides a safe environment for students in regard to food safety (Russell, 2011).

Most of the schools prepare food and have it ready some hours before the time that students take their meals. By the time the students are served their meal, the food might have gotten cold (Siocha et al., 2016). Cold food may freeze up students' stomachs creating a blockage and, thus, poor absorption of nutrients by body tissues. This may result in indigestion problems and therefore lead to illness among the students. Cold food also harbours bacterial infections, and this can result in diseases for the students

(Kemunto et al., 2015). A school is supposed to ensure that the food that is consumed by students is hot in order to prevent such cases. By making this arrangement, among other considerations, the school can be termed as safe for students in regard to the quality of food that is served to the students (Gatua, 2015).

Some students may have health conditions that do not allow them to consume the food that is prepared in the school. At the point of admission into the school, schools seek to establish whether students being admitted have any special dietary needs (Siocha et al., 2016). In light of this, the school makes an arrangement to ensure that such students have their needs catered for in relation to dietary needs (Ngara & Magwa, 2015). Special foods are prepared for such students in order to ensure food safety for such students. If students with special needs are not catered for in relation to dietary needs, such students may experience health problems (Kemunto et al., 2015). In such situations, a school cannot assure students of their safety concerning the food they consume.

Evidence of unsafe food for students is seen in the reaction of students after consuming the food. If the food is unsafe for consumption, the students will experience discomfort after eating the food. Some students may develop allergies to eating certain foods (Ngara & Magwa, 2015). The school administration should ensure that students displaying frequent discomfort after eating food are referred to medical personnel for tests on allergies. When the tests are done, the problem will be established, and a corrective measure will be taken (Kemunto et al., 2012). From the checks, the student may be advised to avoid certain types of foods, or the school is advised to ensure that the food is safe for human consumption, depending on the results of the medical check-ups. If a school ensures that every student who experiences medical problems due to the consumption of food provided in the school is taken for medical tests and medication, such a school is safe for students in terms of medical care (Siocha et al., 2016).

According to Wayong'o (2018), in Kenya majority of schools do not have a water source within the school compound, and even those with water actually do not have it throughout the year. This means adherence to recommended hygiene standards and food safety measures is not guaranteed. More so, the Uwezo (2014) findings show that 46 per cent of schools in Kenya do not have the MoE School Safety Manual, with only 40 per cent having an operational School Safety Committee as stipulated in the manual. Only 4 per cent of schools in Kenya have a functional fire extinguisher, with 45 per cent of schools having an operational guidance and counselling room. However, the influence of such omissions on student safety in public mixed boarding schools in Nakuru County was yet to be explored.

School hygiene is another key factor that determines a pupil's health and attendance. For example, when a child contacts diarrhoea, which is transmitted through contaminated water, they end up missing school for a couple of days resulting in poor performance. Uwezo's (2014) findings indicate that although 8 in 10(79%) of the schools have piped water, only half of that (36%) had a functional hand-washing facility near the toilet with water and soap. One would justifiably ask if the availability of water is not the problem; what then makes it so difficult to create water points near the toilets to improve student hygiene.

2.7 Theoretical Framework

The Invitational Theory developed by Purkey and Schmidt (1996) and Systems Theory developed by Von Bertalanffy (1968) supported this study.

2.7.1 Invitational Theory

Purkey and Schmidt (1996) developed the Invitational Theory. Invitational Theory (Purkey & Schmidt, 1996; Purkey & Siegel, 2013; Novak et al., 2014) seeks to explain phenomena and provide a means of intentionally summoning people to realise their

relatively boundless potential in all areas of worthwhile human endeavour. Its purpose is to address the entire global nature of human existence and opportunity and to make life a more exciting, satisfying and enriching experience. According to the advocates of Invitational Theory, there are five basic assumptions of the theory. The first assumption states that people are able, valuable, and responsible and should be treated accordingly. The second one explains that educating should be a collaborative, cooperative activity. The third assumption states that the process is the product in the making, while the fourth one states that people possess untapped potential in all areas of worthwhile human endeavour. The fifth assumption summarises by stating that these potentials can best be realised by places, policies, programs and processes specifically designed to invite development and by people who intentionally invite themselves and others personally and professionally.

The theory is relevant to the current study in various ways. The first assumption views the learners as people who are valuable and should be treated accordingly. Safety is one of the issues that should be provided to the learners. The second assumption contends that educating the learners is not a man's activity but a collaborative effort of all the stakeholders: principals, deputy principals, teachers, parents, community and sponsors. All these people should ensure that a safe and secure environment is created for learning to take place. The fifth assumption relates that the potential of the learners can best be realised through policies. Safety Standards Manual is a policy document developed by the Kenyan government to ensure that the safety of the learners is fostered in a school setup. Without the safety of the learners, the goals and objectives of the school may never be achieved. The school principal has a key role in ensuring that sound policies and guidelines are implemented to make students want to be in school and concentrate on their studies (Mokaya, 2013).

On programs a good impression may be made on school members and the environment by developing school safety programs. Managers who create processes that enable interaction with the social environment and cooperate with other organisations can make the school more appealing and safe. The school principal executes themed school safety programs as per approved MOE Safety Guidelines. In the context of this study, Invitational Theory is relevant as it is through the positive interaction of the various stakeholders that successful implementation of safety measures in schools can be achieved. A key feature of the Invitational Theory is positive self-concept developed through a school environment leads to more productivity. The theory is relevant since the school managers have a role of ensuring the implementation of Safety Standards and Guidelines for Physical Infrastructure, School Grounds, Drug and Substance Abuse and Food Safety for the enhancement of student safety.

Some scholarly works provided a critical review of the application of Invitational education theory beyond the school environment. Welch and Smith (2014) criticised the humanistic approach for having a weak structure that leads to a weaker realisation of set objectives. Moreover, Duchesne et al. (2013) pointed out that the theory only provides people in the school environment with principles of practising good behaviour that can strengthen integration to build an inviting climate at school for everyone and not better policy outputs. Welch and Smith (2014) concur with Duchesne et al. (2013), arguing that Invitational education theory cannot bring meaningful effects if it is implemented on its own; in order for the theory to be effective, it should be combined with principles from social, behavioural, and cognitive approaches (Lynch, 2012; Welch & Smith, 2014).

Invitational education theory has also been criticised by McLaren (1988), an economist who argued that, since the school consists of people with different backgrounds and different economic statuses, one could not understand how the classroom can be truly

humanised when there is greater existence of social and economic inequality. Additionally, Richards and Combs (1993) affirm that the theory is designed specifically to deal with a negative learning environment to seek the equality of the people who are disempowered, disengaged, and alienated and forget that even those in power are humans too. Despite all these limitations, this theory remains relevant and suitable for this study because of its core concept, which is "learning invitation", which brings about meaningful engagement, in educational sites, especially with the understanding that the Safety Standards and Guidelines have been put in place to help promote student safety (Haigh, 2011).

Cankaya (2010) studied school managers' views on school safety from the perspective of the Invitational theory in the Center of Elazig, Turkey. More so, Wainaina (2012) examined the factors affecting the implementation of safety measures in secondary schools in the Kikuyu District of Kiambu County, Kenya. The two scholars observe that the tenets of the Invitational Theory are in tandem with the strategies, which can be used to promote school safety.

2.7.2 Systems Theory

Biologist Von Bertalanffy developed the systems theory in 1968 (Von Bertalanffy, 1968). According to the theorist, organisations are viewed as open social systems that must interact with their internal and external environments in order to survive. Pfeffer and Salancik (1978) described the environment as the events occurring in the world that have any effect on the activities and outcomes of an organisation. Environments range from "static" on one extreme to "dynamic" on the other. Static environments are relatively stable or predictable and do not have great variation, whereas dynamic environments are in a constant state of flux. Organisations such as schools depend on their environments for several essential resources: customers who purchase the product

or service, suppliers who provide materials, employees who provide labour or management, shareholders who invest, and governments that regulate. The school, in this case, is a system. In a school setup, students are the customers, and their safety should be guaranteed.

Karanja et al. (2014) in Kenya observed that the effect of systems theory in management is that professionals such as researchers, educators, and consultants help managers to look at the organisation from a broader perspective. The researchers observed that students are important inputs (materials) waiting to be processed through the education system. The safety of these materials is critical for the functioning of the education system. Abenga (2009) carried out research on the systems approach to education in Kenya with implications for educational media programme development. Education qualifies to be called a system. The paper discusses the impact of the absence of a functional system of education and explains that, as an open system, the safety of all stakeholders, students included, should be upheld to enhance the quality of outcomes.

A disadvantage of systems theory suggests all variables have some equality in the extent of impact and control over the situation of student safety in secondary schools. We know this not to be the case as some variables are bound to have a greater impact and degree of control when compared to other variables, and this has a tendency to offer generalised ideas. This deficiency of specificity translates into inefficacy when applied in specific case scenarios. Its non-prescriptive nature is also its undoing. This is because it fails to give outright measures to take in specific situations. However, this has been deemed by others as a leeway for practitioners to apply a broad range of solutions and strategies rather than sticking to one possibly ineffective strategy (Rutan et al., 2014).

The theory is also criticised for not being able to offer a single functional theory by itself and instead relying on connections to seek coherence. It is also not the most

comprehensible of all theories; it can be quite technical yet too conservative, whereby it creates systems that are too stable or too self-reliant while overstating social cohesion. Some quarters have concluded that it includes too much junk in its explanation and, therefore, advocated for a leaner theory that explains with emphasis the most important aspects of human interactions.

This theory is, however, relevant to this study in that the students like any other customers; need to be guaranteed their safety for the effectiveness of the school system. Systems interact with the environments, which have threats that interfere with the service provision exercise. With regard to the school system, students are exposed to threats such as unsafe infrastructure, school grounds, drug and substance abuse and unsafe food. The systems then process the input internally, which is called throughput, and release outputs into the environment in an attempt to restore equilibrium to the environment. There is, therefore, a need for secondary school management and all the stakeholders to engage in activities that promote student safety, such as compliance with the Safety Standards and Guidelines provided by the Ministry of Education.

2.7.3 Comparison between the Theories

The first theory, the Invitational Theory, explains what can be done to ensure student safety in schools (physical infrastructure safety, school grounds safety, drug and substance abuse safety, food safety), the independent variables. The fifth assumption relates that the potential of the learners can best be realised through policies, the policy being the Safety Standards and Guidelines. On the other hand, the Systems Theory views the school as an open system that has both internal and external influences, which could have negative or positive influences on the system. The negative influences are in the form of threats such as a lack of safety. This challenge is posed by either internal or external factors. The school administrators should thus be wary of such threats and

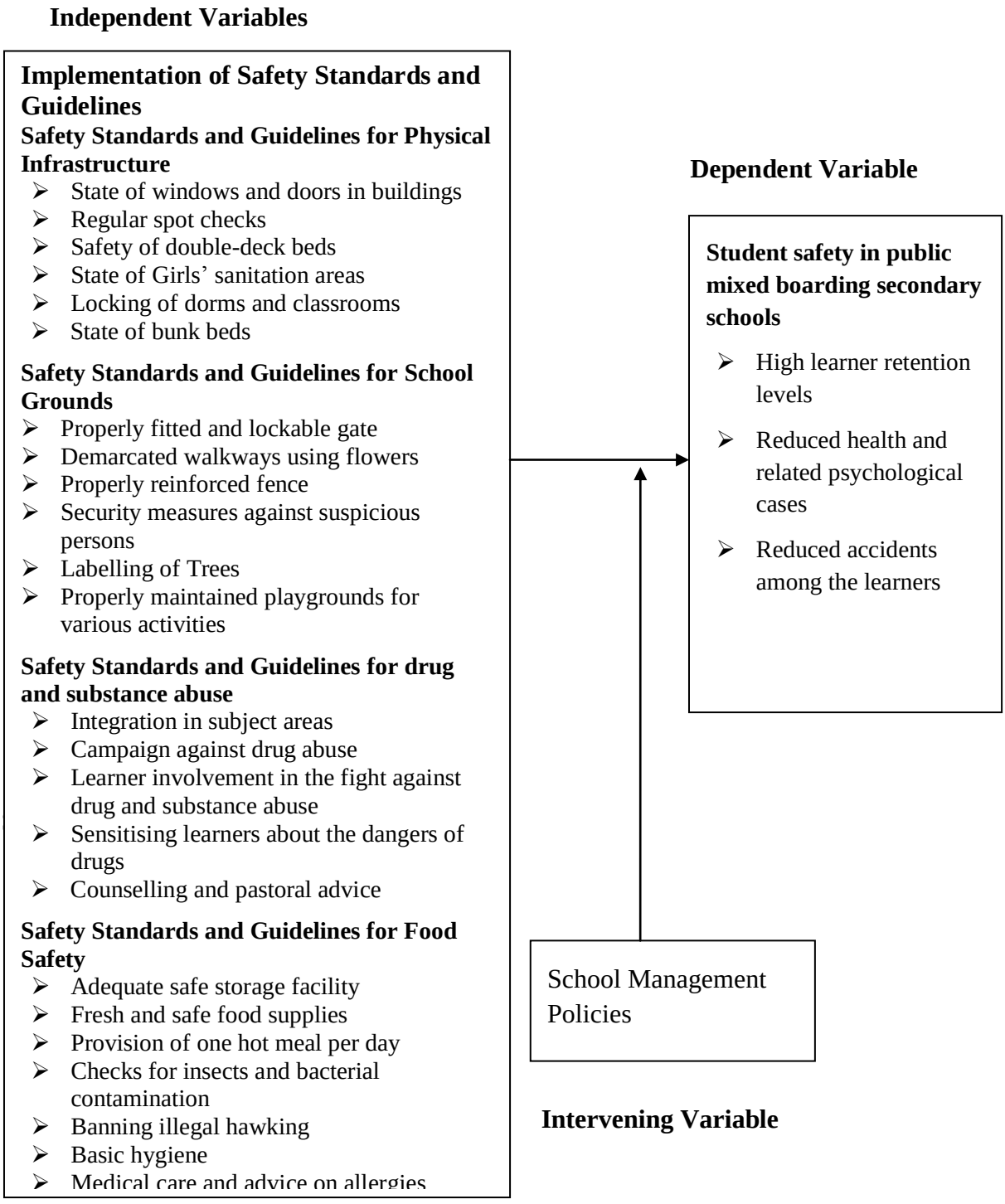
control them so that the goals and objectives of the schools are achieved. The theory explains the importance of student safety and the need for school management to ensure student safety in school is guaranteed. In the context of this study, the functional relational relationship between the study variables is best understood when the theories are both applied. In other words, Systems Theory explains the threats that exist in the school as an open system but does not explain what needs to be done to bring about student safety, while this is the focus of the Invitational Theory.

2.8 Conceptual Framework

This section presents the diagrammatic representation of the relationship between the independent and dependent variables of the study presented in figure 2.

Figure 2

Conceptual Framework



The study conceptualises that implementation of Safety Standards and Guidelines for Physical Infrastructure, School Grounds, Safety against Drug and Substance Abuse and Food Safety (independent variables) have a relationship on student safety (dependent

variable) in public mixed boarding secondary schools. The intervening variable is school management policies such as budgetary allocations, staff motivation, leadership/operational policies (supervisory), and monitoring. The researcher focused on the safety dimensions within the school environment that align with the safety guidelines and standards for a school environment. The dimensions for Safety Standards and Guidelines for Physical infrastructure include properly fitted and lockable gates, demarcated walkways using flowers, properly reinforced fences, security measures against suspicious persons, labelling of trees, properly maintained playgrounds for various activities and the state of bunk beds. Safety Standards and Guidelines for School Grounds include properly fitted and lockable gates, demarcated walkways using flowers, properly reinforced fences, security measures against suspicious persons, labelling of Trees, and properly maintained playgrounds for various activities.

The dimensions of Safety Standards and Guidelines for Drug and Substance Abuse include integration in subject areas, the campaign against drug abuse, learner involvement in the fight against drug and substance abuse, sensitising learners about the dangers of drugs, counselling and pastoral advice. Safety Standards and Guidelines for Food Safety dimensions include an adequate safe storage facility, fresh and safe food supplies, provision of one hot meal per day, checks for insects and bacterial contamination, banning of illegal hawking, basic hygiene, medical care and advice on allergies. These indicators are directly adapted from the Safety Standards and Guidelines. The conceptualisation in this study is that when these guidelines/provisions are complied with, then the level of student safety in public mixed boarding secondary schools in Nakuru County increases.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The chapter outlines the research design, location of the study, population of the study, sampling techniques, sample size, research instruments, pilot study, validity and reliability of the instruments, data collection procedures, data analysis and how the study findings will be presented.

3.2 Research Design

A research design reflects the process that involves the overall assumptions of the research and the method of data collection and analysis. It is the roadmap for carrying out a research study (Creswell, 2014). The study adopted the descriptive survey design owing to the nature of the study (descriptive) as well as the type of data required (qualitative and quantitative). Kothari and Garg (2014) define descriptive survey design as a process of collecting data in order to answer questions concerning the status of the subjects in a study. This type of research attempts to describe things such as possible behaviour, attitudes, values and characteristics. The design was suitable for this kind of study. The study collected quantitative data, which was collected using questionnaires and qualitative data, which was collected through interview schedules and observation checklists.

The descriptive survey research design enabled the researcher to extensively describe, analyse and explore the relationship between the implementation of selected Safety Standards and Guidelines and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The design also allowed the standardisation of data and comparison. The survey design was appropriate since data on Safety Standards and Guidelines and student safety was not manipulated and controlled in public mixed

boarding secondary schools in Nakuru County, Kenya. Thus, to comprehensively collect data that would lead to comprehensive findings, the researcher would have to employ mixed methods of research.

3.2.1 Research Philosophy

Research philosophy is a particular way of developing knowledge that defines philosophical paradigms. It is a belief about the way in which data about a phenomenon should be gathered, analysed and used. This development and understanding of knowledge depend on certain assumptions based on our perspective of the world, i.e. the practical considerations while selecting a topic of research (Holden & Lynch, 2004; Saunders et al., 2009). This study adopted the mixed methods approach.

The epistemological paradigm that guided the study was interpretive constructivism. The interpretivist/constructivist researcher tends to rely upon the "participants' views of the situation being studied" (Creswell, 2014). In this case, the study relies on the views of the secondary school students and the principals on the situation relating to the implementation of selected Safety Standards and Guidelines and student safety. This was informed by the fact that the study was qualitative in nature. Qualitative researchers believe that truth is relative; hence they take a subjective position. The relativists believe that there is no single viewpoint of the world and that reality depends on the individual's perceptions and experiences, not what is perceived, but what the individual interprets.

The interpretive constructivist epistemologies generate data from people themselves. It aims at getting knowledge about how people perceive, interpret and comprehend issues that affect them in their contexts. They, therefore, use interviews as the main technique of data generation. The interpretive approach sees people as the main source of data. It sees people's perceptions or 'inside view' instead of imposing on their items in closed-

ended questions. Other qualitative data generation sources can be used besides informal and formal interviews (Creswell, 2014).

In this study, the ontological orientation was relativist/subjectivist, while the epistemological paradigm was interpretive/constructivist. In other words, subjectivism is the internal reality of subjective experience. The subjective character of experience implies that the perception of all things, concepts, and "truths" in the universe differs between individuals. The researcher acknowledged that both the researcher and participants co-construct reality and interpret reality in varied ways. That knowledge can be created and interpreted from the point of view of the individual. That knowledge is relative to individuals, and their interpretations are varied (Hollway & Froggett, 2012)

3.3 Location of the Study

The location of the study is Nakuru County. The county has a population of 2,162,202 (Kenya Population and Housing Census-KPHC, 2019) and is the fourth largest county in Kenya after Nairobi, Kakamega and Kiambu in that order in terms of population. Nakuru County has an area of 2,325.8 km². The County's Global Positioning System (GPS) location is latitude 0'16'59.99'' N, Longitude 36^0 04 0.01'' E. Nakuru County's neighbours include Kericho; to the North West, Kajiado; to the South East, Baringo; to the North, Laikipia; to the North East, Nyandarua; to the East, Kiambu; to the South East, Bomet; to the South West and Narok; to the South. Nakuru is a cosmopolitan county, which is an educational, tourist attraction and industrial centre. It has a wide range of learning institutions to satellite campuses of several universities. The study will be confined to public mixed secondary schools. The reason for the selection of Nakuru County as a study location is the increasing number of safety-related cases and incidents in public mixed boarding secondary schools (refer to table 1 in this study).

3.4 Population of the Study

The target population comprised 16 principals, 18 deputy principals and 2130 form 4 students drawn from all 16 public mixed secondary schools. The reason why there are 16 principals and 18 deputy principals is that 2 public mixed secondary schools have 2 deputy principals each (Nakuru County Education Office, 2019). There were 1038 form four Girls and 1092 form four boys. The study targeted different schools spread in different sub-counties within the county. The respondents were from public mixed boarding secondary schools in the county, as shown in table 2, and their details are in Appendix 8.

Table 2

The Population of the Study

Sub Counties	Number of schools	Principals	Deputy Principals	Boys	Girls	Total
Nakuru West	2	2	2	191	181	372
Nakuru North	1	1	1	70	110	180
Nakuru East	1	1	1	7	11	18
Njoro	2	2	3	188	123	311
Gilgil	2	2	2	101	83	184
Molo	1	1	1	98	44	142
Rongai	5	5	6	266	340	606
Subukia	1	1	1	40	60	100
Kuresoi North	1	1	1	131	86	217
	16	16	18	1092	1038	2130

Source: Nakuru County Education Office (2019)

The principals were targeted because, according to the Education Act: Chapter 211 of the laws of Kenya, one of their responsibilities in the schools is to ensure they interpret the government policies and organise for their implementation. In fact, in the Safety

Standards Manual, the principal is mandated to form a Safety Sub-committee within the school, which looks into safety issues. He/she is supposed to be the secretary and the headed by the BOM chairperson. The roles of the principals, among others, are: Coordinate the efforts of the School Safety Sub–Committee, teachers, learners and parents in ensuring that the school is safe, secure, and caring.

In addition, the principal is tasked with the responsibility of taking necessary corrective measures with the monitoring and evaluation reports. Further, the study targeted the deputy principals because, in the absence of the principals, they act in the position. In fact, according to Safety Standards Manual, the deputy principal is a member of the School Safety Sub-committee. This sub-committee is expected to play certain responsibilities, among others: Identify the safety needs of the school with a view to taking the necessary action and mobilise resources required by the school to ensure a safe, secure and caring environment for learners, staff and parents. Moreover, it keeps learners' parents, and other stakeholders informed about safety policies and implementation activities.

The School Safety Sub–Committee is to ensure their participation in activities relating to school safety and constantly view issues of student safety in and around the school. The study targeted form 4 students because they are more mature; (Ministry of Education, 2014) between the ages of 17-20 and, as a result, freer to express their opinions. In addition, the form 4 students have had a wide range of safety experiences, having stayed in the school longer than the rest of the students.

3.5 Sampling Procedures and Sample Size

The sampling procedures and the sample size were done as illustrated.

3.5.1 Sampling Procedures

Multi-stage sampling approach was used, and in this case, three stages were followed:

Stage 1 involved the identification of the number of schools to be used for the study. Given the small number of public mixed boarding secondary schools, all 16 schools were involved in the study.

Stage 2 involved the identification of the study respondents (sample from the accessible population). The study used the sample size provided by Krejcie and Morgan (1970) to sample the students. According to the table, a population size of 2130 students gives a sample size of 327 students. The census method was used to involve all principals and deputy principals, considering the small size of the population.

Stage 3 involved the distribution of the sample size according to the sub-counties. The schools sampled were distributed proportionately to the nine sub-counties. This was to ensure equitable regional representativeness of the study sample. The sample distribution is presented in Table 3.

3.5.2 Sample Size

The sample size of the study was as presented in Table 3.

Table 3

Sample Distribution Matrix

				Pilot	Sample		Pilot			Total R
Sub County	**No. of schools**	**P**	**D P**	**P & DP**	**B**	**G**	**B**	**G**	**Total**	
Nakuru West	**2**	**2**	2	-	29	28	-	-	-	57
Nakuru North	**1**	**1**	1	-	11	17	-	-	-	28
Nakuru East	**1**	**1**	1	-	1	2	-	-	-	3
Njoro	**2**	**2**	3	-	29	19	-	-	-	48
Gilgil	**2**	**2**	2	-	16	13	-	-	-	28
Molo	**1**	**1**	1	-	15	7	-	-	-	22
Rongai	**5**	**5**	6	4	25	35	16	17	33	93
Subukia	**1**	**1**	1	-	6	9	-	-	-	15
Kuresoi North	**1**	**1**	1	-	20	13	-	-	-	33
Totals	**16**	**16**	**18**	**4**	**152**	**142**	**16**	**17**	**33**	**327**

Source: Author, (2019)

Key:

P = Principal

DP = Deputy Principal

B = Boys

G = Girls

Total R = Total Respondents

Table 3 shows that from each of the 16 Public Mixed Boarding Secondary Schools, one principal formed part of the sample. With regard to the sample of deputy principals, one deputy principal was used per school, with the exception of cases where there are two deputy principals. In such a case, both the deputy principals in the given school were sampled. The sample for form 4 students was distributed proportionately (school population of students/total number of students in the county, then multiplied by the sample size) and was selected. The study used a census approach to select 16 principals

and 18 deputy principals. In order to sample the 294 Form 4 students (152 boys and 142 girls), simple random sampling was used. The difference between the 327 and 294 represents 16 boys and 17 girls, which were used for piloting.

3.6 Instrumentation

Primary data was collected through questionnaires, interviews and an observation checklist. Using questionnaires, data can be collected from a large sample, confidentiality is upheld, it saves time, and there is no opportunity for interview bias (Kombo & Tromp, 2006). Questionnaires were used to collect data from form 4 students. Questionnaires were suitable for data collection because they allowed the researcher to reach a large sample within a limited time and ensured the confidentiality of the information given by the respondents (Mugenda & Mugenda, 2013). Questionnaire items were adopted from the Safety Standards Manual and modified for use in this study. The questionnaires contained close-ended questions that were on a 4-point Likert scale.

Interview schedules were utilised to collect data from the principals and deputy principals. Kothari and Garg (2014) describe an interview schedule as a set of questions with structured answers to guide an observer, interviewer, researcher or investigator. It is a plan or guideline for investigation. Interview schedules contained open-ended questions suitable for collecting qualitative data from the principals and the deputy principals on all four objectives. The interview helped increase the reliability of the study by helping additional capture information not captured by the questionnaires.

Bryant (2015) explains that qualitative observation is a method of data collection in which a researcher observes a phenomenon within a specific research field. Observational research involves watching or viewing behaviour and systematically recording the results of those observations. It adds that observation as a quantitative

research method is guided by research questions, conscious and planned, systematically recorded, often using an observation checklist, and data are analysed using both qualitative and quantitative data analysis methods. In this study, the findings from the observation checklist were analysed using the quantitative data analysis method.

3.6.1 Validity of the Instruments

The validity of the instrument refers to the extent to which the instrument measures what it is supposed to measure (Cooper & Schindler, 2013). The validity of the research instruments was safeguarded through various strategies. As Wiersma (1995) puts it, content validity is used to establish the representation of the items with respect to the objectives of the study. The content validity of the instruments was determined through consultation with university supervisors, given that this type of validity is not statistically measurable. The supervisors helped check on the relevance of questions contained in the questionnaires and interview schedules with regard to how they addressed the study objectives.

3.6.2 Pilot Study

The purpose of the pilot test is to detect weaknesses in the design of the instruments and implementation of instrument administration and to provide a proxy for data collection of a probability sample (Cooper & Schindler, 2013). A pilot study was conducted in 10 per cent of the study sample in Nakuru County in two public mixed boarding secondary schools amongst 2 principals (10% of 16), 2 deputy principals (10% of 18), and 33 students (10% of 327), as recommended by Mugenda, (2008). The pilot study helped reveal deficiencies in the questionnaires and interview schedules before the final data collection was carried out. The information collected was used to improve the quality of the research instruments.

3.6.3 Reliability of the Instruments

According to Cooper and Schindler (2013), reliability is a measure of the degree to which a research instrument yields consistent results on repeated trials using the test-retest method. The reason for the use of the test-retest method is to facilitate the true picture of the effects of the variables under study without any manipulation whatsoever. The reliability of the questionnaire tool was tested by computing Cronbach Alpha coefficients reliability was computed using data collected from the pilot study. According to Kothari and Garg (2014), a correlation coefficient of > 0.7 level is considered high enough to judge the instruments as reliable. The instrument yielded a correlation coefficient was 0.743 and thus was considered reliable for the study. Another method that would have been used to test for internal reliability would be Spearman-Brown's formula.

3.7 Data Collection Procedures

An introduction letter was obtained from The Institute of Postgraduate Studies and Research of Kabarak University by the researcher for the purposes of introducing the researcher to the respondents and the relevant authorities. The researcher used the letter obtained from the university to apply for a permit to do research from the National Council of Science Technology and Innovation (NACOSTI).

Upon acquisition of the research permit from NACOSTI, the researcher used it to obtain an introductory letter from the Nakuru County Director of Education. The permit and the introductory letter were presented to the school principals, who granted the researcher permission to conduct the study in the public mixed boarding secondary schools within the county. Data collection instruments were administered personally to the respondents by the researcher and assisted by two trained assistants by the researcher. The respondents completed the questionnaire as the researcher waited for them to be

completed and then collected them. With respect to the interview schedules, the researcher asked the respondents the questions, as the responses were noted in the enumeration notebook.

3.8 Data Analysis and Presentation

This section presents the data analysis techniques and procedures that were adopted in this study.

3.8.1 Descriptive and Inferential Analysis

The data was coded and electronically analysed using the Statistical Package for Social Sciences (SPSS) version 22 software. Both descriptive and inferential statistics were used in the data analysis. Primarily, descriptive statistics (frequencies and percentages) encapsulated measures of distribution and measures of central tendencies. On the other hand, inferential statistics constituted Pearson correlation and regression analysis. The result from checklists was presented using percentages and frequencies.

With regard to Pearson Correlation, the linear relationship between variables was used to assess the association between the study variables (Cooper & Schindler, 2013). The correlation coefficient (r) provides the researcher with an idea of the extent of the linear association between each of the independent variables and the dependent variable. Multiple linear regressions were performed to determine whether sufficient evidence existed to allow the researcher to determine that there is a linear relationship between the dependent variable and the independent variables (Kothari & Garg, 2014).

A statistical model was constructed to show the influence of the independent variables on the dependent variable. To determine the significance of relationships between Safety Standards and Guidelines for (Physical Infrastructure, School Grounds, Safety against Drug and Substance Abuse, and Food Safety) and the dependent variable (Student

Safety) as captured by the null hypotheses H_{01}-H_{04}, a multiple regression analysis was employed to illustrate the extent to which Safety Standards and Guidelines influenced Student Safety. The following regression model guided the study.

$\hat{y} = bx + a$ (Or, equivalently, $\hat{y} = \beta_1 x + \beta_0$)

Where:

x = a value on the x-axis

$\hat{y} = bx + a$ (or, equivalently $\hat{y} = \beta_1 x + \beta_0$)

where:

x = a value on the x-axis

b = slope parameter

a = intercept parameter (i.e., value on y-axis where $x = 0$ [not shown above])

$\hat{y}$ = a predicted value of y

$SS = \beta_0 + \beta_1 SSGPI + \beta_2 SSGSG + \beta_3 SSGDSA + \beta_4 SSGF + \varepsilon$

Where:

SSGPI= Safety Standards and Guidelines for Physical Infrastructure

SSGSG = Safety Standards and Guidelines for School Grounds

SSGDSA = Safety Standards and Guidelines for Drug and Substance Abuse

SSGF = Safety and Standard Guidelines for Food Safety

SS = Student Safety

β_0 = Constant –

$\beta_1, \beta_2, \beta_3, \beta_4$: Regression coefficients

ε = Error/Disturbance Term

The study findings were presented in statistical tables that reflected both descriptive and inferential statistical results.

3.8.2 Analysis of Qualitative Data

Qualitative data, which was collected from interviews, was analysed using Thematic Textual Analysis. This approach involved sorting and classification of related themes emerging from the responses. The classification was according to the study objectives. The results were presented in prose form.

3.8.3 Data Analysis and Summary of Variables

This section presents the study's data analysis and summary of variables.

Table 4

Data Analysis and Summary of Variables

Research Objectives	Independent Variables	Dependent Variable	Type of Analysis
To find out the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety in public mixed Boarding Secondary Schools in Nakuru County, Kenya.	Safety Standards and Guidelines for Physical Infrastructure	Student Safety	Quantitative Statistics Descriptive Statistics (Frequencies and Percentages) Inferential Statistics (Pearson Correlations and Regression analysis Qualitative Statistics Thematic Textual Analysis
To establish the relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for School Grounds	Student Safety	Quantitative Data Descriptive Statistics (Frequencies and Percentages) Inferential Statistics (Pearson Correlations and Regression analysis Qualitative Statistics Thematic Textual Analysis
To determine the relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for Drug and Substance Abuse	Student Safety	Quantitative Statistics Descriptive Statistics (Frequencies and Percentages) Inferential Statistics (Pearson Correlations and Regression analysis Qualitative Statistics Thematic Textual Analysis
To establish the relationship between the implementation of Safety and Standard Guidelines for Food Safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards Guidelines for Food Safety	Student Safety	Quantitative Statistics Descriptive Statistics (Frequencies and Percentages) Inferential Statistics (Pearson Correlations and Regression analysis Qualitative Statistics Thematic Textual Analysis

3.8.4 Data Analysis Table for Hypotheses

This section presents the analysis techniques for testing the research hypotheses.

Table 5

Data Analysis Table for Hypotheses

Hypotheses	**Independent Variables**	**Dependent Variable**	**Type of Analysis**
$Ho_{1:}$ There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for Physical Infrastructure	Student Safety	Regression Analysis (Golden rule: Reject when $p < 0.05$)
$H_{o2:}$ There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for School Grounds	Student Safety	Regression Analysis (Golden rule: Reject when $p < 0.05$)
$Ho_{3:}$ There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for Drug and Substance Abuse	Student Safety	Regression Analysis (Golden rule: Reject when $p < 0.05$)
$Ho_{4:}$ There is no statistically significant relationship between the implementation of Safety Standards and Guidelines for Food Safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.	Safety Standards and Guidelines for Food Safety	Student Safety	Regression Analysis (Golden rule: Reject when $p < 0.05$)

3.9 Ethical Considerations

Kombo and Tromp (2006) argue that researchers whose subjects are people or animals must consider the conduct of the research and give attention to ethical issues associated with carrying out research. Ethical issues such as confidentiality and informed consent,

openness, honesty, responsibility in dealing with other researchers and research subjects' physical and psychological protection and an explanation of the purpose of the study should be considered.

The researcher ensured that permission to conduct research was obtained from relevant authorities prior to data collection. To ensure ethical conduct during the research process, the researcher obtained written permission to conduct this research from the National Council of Science Technology and Innovation (NACOSTI). After this, the researcher used the obtained permit to get authorisation from Nakuru County Education Offices to ensure that it was a legal exercise. The researcher also ensured that participants were treated with the utmost respect and that they were fully aware that their participation was voluntary. The participants were also accorded the free will to withdraw at any stage of the data collection process. The participants were fully informed of the purpose of the study and were assured of their confidentiality and anonymity as their identity information provided was kept confidential and anonymous. Participants were not subjected to any emotional stress because their cooperation was obtained voluntarily.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter is a presentation of the study's data analysis, its presentation, interpretation and discussion. Detailed sections of data analysis in the form of descriptive analysis, descriptive statistics and inferential statistics as guided by the methodology in Chapter 3 are included in the chapter. Questionnaires, interview schedules and observation checklists were used to collect data. The analysis and presentation were guided by the study's objectives and are related to the literature review in chapter two.

4.1.1 Respondents Response Rate

A total of 294 questionnaires were distributed to students, and 30 interview schedules were prepared to be used for interviews with principals and deputy principals, respectively, in public mixed boarding secondary schools in Nakuru County. Fourteen principals and 16 deputy principals were targeted for the interview, and the response rate is presented too. The response rate was as presented in Table 6.

Table 6

Respondents Response Rate

Respondent Category	Sample	Actual	Percentage
Students	294	275	93.54%
Principals	14	13	92.86%
Deputy Principals	16	16	100.00%
Totals / Average	324	304	93.83%

The study was able to obtain a response from 275 students, translating to 93.54%; the response rate from interview schedules was as follows: for principals (92.86%) and for the deputy principals (100%). This was sufficient to enable the researcher to come up with reliable conclusions and recommendations. In addition, Nulty (2008) reports that

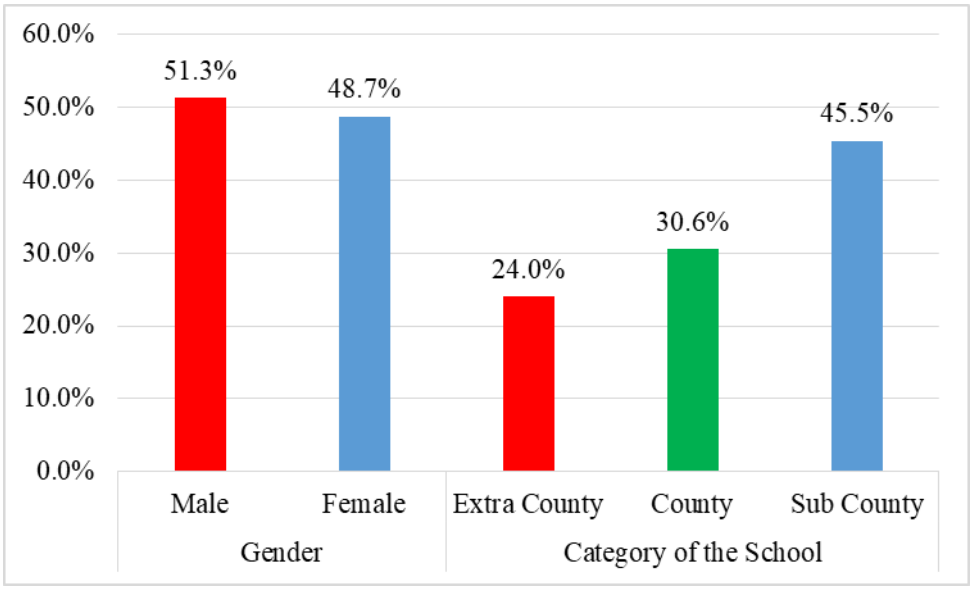
the acceptable response rate for on-paper surveys is 75%. Therefore, the attained percentage was good and found acceptable to the researcher.

4.1.2 General Characteristics of the Respondents

The general characteristics of the students were as presented in Figure 3.

Figure 2

General Characteristics of the Respondents



The results in figure 3 show that 51.3% of the respondents were male, while 48.73% were female. This implied that both genders were equally represented in the study, and thus the researcher was able to capture both perspectives. The collection of data from both genders enables the researcher to understand gender-specific safety needs. The results further show that the distribution of the students per school category was as follows: Extra County (24.0%), County (30.6%) and Sub County (45.5%). This gave the researcher an opportunity to get a fair representation of the students per school category.

4.2 Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure and Student Safety

This section presents the results with respect to objective one, which sought to establish the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya.

4.2.1 Manner of Locking of Dormitory Doorways

The respondents to the questionnaires were asked to indicate whether they agreed that the doorways in the dormitory are never locked from the outside when the students are inside, and the results were as provided in Table 7.

Table 7

Manner of Locking of Dormitory Doorways

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
The doorways in the dormitory are never locked from the outside when the students are inside	Strongly disagree	2	3.0%	4	5.1%	6	4.7%
	Disagree	5	7.6%	8	10.3%	15	11.8%
	Agree	20	30.3%	30	38.5%	41	32.3%
	Strongly agree	39	59.1%	36	46.2%	65	51.2%

The results in table 7 show that 83.5% of the students in sub-county schools, 84.7% of those in county schools, and 89.4% of those in extra-county schools indicated that the doors of the dormitory are never locked from outside when students are inside, while the rest over 10% in all the three categories disagreed. While the results show that the majority of the schools in all three categories indicated that the doorways in the dormitory are never locked from outside when the students are inside, it is important to

note that over 10% were not adhering to this aspect of the SSGPI. The 10% of the learners, who gave contrary feedback, clearly indicate that in some schools, the doors to the dormitories are locked from the outside when students are inside. This is a very serious issue because, in an emergency, the learners cannot exit the building. One principal is reported saying: *"All the boarding masters/mistresses and student leaders are instructed not to lock any students in the dormitory. We know there are cases of mischievous students who hide in the dormitory, but if found, they are punished."*

One deputy principal is quoted saying: "*It is our school policy to ensure that doorways to all our dormitories are not locked from outside when students are inside. All the cubicles are usually checked before the doors are locked."*

The results are in agreement with those in a report by Ogemba (2019), who observed that in some schools, not all dormitories had a door at each end and an additional emergency exit at the middle, which should be locked at all times when learners are in class or in the playing field, and dormitory windows must not have grills.

4.2.2 Manner of Opening Dormitory Doors

The results from the observation checklist on whether the doorways in the dormitory open outwards were as shown in Table 8 and Figure 4.

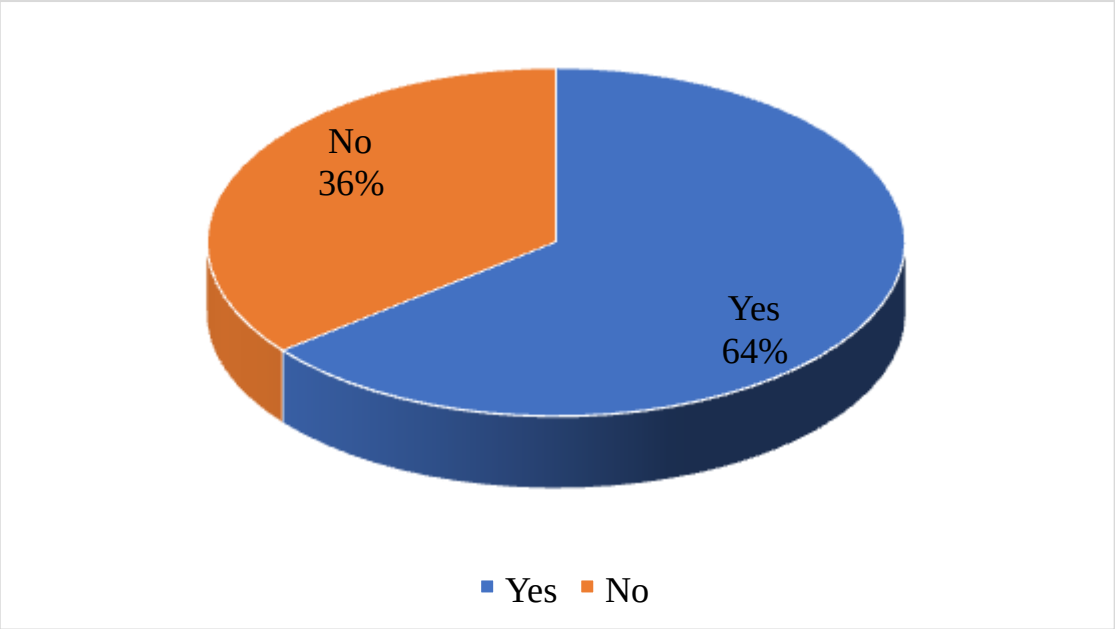
Table 8

Manner of Opening Dormitory Doors

Response	Frequency	Percentage
Yes	9	64.3
No	5	35.7
Total	14	100

Figure 3

Manner of Opening Dormitory Doors



The observation checklist revealed that in 9 secondary schools (64.3%), the doorways in the dormitory open outwards, while in 5 schools (35.7%), this was not the case. In case of fire or some unexpected danger, students can safely come out of the problem, but when locked from outside, this cannot happen. 35.7% of the schools, however, needed to have adhered to the guidelines. This could explain the rise in incidences because of non-adherence to Safety Standards and Guidelines. The Ministry of Education (2008) for use by schools recommends that classroom doorways should open outwards. The findings are similar to those in a study by Neuberger (2016), who established that classroom doors opened outwards in most schools as a safety measure. This ensured that anyone could quickly exit a room by pushing through the doors. Outward-opening doors provide easy exit access without the trouble of knobs or locks.

When asked if the doors in the dormitory opened outwards, one of the principals is reported saying: *'the old dormitories open inwards, but the new ones open outwards. You know, the safety Standards and Guidelines came into effect around 2009 when the dorms*

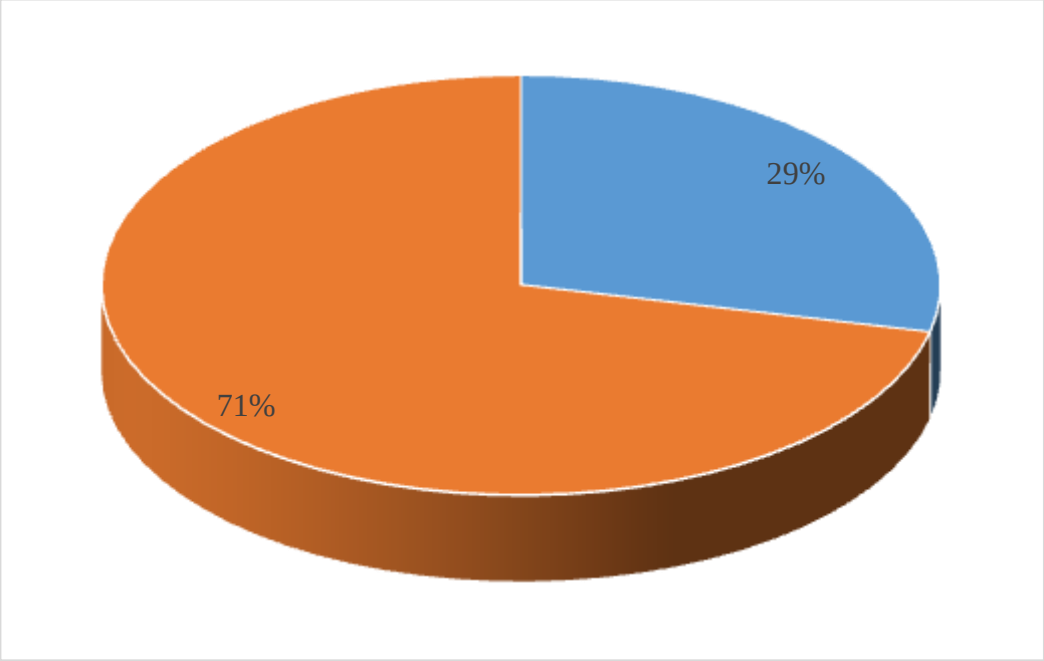
were there. When we get funds, we shall do the necessary.' The results imply that in this regard, some schools needed help to implement the guidelines, especially with respect to old buildings.

4.2.3 State of Dormitory Windows

The result from the observation checklists on whether the dormitory windows are without grills is shown in Figure 5.

Figure 4

Dormitory Windows are without Grills



The results show that dormitory windows in 4 schools (29%) are without grills, whereas in 10 schools (71%) dormitory windows are with grills. This means that majority of the schools visited had yet to comply with this requirement; given that the School Safety Standards Manual (2008) recommends that the dormitory windows must be without grills and should be easy to open outwards. When the dormitory windows are fitted with grills, they are safe from intruders. However, it makes it impossible for the students to escape in case of an emergency. These findings contradict with a study by Mutua (2016),

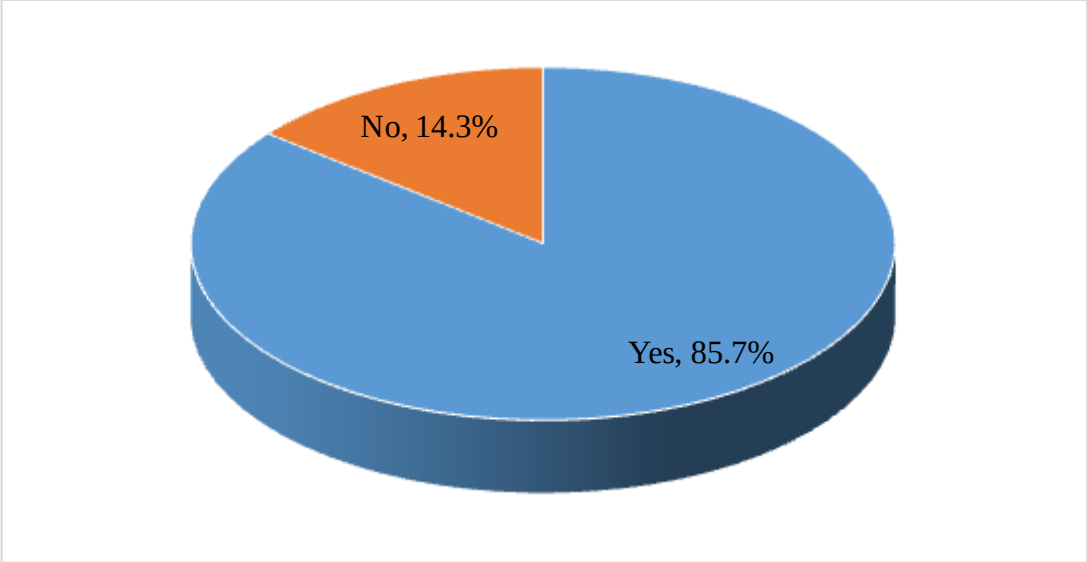
who established that most of the schools had removed grills from the windows. When asked whether the dormitory windows open outwards, one deputy principal responded: *"Grills help secure the dormitory; if we don't have them, then theft would increase. Some people from outside can sneak into the dormitory and steal.'* The results suggest that in some schools, grills on windows were viewed as a way of securing the dormitories and thus, this aspect of the guidelines was not adhered to in the schools.

4.2.4 Dormitory Windows opening Outwards

The findings from the observation checklist are as shown in Figure 6.

Figure 5

Dormitory Windows Open Outwards



The results in figure 6 show that in 12 public mixed boarding secondary schools (85.7%) dormitory windows open outwards, while in 2 schools (14.3%) dormitory windows open inwards. It is a requirement that all the schools should have dormitory windows open outwards; thus, the fact that 14.3% of the schools were not adhering to this provision raises concerns. This could justify the increase in the incidences, as per the Inspection Reports (2020). When the windows open outwards, they reduce injuries to students as they attempt to open the window, besides allowing them easy escape in case of an

emergency. The results were in agreement with those in a study by Kajilwa (2015), where it was observed that in many schools, dormitory windows were easy to open outwards.

4.2.5 Manner of Locking of Classrooms Doorways

The respondents to the questionnaires were asked to indicate whether they agreed that the doorways in the classrooms are never locked from the outside when the students are inside, and the results were as provided in Table 9.

Table 9

Manner of Locking of Classrooms Doorways

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
The doorways in the classrooms are never locked from the outside at any time when learners are in	Strongly disagree	6	9.1%	2	2.5%	6	4.6%
	Disagree	9	13.6%	0	0.0%	14	10.7%
	Agree	20	30.3%	40	51.3%	39	29.8%
	Strongly agree	31	47.0%	36	46.2%	72	55.0%

Data results in table 9 show that 84.8% of the students in sub-county schools, 97.5% of those in county schools, and 77.3% of those in extra-county schools indicated that the doorways in the classrooms are never locked from outside when the students are inside. The findings also show that 15.3% of the students in sub-county schools, 2.5% of those in county schools, and 22.7% of those in extra-county schools indicated that, at times, classrooms are locked from outside when students are inside. The guidelines state that the doorways should be made in such a way that is convenient and safe for the room occupants. This means that in case of an emergency, the learners can escape. Still, those who wish to visit the washroom can do so with ease.

When asked whether there are instances where the doorways were locked from outside when the learners are inside, one of the deputy principals is quoted saying, *"We stream our students by gender. Considering that this is a mixed school, cases of coupling are at times reported. We, at times, lock the doors from outside, especially during night preps, so that the students do not sneak to go and meet outside."*

The results are in agreement with those in a study by Ogonyo (2012), who reported that most of the school's classroom doors were never locked when the learners were in, for this was considered unsafe for learners, especially in case of fire or any emergency. Nevertheless, the fact is that not all schools adhered to the SSGPI provision.

4.2.6 Wide Enough Corridors

The respondents to the questionnaires were asked to indicate whether they agreed that the corridors in their schools are wide enough for the learners to walk along without bumping into each other, and the results were as provided in Table 10.

Table 10

Wide Enough Corridors

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
The corridors are wide enough for the learners to walk along without bumping into each other.	Strongly disagree	17	25.7%	16	20.6%	4	3.1%
	Disagree	4	6.1%	9	11.5%	68	51.9%
	Agree	26	39.4%	33	42.3%	32	24.4%
	Strongly agree	19	28.8%	20	25.6%	27	20.6%

The findings in table 10 show that 45% of the students in sub-county schools, 67.9% of those in county schools, and 68.2% of those in extra-county schools indicated that their

school had corridors wide enough for the learners to walk along without bumping into each other. In case of an emergency and the case where corridors are narrow, students are likely to bump into each other and injure one other. In addition, bumping into each other may result in fights among them. It is important to note, however, most of the sub-county schools did not have wide enough corridors for the learners to walk along without bumping into each other, thus showing that there was still a problem in this county. This could justify the increased incidences reported at the county education offices. The findings concur with those in a study by Wanjala and Onyango (2017), where it was established that in most of the schools, the corridors were not both well ventilated, properly lit, and were narrow such that learners could not walk along without bumping into each other.

The results also show that 55% of the students in sub-county schools, 32.1% of those in county schools, and 31.6% of those in extra-county schools indicated that their school did not have corridors wide enough for the learners to walk along without bumping into each other. This shows that learners were vulnerable to accidents along the narrow corridors. One of the principals from one of the affected schools is quoted saying. *"We understand the need to have wider corridors, especially considering the student population being large, but then our setback is limited funding, and the school does not have enough land."*

4.2.7 Ease in Opening Classroom Windows

The respondents were asked to indicate whether they agreed that classroom windows are easy to open, and the results were as provided in Table 11.

Table 11

Ease in Opening Classroom Windows

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Classroom windows are easy to open	Strongly disagree	9	13.6%	0	0.0%	14	10.7%
	Disagree	11	16.7%	0	11.5%	55	42.0%
	Agree	26	39.4%	30	38.5%	23	17.6%
	Strongly agree	20	30.3%	48	50.0%	39	29.8%

The results in table 11 show that 47.4% of the students in sub-county schools, 88.5% of those in county schools, and 69.7% of those in extra-county schools agreed that classroom windows in their schools are easy to open. This implied that the majority of the schools were keen in the provision of these safety measures. Windows that are difficult to open are inhibitors to air circulation in the classroom, and when they are not opened, the learners feel very uncomfortable. There is also the likelihood of high transmission of airborne diseases (Duarte et al., 2017). Unfortunately, over 50% of the respondents from sub-county schools indicated that there was difficulty in opening windows, and comparatively, even the county schools (30.3%), as well as extra county (11.5%) schools, cited these concerns. The results from the principals through the interview show that many of the visited schools had classrooms and dormitories having windows that were difficult to open. One deputy principal admittedly stated. *" Yes, as you can see, some windows are in a bad state as some are permanently closed; though we are trying our best to tackle the situation, we are constrained with budgetary allocations."* This exposes students to unsafe conditions. The findings are not in agreement with a study by Steinberg et al. (2018), where windows of classrooms and

dormitories were, in most cases, easy to open, given that they were often utilised for the purposes of allowing air and light to make them conducive for students to engage in diverse activities in these spaces.

4.2.8 Cleaning of Classroom Floors

The respondents to the questionnaires were asked to indicate whether they agreed that classroom floors are always kept clean, and the results were as provided in Table 12.

Table 12

Cleaning of Classroom Floors

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Classroom floors are kept clean always	Strongly disagree	3	4.5%	0	0.0%	12	9.2%
	Disagree	16	24.2%	23	29.5%	57	43.5%
	Agree	40	60.6%	32	41.0%	37	28.2%
	Strongly agree	7	10.6%	23	29.5%	25	19.1%

The results presented in table 12 show that 47.3% of the students in sub-county schools, 70.5% of those in county schools, and 70.2% of those in extra-county schools indicated that classroom floors are kept clean always, while the rest in the three categories disagreed. This implied that even though most of the learners in Extra County and county schools indicated that classroom floors were always kept clean, this was not the case in sub-county schools. This is similar to what all the principals and deputy principals indicated in their responses. All of them appear to indicate that the classrooms were well-cleaned. Further probing with one of the deputy principals yielded this response. *"There is a teacher on duty and class teacher who always ensures, on a daily basis, that all the classrooms are clean."* The other percentages (52.7%), especially in sub-county schools, 29.5% of those in county schools, and 28.7% of those in extra county schools, were of

the opinion that floor cleanliness was not up to standard. This implied that this guideline was not seriously taken into consideration in most schools, especially the sub-county schools. When classrooms are not cleaned well, they become a source of chest infections and other ailments. This could explain the rising number of cases captured by the inspection reports. The results are in agreement with those in a study by Muendo (2016) in the Kibauni Division of Machakos County, where it was found that in some schools, the floors of classrooms were not level and not kept clean always. In some instances, the classrooms cemented floors had cracks, which had not yet been repaired. The findings are similar to those in a study by Nyagawa (2017), where floor cleanliness was highlighted to be an aspect critical for learner safety.

4.2.9 Leveling of Classroom Floors

The results from the observation checklist concerning levelling of classroom floors were as shown in Table 13.

Table 13

Levelled Classroom Floor

Response	Frequency	Percentage
Yes	10	71.4
No	4	28.6
Total	14	100.0

The results obtained through the observation checklists revealed that in 10 public mixed boarding secondary schools (71.4%), the floors of the classrooms are level, and in fact, some classrooms in these schools had been tiled. While in 4 schools (28.6%), the floors of the classrooms were not levelled. This means that majority of the schools visited had complied with the requirement of the Safety Standards Manual of having classroom floors levelled. When the classrooms are levelled, they are easy to clean and reduce the risk of the students falling down. Nevertheless, what emerges is that not all the schools

had all their classrooms levelled. Captured from the responses through interview schedules was that, indeed, not all the schools and halls had all their classroom floors levelled. On being asked on the state of the classroom floors, one principal is reported saying: *'the sand that we use to build in this area is poor; even a new building will have a cracked floor within a year. If we get funds, we shall tile all of them.* 'This is similar to the findings by Muendo (2016) in the Kibauni Division of Machakos County, where it was found out some of the floors of the classrooms in many schools were not levelled. Nyagawa (2017) indicated that the floor tiles should not be too smooth in a manner that the students can fall and injure themselves.

4.2.10 Appropriateness of Furniture in the Classrooms

The respondents to the questionnaires were asked to indicate whether they agreed that the furniture in the classroom, especially the desks, was appropriate for use, and the results were as provided in Table 14.

Table 14

Appropriateness of Furniture in the Classrooms

		Category of the School					
		Extra County		**County**		**Sub County**	
		F	**%**	**F**	**%**	**F**	**%**
The furniture in the classroom, especially the desks, are appropriate for use	Strongly disagree	12	18.1%	0	0.0%	13	10.0%
	Disagree	7	10.6%	2	2.6%	59	45.4%
	Agree	30	45.5%	42	53.8%	33	25.4%
	Strongly agree	17	25.8%	34	43.6%	25	19.2%

Findings presented in table 14 shows that 44.6% of the students in sub-county schools, 97.4% of those in county schools, and 71.3% of those in extra-county schools indicated that the furniture in the classroom, especially the desks are appropriate for use, while the rest in the three categories of schools disagreed. The fact that there were many students

disagreeing with this statement, especially in sub-county schools, is a source of worry; this is because inappropriate desks can subject the students to accidents. The results also show that 55.4% of the students in sub-county schools, 2.6% of those in county schools, and 28.7% of those in extra-county schools indicated that the furniture in the classroom, especially the desks, is not appropriate for use. The results thus suggest that not all schools had appropriate desks for use. The results from interview schedules also revealed that in 11 out of the 14 schools, some classrooms did not have appropriate furniture. A Principal is quoted saying: *"Indeed, owing to irresponsible learners' behaviours, many desks are damaged. However, we have a plan of repairing some of these desks or buying new replacements".* The Safety Standards Manual provides that the furniture in classrooms, especially the desks, should be appropriate for use by both male and female learners. Poorly constructed or inappropriate desks can lead to physical deformities such as curvature of the spine, contraction of the chest, the roundness of shoulders or a confirmed stoop. They can also create tension and fatigue among learners. The situation in these schools is similar to that established in a study by Nair (2019), where it was found that the majority of the learners sit on desks and chairs that are not suitable for their body height, yet they sit on them for as long as 9 hours. Nair observed that the school management failed to pay much attention to the seating arrangement, desks and chairs in the classroom, which is one of the most crucial elements of a learning environment.

4.2.11 The Number of Learners in Each Classroom

The results from the observation checklist, whether one classroom accommodated 30 learners in one-seater desks or 40 learners in two-seater desks, were as presented in Table 15.

Table 15

Number of Learners in Each Classroom

Response	Frequency	Percentage
Yes	3	21.4
No	11	78.6
Total	14	100

The results in table 15 show that in 11 (78.6%) of the schools, one classroom did not accommodate 30 learners in one-seater desks or 40 learners in two-seater desks, while in 3 (21.4%) out of the 14 schools, this was the case. This shows that most schools were congested and were not in line with the provisions of the Ministry of Education circular on Health and Safety Standards in Educational Institutions (2001) as well as the Safety Standards Manual (2008), which recommends that classrooms such as those observed in this study should accommodate a maximum of 30 learners in one-seater desks or 40 learners in two-seater desks. When the learners are congested in the classrooms, they fail to concentrate in class due to stuffiness. Airborne diseases also spread so fast in such environments. This could explain rising cases of incidences as captured by inspection reports by Nakuru County Education Office (2020). These findings concur with those in a study by Ngware et al. (2013), where it was established that students were overcrowded in the classrooms in most of the schools, with numbers exceeding 40 per seating in most cases.

4.2.12 Arrangement of Desks in classrooms

The results from the observation checklist showing the arrangement of desks that facilitates easy and orderly movement of learners were as presented in Table 16.

Table 16

Arrangement of Desks

Response	Frequency	Percentage
Yes	10	71.42
No	4	28.58
Total	14	100

The results show that in 10 public mixed boarding secondary schools (71.42%), the desks are arranged in a manner that facilitates easy and orderly movement of learners in the classroom, while in 4 schools (28.58%), the arrangement was not orderly. The implication was that in most of the schools, the arrangement of furniture was orderly, as recommended by the School Safety Standards Manual (2008) for use by schools. However, 28.58% of the schools that had not complied with the guideline cannot be taken for granted as this indicates that learners may be prone to injuries in class. The results were similar to those in a study by Parnwell (2015) in Meru County, where it was established the arrangement of furniture was orderly in most of the schools studied.

4.2.13 Sharing of Beds in the Dormitory

The respondents to the questionnaires were asked to indicate whether they agreed that students do not share beds in the dormitory, and the results were as provided in Table 17.

Table 17

Sharing of Beds in the Dormitory

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Students do not share beds in the dormitory	Strongly disagree	13	19.7%	28	35.9%	19	14.7%
	Disagree	39	59.1%	42	53.8%	68	52.7%
	Agree	7	10.6%	4	5.1%	12	9.3%
	Strongly agree	7	10.6%	4	5.1%	30	23.3%

The results in Table 17 revealed that 67.4% of the students in sub-county schools, 89.7% of those in county schools, and 78.8% of those in extra-county schools indicated that students shared beds in the dormitory. The results also show that 32.6% of the students in sub-county schools, 10.2% of those in county schools, and 21.2% of those in extra-county schools indicated that students do not share beds in the dormitory. This implied that in the majority of the schools, there were inadequate beds, and thus made, some of the students shared beds. Sharing of beds makes students vulnerable to infections or makes them vulnerable to unsafe practices like sodomy, homosexuality and lesbianism. It means that admission to some schools was beyond capacity, which is against the recommendation of the Safety Standards Manual (2008). All the principals indicated that they had enough beds for their students, with the exception of those representing three schools. One principal is quoted saying. "*We used to have enough beds, but the new policy 100% transition, the number of students enrolled resulted in shortages leading to overcrowded dormitories. However, we are strategising on how to get more beds."* This was in agreement with what was observed by Nalianya (2019) in Bungoma, where it was reported that the dormitories were crowded, forcing students to share beds, and this was unsafe for students. This, therefore, means that the cases where students shared beds were a problem that could not be ignored.

4.2.14 Fitting of Double Deck Beds with Side Grills

The results from the observation checklists concerning whether the schools' double-deck beds are fitted with side grills were as presented in Table 18.

Table 18

Fitting of Double Deck Beds with Side Grills

Response	Frequency	Percentage
Yes	2	14.28
No	12	85.72
Total	14	100

The results in table 18 show that only 2(14.28%) out of the 14 mixed boarding schools have beds fitted with side grills. The majority of the schools, 12(85.71%), still do not have double-deck beds fitted with grills. This is against the Safety Standards Manual (2008). When side grills are not put in, there is a likelihood of the learners falling off during sleep, causing serious injuries. Nevertheless, when asked if the double beds are fitted with side grills, one of the principals is reported saying: *"These are secondary school students, not small kids. Besides, putting side grills will be very expensive for the school."* The findings are contrary to those in a study by Muendo (2016), where it was established that in the majority of the schools, bunk beds were strong and firm and were fitted with side grills to protect young learners against falling off.

4.2.15 Regular Spot Checks at the Dormitory

The respondents were asked to indicate whether they agreed that regular spot checks are done at the dormitory before students retire to bed, and the results were as provided in Table 19.

Table 19

Regular Spot checks at the Dormitory before Students Retire to bed.

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Regular spot checks are done at the dormitory before students retire to bed	Strongly disagree	29	45.3%	16	21.1%	30	23.1%
	Disagree	8	12.5%	24	31.5%	63	48.4%
	Agree	10	15.6%	24	31.6%	16	12.3%
	Strongly agree	17	26.6%	12	15.8%	21	16.2%

The findings in Table 19 revealed that 28.5% of the students in sub-county schools, 47.4% of those in county schools, and 42.2% of those in extra-county schools agreed that regular spot checks are done at the dormitory before students retire to bed. According to some deputy principals, the work of spot checks has been delegated to the boarding master/mistress, whom they believe is doing that. One deputy principal is quoted saying: *"The boarding master ensures spot checks are regularly done before learners go to sleep"*. However, the results also show that 71.5% of the students in sub-county schools, 52.6% of those in county schools, and 57.8% of those in extra-county schools indicated that regular spot checks are not done regularly at the dormitory before students retire to bed. The results suggest that spot checks were not done at the dormitories before students retire to bed in most of the schools. This was contrary to what is recommended by the Safety Standards Manual (2008). This exposed the students to vulnerabilities such as attacks, theft and even rape. The results contradict those in a study by Wanjala and Onyango (2017), where it was established that the majority of the secondary schools in the county do conduct spot checks in dormitories.

4.2.16 Allowing Visitors in Dormitories

The respondents to the questionnaires were asked to indicate whether they agreed that no visitors are allowed in the dormitory, and the results were as provided in table 20.

Table 20

Allowing Visitors to Dormitories

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
No Visitors are allowed in the Dormitory	Strongly Disagree	10	15.2%	0	0.0%	12	9.2%
	Disagree	4	6.1%	4	5.1%	35	26.7%
	Agree	14	21.2%	36	46.2%	24	18.3%
	Strongly Agree	38	57.6%	38	48.7%	60	45.8%

The data results in table 20 revealed that 64.1% of the students in sub-county schools, 94.9% of those in county schools, and 78.8% of those in extra-county schools agreed that no visitors are allowed in the dormitory. The findings also show that 35.9% of the students in sub-county schools, 5.1% of those in county schools, and 21.3% of those in extra-county schools indicated that visitors are allowed in the dormitory. Even though it may appear that in most of the schools visited, no visitors are allowed in the dormitory; the latter findings show in some of the mixed secondary schools, this was not the case.

On being asked if there were instances where visitors were allowed in the dormitory, one deputy principal is reported saying: "*we once allowed parents during one of the parents' meetings to go see for themselves the congestion in the dormitory. We actually wanted them to contribute some money for us to buy more beds."* When visitors are allowed to dormitories, they pave avenues for sneaking into the dormitories with unwanted substances, unchecked foodstuff and even weaponry. With a sizable percentage of students disagreeing, it simply means there were cases where visitors were allowed to the

dormitories. The findings are in line with those in a study by Ogonyo (2012), where it was established that in the majority of public boarding schools, visitors were restricted from entering dormitories. Just like in this study, Ogonyo's study revealed that in some secondary schools, unauthorised visitors found their way to the dormitories undetected by the school management.

4.2.17 Frequency of Disinfecting Pit Latrines

The respondents were asked to indicate whether they agreed that pit latrines in their schools are regularly disinfected, and the responses were as presented in Table 21.

Table 21

Frequency of Disinfecting Pit Latrines

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Pit latrines are regularly disinfected	Strongly disagree	24	36.4%	28	36.8%	25	19.2%
	Disagree	8	12.1%	10	13.2%	42	32.3%
	Agree	15	22.7%	28	36.8%	40	30.8%
	Strongly agree	19	28.8%	10	13.2%	23	17.7%

Data results in table 21 shows that 48.5% of the students in sub-county schools, 50% of those in county schools, and 51.5% of those in extra-county schools agreed that pit latrines are regularly disinfected. The results also reveal that 51.5% of the students in sub-county schools, 50% of those in county schools, and 48.5% of those in extra-county schools indicated that pit latrines are not regularly disinfected. Even though the results suggest that many of the students indicated that pit latrines are regularly disinfected, there was still a serious problem as almost an equivalent percentage indicated that the pit latrines are not regularly disinfected. In an interview, one of the deputy principals said:

'*we disinfect our pit latrines once a week.'* When pit latrines are not regularly disinfected, they may emit some foul smell, which may prevent learners from concentrating in class. It may also lead to the spread of infectious diseases. As reported by Gudda et al. (2019), when the pit latrines are not regularly disinfected, the students become exposed to health risks in the form of infections.

4.2.18 Privacy of Girls' Sanitation Areas

The respondents to the questionnaires were asked to indicate whether they agreed that girls' sanitation areas are separate and offer complete privacy and the responses were as presented in Table 22.

Table 22

Separation of Girls' Sanitation Areas

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Girls' sanitation areas are separate and offer complete privacy	Strongly disagree	12	19.7%	2	2.7%	4	3.2%
	Disagree	6	9.8%	6	8.1%	19	15.2%
	Agree	16	26.2%	34	45.9%	44	35.2%
	Strongly agree	27	44.3%	32	43.2%	58	46.4%

The findings in Table 22 show that 81.6% of the students in sub-county schools, 89.1% of those in county schools, and 70.5% of those in extra-county schools agreed that girls' sanitation areas are separate and offer complete privacy. It was also established that 17.4% of the students in sub-county schools, 10.8% of those in county schools, and 29.5% of those in extra-county schools indicated that girls' sanitation areas are not separate and are not offered complete privacy. This implies even though most of the students indicated that girls' sanitation areas are separate and that they are offered

complete privacy, in some schools, this is not done. The Safety Standard Manual (2008) recommends that in mixed schools, girls' sanitation areas must be separate and offer complete privacy.

The logic behind the situation in most schools was that girls have special safety needs compared to boys and thus need preferential treatment. When the sanitation areas are private, the students are protected from issues such as rape or molestation from the opposite sex these especially being mixed schools. The results are in agreement with those in a study by Mwangi (2014) in Embakasi, where it was established that the majority of mixed secondary schools had separate toilets for male and female students. Just like in Mwangi's study, it was established that in some schools, boys and girls shared toilets denying the girls the recommended privacy. On being asked if the girls' sanitation areas were private and offered complete privacy, one deputy principal is reported saying, *'we have tried our best to do that, but the challenge is funding. We advise our girls to take bath outside very early in the morning when it is still dark due to inadequate ablution facilities.'*

The results from the observation checklists concerning the separation of girls' sanitation areas were as provided in Table 23.

Table 23

Girls' Sanitation Areas are separate and offer Complete Privacy

Response	**Frequency**	**Percentage**
Yes	11	78.6
No	3	21.4
Total	14	100

The results in table 23 show that 11(78.6%) mixed boarding schools, the girls sanitation areas are separate and offer complete privacy, while in 3(21.4%) schools, this was not

the case. The 21.4% of respondents said that girls' sanitation areas are not separated and cannot be taken for granted, as this makes the girls vulnerable to attacks.

4.2.19 Disposal of Sanitary Wear

The respondents to the questionnaires were asked to indicate whether there is safe and effective disposal of sanitary wear and the responses were as presented in Table 24.

Table 24

Disposal of Sanitary Wear

		Category of the School					
		Extra County		County		Sub County	
		F	**%**	**F**	**%**	**F**	**%**
There is safe and effective disposal of sanitary wear	Strongly disagree	6	9.8%	4	5.7%	24	18.9%
	Disagree	4	6.6%	8	11.4%	20	15.8%
	Agree	28	45.9%	34	48.6%	37	29.1%
	Strongly agree	23	37.7%	24	34.3%	46	36.2%

The results in Table 24 shows that 65.3% of the students in sub-county schools, 82.9% of those in county schools, and 83.6% of those in extra-county schools agreed that there is a safe and effective disposal of sanitary wear. The findings also show that 34.7% of the students in sub-county schools, 17.1% of those in county schools, and 16.4% of those in extra-county schools indicated that their school lacked safe and effective disposal of sanitary wear. The results suggest that even though most students indicated that there was safe and effective disposal of sanitary wear, this was not the case in some schools. This means there is a problem with waste disposal in schools.

When asked if there was safe disposal of sanitary wear, one of the deputy principals is reported saying, *"Initially, we contracted a certain company to be collecting them, but it became expensive, and we decided to ask our girls to be putting their sanitary in one*

place where they are destroyed by burning every month." This is improper disposal of waste and can have some psychological repercussions. Improper disposal of this type of waste can result in the materials clogging the sewer pipelines, as they are unable to pass through and cause the system backflow, consequently leading to a serious health hazard. The findings are similar to those in a study by Kaur et al. (2018), which indicates that improper disposal of sanitary wear had adverse consequences on the environment, subsequently affecting the girls' psychologically.

4.2.20 Presence of Fire Extinguisher in Each Classroom Block

The findings from the observation checklist on whether each classroom block was fitted with a fire extinguisher were as provided in Table 25.

Table 25

Presence of a Fire Extinguisher in each Classroom Block

	Frequency	**Percentage**
Yes	3	21.4
No	11	78.6
Total	14	100

The results show that in 3(21.4%) of the schools, some classroom blocks did not have fire extinguishers, while this was not the case in 11(78.6%) of the schools. This implied that the majority of the schools had not fully adhered to the Safety Standards Manual (2008). When fire extinguishers are not fitted in each classroom block, it is very difficult to put out the fire in case of an incident. The results are similar to those in a study by Ogonyo (2016), where it was established that the majority of the schools had fire extinguishers, which are not enough, and even the few, which are available, are expensive to maintain.

4.2.21 Rating of Student Safety with Respect to Infrastructure

The students were as asked to rate student's safety with respect to infrastructure, and the results were as provided in Table 26.

Table 26

Rating of Student Safety with respect to Infrastructure

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Dormitory	Very Unsafe	9	13.6%	4	5.1%	13	9.9%
	Unsafe	9	13.6%	8	10.3%	57	43.5%
	Safe	18	27.3%	24	30.8%	36	27.5%
	Very Safe	30	45.5%	42	53.8%	25	19.1%
Classrooms	Very Unsafe	2	3.0%	0	0.0%	4	3.1%
	Unsafe	5	7.6%	0	0.0%	71	54.2%
	Safe	26	39.4%	36	46.2%	31	23.7%
	Very Safe	33	50.0%	42	53.8%	25	19.1%
Corridors	Very Unsafe	4	6.8%	4	5.1%	4	3.1%
	Unsafe	6	10.2%	22	28.2%	58	44.3%
	Safe	31	52.5%	26	33.3%	47	35.9%
	Very Safe	18	30.5%	26	33.3%	22	16.8%
Sanitation Areas	Very Unsafe	18	28.1%	4	5.1%	18	14.0%
	Unsafe	11	17.2%	32	41.0%	62	48.0%
	Safe	20	31.3%	30	38.5%	39	30.2%
	Very Safe	15	23.4%	12	15.4%	10	7.8%

The results in Table 26 show that 46.6% of the students in sub-county schools, 84.6% of those in county schools, and 72.8% of those in extra-county schools described their dormitories as safe. The results also show that 53.4% of the students in sub-county schools, 15.4% of those in county schools, and 27.2% of those in extra-county schools

indicated that the dormitory was not safe. The results suggest that in most of the schools visited; the dormitories were unsafe. The findings show that 42.8% of the students in sub-county schools, 100% of those in county schools, and 89.4% of those in extra-county schools described their classrooms as safe. The findings also reveal that 57.2% of the students are in sub-county schools and 10.6% of those in extra-county schools. This implied that, according to the majority of the students in sub-county schools, the classrooms were not safe. In some of the extra county schools, some classrooms were unsafe. The results revealed that 52.7% of the students in sub-county schools, 66.6% of those in county schools, and 83% of those in extra-county schools described their school corridors as safe. It is also found that 47.4% of the students in sub-county schools, 33.4% of those in county schools, and 17% of those in extra-county schools indicated that the corridors in their schools are not safe.

The implication was most of the students in sub-county schools were unsafe. The table also shows that 38% of the students in sub-county schools, 53.9% of those in county schools, and 54.7% of those in extra-county schools described sanitation areas as safe. It was also established that 62% of the students in sub-county schools, 33.4% of those in county schools, and 17% of those in extra-county schools indicated that sanitary areas in their schools are not safe. The implication was that in many of the schools in all three categories of schools, the students described sanitation areas as unsafe. The results in this section concur with the findings by Gatua (2015) in Nairobi West Region, Kenya, where it was found that infrastructure was not safe.

4.3 Relationship between Implementation of Safety Standards and Guidelines for School Grounds and Student Safety

This section presents the results with respect to the second objective, which sought to establish the relationship between the implementation of Safety Standards and

Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

4.3.1 Collective Responsibility for Playground Safety

The respondents were asked to indicate whether they agreed that both learners and staff are collectively responsible for playground safety, and the results were as provided in Table 27.

Table 27

Collective Responsibility for Playground Safety

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Both learners and staff are collectively responsible for playground safety	Strongly disagree	7	10.6%	0	0.0%	6	4.6%
	Disagree	2	3.0%	2	2.6%	41	31.3%
	Agree	36	54.5%	42	53.8%	54	41.2%
	Strongly agree	21	31.8%	34	43.6%	30	22.9%

The results in Table 27 show that 64.1% of the students in sub-county schools, 97.4% of those in county schools, and 86.3% of those in extra-county schools agreed that both learners and staff are collectively responsible for playground safety. The results show that 35.9% of the students in sub-county schools, 2.6% of those in county schools, and 13.7% of those in extra-county schools did not agree with the assertion that there was collective responsibility for playground safety at their school. This implied that even though in some of the schools, both the learners and staff were obligated to keep the school playgrounds safe, this was not the case in some schools. Results from the interview of the principals and the deputy principals indicated that everyone in the school was tasked to ensure the safety of the playground. A principal is quoted stating: *"The*

playground is to be watched over by everybody in the school. Instructions are issued to keep it clean and safe." Collective responsibility of the playground means that students were made to understand the essence of safe playgrounds. The school management believed that unsafe grounds are sources of injury and that all needed to be involved in maintaining grounds safety.

Other responses captured through interview schedules with respect to who is responsible for playground safety revealed that in all the schools, the responsibility of keeping the school playground safe was in the hands of the staff and learners. Everybody was involved. One Deputy Principal is quoted as saying: *"Our school grounds are everybody's responsibility. This makes the students appreciate the value of having safe grounds, and it has worked very well"*. The results from the analysis of data from both tools are similar to those in a study by Wanderi (2018), where it was established that everyone in most of the schools visited was tasked to ensure the safety of the playground.

4.3.2 Location of the School Relative to Climatic Hazards

The respondents were asked to indicate whether they agreed that their school is located in a place with the least climatic hazards, such as floods, wind effects and other natural hazards, and the results were as provided in Table 28.

Table 28

Location of the School Relative to Climatic Hazards

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Our school is located in a place with the least climatic hazards such as floods, wind effects and other natural hazards	Strongly disagree	11	16.7%	8	10.3%	11	8.5%
	Disagree	11	16.7%	6	7.7%	36	27.9%
	Agree	16	24.2%	22	28.2%	35	27.1%
	Strongly agree	28	42.4%	42	53.8%	47	36.4%

The results in Table 28 show that 63.5% of the students in sub-county schools, 82% of those in county schools, and 66.6% of those in extra-county schools agreed that their school is located in a place with the least climatic hazards, such as floods, wind effects and other natural hazards. This was not the case with 36.5% of the students in sub-county schools, 18% of those in county schools, and 33.4% of those in extra-county schools, who indicated that their school was located in an area prone to climatic hazards. On being asked if there were any climatic hazards affecting the schools, one deputy principal is quoted saying. "*It is bad during the rainy season. Last year one dormitory was flooded, and in fact, one toilet sank due to floods".* The results are similar to those in a study by Achoka and Maiyo (2008), where it was established that schools in the region are hampered in their operation when a disaster occurs. The researchers reported that in some instances, many schools were unable to open due to flooding; students were transferred to other schools, while others dropped out of the system. Therefore, the students were actually not safe in these schools.

4.3.3 Regular Inspection and Supervision of the School Grounds

The results on whether the respondents agreed that there is regular inspection and supervision of the school grounds to ensure there are no items such as broken glass, loose sticks, or stones that can cause injury to learners were as provided in Table 29.

Table 29

Regular Inspection and Supervision of the School Grounds

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
There is regular inspection and supervision of the school grounds to ensure there are no items such as broken glass, loose sticks, or stones that can cause injury to learners	Strongly disagree	15	22.7%	12	15.4%	20	15.4%
	Disagree	7	10.6%	14	17.9%	53	40.8%
	Agree	37	56.1%	30	38.5%	38	29.2%
	Strongly agree	7	10.6%	22	28.2%	19	14.6%

The results in Table 29 revealed that 43.8% of the students in sub-county schools, 66.7% of those in county schools, and 66.7% of those in extra-county schools agreed that there is regular inspection and supervision of the school grounds to ensure there are no items such as broken glass, loose sticks, stones that can cause injury to learners, while rest in all the three categories of schools disagreed. However, regular inspection was not done in some schools, as indicated by 56.2% of the students in sub-county schools, 33.3% of those in county schools, and 66.7% of those in extra-county schools. This implied that inspection and supervision of the school grounds were not done regularly in many schools, and thus there was a possibility of students being exposed to harmful items such as broken glass and lose sticks. Therefore, this compromised the safety of the school grounds in these schools. The results from the interview schedules, however, indicate

that there was regular supervision of school grounds. One of the deputy principals stated: "*I personally ensure that inspection and supervision of school grounds are done regularly, and an inspection report filed.*" The study findings are in agreement with those in a study by Oguye (2012), where it was found that the inspection of school grounds was not properly done. The Safety Standards Manual (2008) provides that there should be proper and regular supervision and inspection of school grounds to ensure that there are no items such as broken glass, loose sticks, stones or potholes that can cause injury to the learners, teachers or other school personnel.

4.3.4 Handling of Strangers on the School Grounds

The results on whether the respondents agreed that any stranger found within the school grounds are questioned were as provided in Table 30.

Table 30

Handling Strangers on the School Grounds

		Category of the School					
		Extra County		County		Sub County	
		F	**%**	**F**	**%**	**F**	**%**
Any stranger found within the school grounds is questioned	Strongly disagree	9	13.6%	0	0.0%	7	5.4%
	Disagree	2	3.0%	4	5.3%	22	16.9%
	Agree	32	48.5%	34	44.7%	29	22.3%
	Strongly agree	23	34.8%	38	50.0%	72	55.4%

The results presented in Table 30 show that 77.7% of the students in sub-county schools, 94.7% of those in county schools, and 83.3% of those in extra-county schools agreed that any stranger found within the school grounds were questioned, while 22.3% of the students in sub county schools, 5.3% of those in county schools, and 12.7% of those in extra county schools indicated that this was not the case. This implied that the school management in most schools questioned strangers, and so students were protected from

strangers who may pose a risk to them. When strangers are not checked, some of them can drop harmful items and objects in the playgrounds, causing injuries to students during games time. The results are contrary to those in a study by Ogonyo (2012), where it was established that in most schools, unauthorised visitors or strangers were not screened or questioned before entry into the compound.

The results from the interview schedule further revealed that the principals and deputy principals indicated that in case a stranger is found near or within the school, him/her would be questioned and contained by the security and then reported to the authority or reported to the police. One principal stated as follows: *"Strangers found within the school compound or grounds are usually confined, questioned by the security personnel and then reported to the school authority."*

4.3.5 Location away from Disruptive Land Use activities

The respondents were asked to indicate whether they agreed that their school is located away from disruptive land use activities like Industrial facilities, bars, heavy traffic routes, sewage, and dumpsites, and the results were as provided in Table 31.

Table 31

Location away from Disruptive Land Use Activities

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
My school is located away from disruptive land use activities like Industrial facilities, bars, heavy traffic routes, sewage, dumpsites etc.	Strongly disagree	12	18.8%	0	0.0%	12	9.2%
	Disagree	5	7.8%	2	2.6%	9	6.9%
	Agree	20	31.3%	26	33.3%	54	41.5%
	Strongly agree	27	42.2%	50	64.1%	55	42.3%

The results in Table 31 revealed that 83.8% of the students in sub-county schools, 97.4% of those in county schools, and 73.5% of those in extra county schools agreed that their school is located away from disruptive land use activities such as industrial facilities, bars, heavy traffic routes sewage and dumpsites, while 16.2% in sub county schools, 2.6% of those in county schools, and 16.5% of those in extra county schools disagreed. This implied that there were some secondary schools located in unsafe environments (neighbourhoods), and this is likely to affect their health because of noise and air pollution. Upon asked if the school was located away from disruptive land use activities, one principal is reported saying, 'A*t the beginning of this year, a quarry was established in the neighbourhood; it's just terrible. At times there is a lot of noise, leave alone the dust.*' The results are similar to those in a study by Nzilano (2018), where it was found that motor vehicles, construction and welding machines, and other activities related to music sounds, promotions adverts, and people's movements were affecting teachers and students in teaching in the selected schools.

4.3.6 Security Measures at the School Gate

According to results from the school principals and deputy principals through interview schedules, the main security measures that have been put in place at the gate concerning visitors to the school included the use of visitors' books, engagement of security officers, and searches on suspected persons. One principal is quoted saying, *"All visitors have to sign in the visitors' indicating the purpose of their visit."* When measures have been put at the gate, it ensures that no one with ill intentions gains entry into the school. This is important because some people may visit the school but with bad intentions, such as peddling drugs and attack on students. The results are in agreement with that of Nyakundi (2012), who reported that among the measures employed by schools to secure gates included the use of visitors' books and the engagement of security officers.

4.3.7 A Lockable Gate

The findings from the observation checklist on the presence of a lockable gate are as shown in Table 32.

Table 32

A Lockable School Gate

Response	Frequency	Percentage
Yes	14	100

The findings in Table 32 show that all the schools had adhered to the guideline that to promote safety in the school, the school should have a lockable gate. This meant that when the gate has been locked, especially at night, then the students, school property and staff who reside within the school are safe. Besides, anyone who wants to access the school will have to use the right channel. One of the deputy principals indicated as follows: *"The school has lockable gates and a security guard manning the gate has been given to only open the gate upon authorisation from the school administration."* The results resonate with those in a survey by the National Center for Education Statistics (2019), where it was found that the use of lockable gates was one of the commonly used practices and procedures by the school to promote the safety of secondary school students.

4.3.8 Security Signs at the Main Gate

The findings from the observation checklist on whether there are security signs at the gate, such as "NO TRESPASSING" and "VISITORS REPORT TO THE HEADTEACHER'S OFFICE "signs at the main gate, are provided in Table 33.

Table 33

The Presence of Direction Signs at the Main Gate

Response	Frequency	Percentage
Yes	3	21.4
No	11	78.6
Total	14	100

The results in Table 33 show that most of the schools (78.6%) did not have the sign at the main gate, while 21.4% had the sign. This means that people with ill intentions can get into the school and not report to the principal's office but roam around the school, which may pose a risk to the learners. On being asked how the visitors were guided from the main gate, one of the principals is quoted saying, *"It is the work of the security officer to direct the visitors or even escort them to respective offices."* The findings are similar to those in a study by Karuri (2015), who observed that most schools did not have signposts directing visitors to report to the principal's office first. Consequently, there was that possibility of strangers being found in restricted areas, to the detriment of students' safety.

4.3.9 Presence of Sign Posts Showing Various Facilities within the School

The findings from the observation checklist on whether there were erected signposts to show directions to various facilities within the schools were as presented in Table 34.

Table 34

Presence of Sign Posts showing various Facilities within the School

Response	Frequency	Percentage
Yes	4	28.6%
No	10	71.4%
Total	14	100.0%

The results provided in table 34 show that only 4 (28.6%) of the mixed public boarding secondary schools had erected signposts to show directions to various facilities within the school, while the majority of the schools, 10 (71.4%), had not done so. This shows that majority of the secondary schools had not adhered to the Safety Standard Manual, which requires that schools should erect to show directions to various facilities within the school. Signposts will help control the movement of strangers to restricted areas; as such, strangers may have ill motives for harming the students. This could explain the increasing cases of incidences like stealing, as in the inspection report by the Nakuru County Director of Education office (2019). The results were similar to those in a study by Karuri (2015), where it was found that the majority of the schools had no signs prohibiting people from trespassing in the schools. Karuri observed that the signs prohibit people from entering illegal areas, and it prevents theft.

4.3.10 Segregation of the School Ground

When asked how they separated the school playground to reflect the diversity of sports talent in the school, the principals and deputy principals indicated that separation was informed by gender-related activities (boys or girls) and by the nature of the sport. A deputy principal stated as follows: *"In our school, we have ensured that boys and girls have separate playgrounds."* In another school, the Principal indicated that: *There is a football and volleyball standard adopted field and indoor games"*. The Safety Standards Manual requires that proper segregation (separation) of these grounds should be ensured in schools. The results are similar to those by Kiuppis (2018) (in the Ref, it is indicated 2016), who found that schools were keen on ensuring the separation of playgrounds to ensure that even disabled students are able to participate in games without being injured.

4.3.11 The school Title Deed

The findings from the interview schedules, according to most of the school principals, were that ten schools (71%) did not have land title deeds for the school grounds. The guideline states that a school should have a valid title deed. Its absence meant that schools could easily be snatched landed property by selfish individuals or organisations of Cartels. When asked if the school had the land title deed, one principal is quoted saying, *"There is an ongoing court case over this land, as it initially belonged to our primary school. Someone is claiming that part of the primary school land belongs to the family"*. Mwenesi (2017) observes that many schools did not have title deeds and suggested that any school confirmed to have no valid title deed after verification with the Ministry of Lands or any relevant authority should be assisted to secure ownership of the land or be moved to own grounds.

4.3.12 Bare Areas of the Ground

The findings from the observation checklist on whether the bare areas of the ground have been planted with grass are on Table 35.

Table 35

Bare Areas of the Ground

Response	Frequency	Percentage
Yes	3	21.4
No	11	78.6
Total	14	100

The results in table 35 from the observation checklist revealed that the majority of the schools (78.5 %) did not have bare areas planted with grass to minimise the effects of dust, while only 3 schools (21.4 %) in which the bare areas of the grounds have been planted with grass. Further probing with one of the principals revealed that in some

schools, the existence of bare grounds was not deliberate. The principal stated, *"As you can see, the whole place is rocky, and also, due to unfavourable climatic conditions, planting grass in the compound was unthinkable."* The implication was that if the bare areas of the ground had not been planted with grass, dust was likely to cause health complications such as respiratory and eye problems. The results are in agreement with those in a study by Macharia (2012), where it was found that few schools had taken seriously the task of planting grass in the playground to minimise dust, and as such, dust affected the learners' eyes and chests and made them dirty.

4.3.13 Labelling of Trees

The results from the observation checklist with respect to whether trees in the school are labelled, indicating those that may be poisonous, were as shown in Table 36.

Table 36

Labelling of Trees

Response	Frequency	Percentage
Yes	6	42.9
No	8	57.1
Total	14	100

The results show in Table 36 that in most of the schools, 8(57.1%) trees in the school are not labelled, indicating those that may be poisonous, while only 6(42.9%) schools had adhered to this requirement by the Safety Standards Manual. This means the learners were unaware of poisonous trees in the school grounds. This is a very dangerous trend as the learners may use these trees for various purposes like sweeping or chewing, which would expose them to ailments. The results are in agreement with those in a study by Cheruiyot (2019) in Molo, Nakuru County, where it was established that in the majority of the schools in the county, trees had not been labelled.

4.3.14 Leveling of School Grounds

The observation checklist findings on whether the school grounds have been levelled to make them easier for use by learners. The findings are shown in Table 37.

Table 37

Levelling of School Grounds

Response	Frequency	Percentage
Yes	9	64.3
No	5	35.7
Total	14	100

Teaching Learners on Issues relating to Drugs

		Category of the School					
		Extra County		County		Sub County	
		F	**%**	**F**	**%**	**F**	**%**
Issues relating to drugs have been taught to us, and legal implications and rehabilitation have been talked to us by law enforcement agencies, social services or health professionals	Strongly disagree	13	21.3%	14	18.4%	7	5.3%
	Disagree	11	18.0%	14	18.4%	70	53.4%
	Agree	23	37.7%	30	39.5%	38	29.0%
	Strongly agree	14	23.0%	18	23.7%	16	12.2%

The results show that 9(64.3%) of the schools had school grounds which have been levelled to make them easier for use by learners, whereas 5(35.7%) of the schools have not adhered to this guideline. When the school grounds have not been levelled, it could cause injuries among the students while playing. One principal, while pointing through the window of her office, explains. *"Before this ongoing exercise of ground levelling, we have many injuries reported, and besides, when it rains, it is worse. So we are levelling the grounds, removing stones and tree stumps and also improving on the drainage"*. The essence of levelling school grounds was highlighted in a study by Malone and Tranter

(2003), who observed that levelled school grounds were safe for students as they reported fewer injuries or accidents from the grounds.

The results in the next section of Table 37 revealed that 41.2% of the students in sub-county schools, 63.2% of those in county schools, and 60.7% of those in extra-county schools agreed that issues relating to drugs have been taught to them and that they have been talked to on legal implications and rehabilitation by law enforcement agencies, social services or health professionals. This was not, however, according to 58.8% of the students in sub-county schools, 36.8% of those in county schools, and 39.3% of those in extra county schools the sub county schools, where there is a challenge. This implied that even though most school managers in the county and extra county schools had made efforts to talk to students about the legal, health and social implications of drug abuse and thus promoted this aspect of school safety, many schools were still not able to do so. The results are in agreement with Njeri and Ngesu (2014), who mentioned that learners in educational institutions were taught the legal implications of drug and substance abuse by law enforcement agencies, social services or health professionals.

4.3.15 Demarcation of Walkways

The findings from the observation checklist on whether the walkways have been demarcated with flowers rather than wires are shown in Table 38.

Table 38

Demarcation of Walkways

Response	Frequency	Percentage
Yes	5	35.7
No	9	64.3
Total	14	100

The findings in Table 38 show that 5(35.7%) schools out of 14 had their walkways demarcated with wires rather than flowers. This posed a risk to the learners in case of an emergency or stampede. Considering the high number of learners in these schools and the narrow walkways then, it would be difficult for the learners to move around within the school. One deputy principal explains as follows: *"The reason why we are using wires is to protect the flowers from some students, who deliberately find pleasure in destroying them"*. The incidences of injuries of the students are some of the incidences reported at the county director of education offices, and this could explain why. The results are similar to those in a study by Mong'are (2015), where it was found that in many schools, the walkways were not demarcated with flowers and shrubs but with wires.

4.3.16 Rating of Student Safety With Respect to School Grounds

The response with respect to the students' rating of the safety of school grounds were as provided in Table 39.

Table 39

Rating of Student Safety With Respect to School Grounds

School Ground Aspects	Response	Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Playgrounds	Very Unsafe	4	6.1%	0	0.0%	8	6.1%
	Unsafe	17	25.8%	21	26.9%	72	55.0%
	Safe	20	30.3%	41	52.6%	37	28.2%
	Very Safe	25	37.9%	16	20.5%	14	10.7%
Location of the school	Very Unsafe	0	0.0%	0	0.0%	0	0.0%
	Unsafe	22	33.3%	20	25.6%	39	29.8%
	Safe	25	37.9%	28	35.9%	61	46.6%
	Very Safe	19	28.8%	30	38.5%	31	23.7%

The results in Table 39 show that 38.9% of the students in sub-county schools, 73.1% of those in county schools, and 68.2% of those in extra-county schools, described their playground as safe, while the rest, 61.1% of the students in sub-county schools, 26.9% of those in county schools, and 31.8% of those in extra county schools described them as unsafe. This implied that in many schools, the school grounds were not safe.

The results also show that 70.3% of the students in sub-county schools, 74.4% of those in county schools, and 66.7% of those in extra-county schools described the location of the school as safe. The study shows that 29.7% of the students in sub-county schools, 25.6% from county schools, and 66.7% of those in extra-county schools described the location of the school as unsafe. This implied that there were safety concerns related to playgrounds and locations in many schools. The results show that in failing to keep the playgrounds and locations of schools safe, many schools had not complied with the Safety Standards and Guidelines for School Grounds.

4.4 Relationship between Implementation of Safety Standards and Guidelines for Drug and Substance Abuse

This section presents the results with respect to objective three, which sought to establish the relationship between the implementation of safety standards and guidelines for drug and substance abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

4.4.1 Enlightening learners about the Dangers of Drugs

The learners were asked to indicate whether the teachers in their subjects enlightened them about the dangers of drugs, and the findings are presented in Table 40.

Table 40

Enlightening Learners about the Dangers of Drugs

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Teachers in their subjects teach and enlighten learners about the dangers of drugs	Strongly disagree	4	6.1%	2	2.6%	2	1.5%
	Disagree	4	6.1%	10	12.8%	39	29.8%
	Agree	27	40.9%	36	46.2%	23	17.6%
	Strongly agree	31	47.0%	30	38.5%	67	51.1%

The results presented in table 40 show that 68.7% of the students in sub-county schools, 84.7% of those in county schools, and 87.7% of those in extra-county schools agreed that teachers in their subjects teach and enlighten learners about the dangers of drugs. This was supported by the response from one of the principals, who stated as follows. *"We have made several arrangements in the past so that teachers talk to the students about the dangers associated with drug abuse, and this is going on, especially among the form three classes."* However, this was not the case with 31.3% of the students in sub-county schools, 15.3% in county schools, and 12.3% in extra-county schools, which indicated that learners needed to be taught about the dangers of drugs. This implied that even though teachers in the majority of the schools made an effort to enlighten the learners on the dangers of drugs, this was different in many public mixed secondary schools in Nakuru County. This was an important safety measure, for this helped students stay away from drugs and harmful substances. The results were similar to those in a study by Muoti (2014), where it was established that in most schools, the teachers had made efforts to educate the students on the dangers associated with drug and substance abuse.

4.4.2 Use of External Agencies in Enriching Learners with Information about Drugs

The results concerning whether the respondents agreed that they had been enriched on matters of drugs through the use of up-to-date information that is made available by external agencies were provided in Table 41.

Table 41

Use of External Agencies in enriching Learners with Information about Drugs

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
The learners have been enriched on matters of drugs through the use of up-to-date information that is made available by external agencies	Strongly disagree	19	29.7%	18	23.1%	5	3.9%
	Disagree	4	6.3%	6	7.7%	65	50.4%
	Agree	29	45.3%	40	51.3%	35	27.1%
	Strongly agree	12	18.8%	14	17.9%	24	18.6%

The results in Table 41 show that 45.7% of the students in sub-county schools, 69.2% of those in county schools, and 64.1% of those in extra-county schools agreed that learners in their school had been enriched on matters of drugs through the use of up to date information that is made available by external agencies, while the rest of the respondents in all three categories (54.3% in sub-county schools, 30.8% of those in county schools, and 35.9% of those in extra county schools) disagreed. This implied that there were still so many schools, which have not been enriched on matters of drugs with up-to-date information that is made available by external agencies. Many students agreed that learners in their schools had been enriched on matters of drugs through the use of up-to-date information that is made available by external agencies. However, the students disagreed, pointing to the fact that not all students in the public mixed boarding

secondary schools had been enriched on matters of drugs through external agencies. This is a challenge because if the learners lack knowledge of the negative effects of drugs means that they may blindly get themselves into the vice. The results in sub-county schools are in agreement with those in a study by Muoti (2014), who observed that the students still needed to be enlightened on the effects of drug abuse by external experts, as some of the teachers were also using some of these drugs and substances.

The findings from the interview schedule of the principals and deputy principals on the sources of information on drugs and substance abuse that are used to enlighten the learners showed that articles from NACADA and some Non-Governmental Organisations were the main sources of information on drugs. One principal is quoted explaining as follows: *"Our school has been keen on ensuring that our students get information on drugs and substance abuse. In fact, our main sources of such information are articles from NACADA and some very supportive Non-Governmental Organisations,"*

4.4.3 Use of various Methods and Techniques in Enriching Learners with Information about Drugs

The results concerning whether the respondents agreed that instruction on drugs had been enriched through the use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating experiences were provided in Table 42.

Table 42

Use of various Methods and Techniques in Enriching Learners with Information about Drugs

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Instruction on drugs has been enriched through the use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating experiences	Strongly disagree	18	29.0%	26	34.2%	11	8.4%
	Disagree	10	16.1%	16	21.1%	67	51.1%
	Agree	22	35.5%	22	28.9%	24	18.3%
	Strongly agree	12	19.4%	12	15.8%	29	22.1%

It was established, as shown in Table 42, that 40.4% of the students in sub-county schools, 44.7% of those in county schools, and 54.9% of those in extra-county schools agreed that instruction on drugs had been enriched through the use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating of experiences, while 43.3% disagreed. The results from the interview schedule show that students were issued with articles from NACADA. One deputy principal is quoted *as, "We share with the students very vital information from NACADA and discuss the content with them."* The results suggest that many students were of the opinion that instruction on drugs was not adequately done, and thus, this measure could not be expected to adequately contribute to student safety, especially on drug and substance abuse. When the learners are not given an opportunity to participate in curbing the vice, then they may not fully understand its effects. The results resonate with the observations by the United Nations Office on Drugs and Crime (UNODC)

(2004) that the use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating experiences help the affected persons fully understand the side effects of drug and substance abuse.

4.4.4. Displaying of Posters Promoting Campaign Against Drug Abuse

The findings from the observation checklists with respect to displaying posters promoting a campaign against drug abuse are shown in Table 43.

Table 43

Displaying of Posters Promoting the Campaign against Drug Abuse

Response	Frequency	Percentage
Yes	4	28.6%
No	10	71.4%
Total	14	100.0%

The findings in Table 43 indicated that the majority of the schools (71.4%) had not displayed posters promoting campaigns against drug abuse. If the posters have not been displayed, it means that learners fail to see the seriousness of the campaigns. Since seeing is believing, then it means the learners would take such campaigns for granted, as the presence of such posters is a continuous reminder that they should stop or never engage in drug and substance abuse. On being asked if posters were used to promote campaigns against drugs and substance abuse, one deputy principal is reported saying, "*Posters cannot do anything if learners are not ready to change their ways."* The results were contrary to those in a study by Ronoh (2014), whereby it was found that use of posters was widely used by educational institutions to pass messages about drugs and substance abuse to students.

4.4.5 Learners Participation in Creating a Drug-Free School Environment

The results with respect to whether the respondents agreed that learners have an opportunity to suggest ways that contribute to creating a drug-free school environment were as provided in Table 44.

Table 44

Learners Participation in Creating a Drug-Free School Environment

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Learners have an opportunity to suggest ways that contribute to creating a drug-free school environment	Strongly disagree	20	31.3%	22	28.2%	11	8.4%
	Disagree	20	31.3%	24	30.8%	71	54.2%
	Agree	14	21.9%	22	28.2%	17	13.0%
	Strongly agree	10	15.6%	10	12.8%	32	24.4%

The results presented in table 44 show that 37.4% of the students in sub-county schools, 41% of those in county schools, and 37.5% of those in extra-county schools agreed that at their school, learners have an opportunity to suggest ways that contribute to creating a drug-free school environment, while the rest of the students disagreed. This implied that many of the students in all three categories of schools still felt that they were denied the opportunity to suggest ways that contribute towards creating a drug-free school environment. This could explain why there are increasing cases of drug and substance abuse. In public mixed boarding secondary schools in Nakuru County, allowing students to give suggestions and participate in the creation of a drug-free environment is a sure way of making the schools safe for students. One deputy principal is reported saying, *"Students have participated as peer educators, creating educational artwork, displaying of informational articles on notice boards, and helping share useful information with the*

affected students". The results are similar to those in a study by Njeri and Ngesu (2014), whereby it was found that providing learners with an opportunity to suggest ways that contribute to creating a drug-free school environment was found to be very effective.

4.4.6 Learner Sensitisation on Ways of Countering Peer Pressure to use Drugs

The respondents were asked to indicate whether they agreed that the learners had been sensitised on ways of resisting peer pressure to use drugs, and the results were as provided in Table 45.

Table 45

Learner Sensitisation on Ways of Countering Peer Pressure to use Drugs

		Category of the School					
		Extra County		**County**		**Sub County**	
		F	%	**F**	**%**	**F**	**%**
The learners have been sensitised on ways of resisting peer pressure to use drugs	Strongly disagree	19	29.7%	6	7.7%	6	4.6%
	Disagree	3	4.7%	8	10.3%	64	48.9%
	Agree	25	39.1%	42	53.8%	27	20.6%
	Strongly agree	17	26.6%	22	28.2%	34	26.0%

The results in Table 45 revealed that 46.6% of the students in sub-county schools, 82% of those in county schools, and 65.7% of those in extra-county schools agreed that in their respective schools, the learners had been sensitised on ways of resisting peer pressure to use drugs, while the rest of the students disagreed. This implied that in most of the sub-county schools, sensitisation on ways of resisting peer pressure to use drugs was not done. However, this was not the case in county schools and extra county schools, where over 60% of the schools appear to have taken learner sensitisation seriously on ways of resisting peer pressure to use drugs. Peer pressure contributes a lot to the student's behaviour, and if they have not been sensitised on how to resist peer

pressure, then they face the risk of being influenced negatively. The findings are in agreement with those in a study by Ronoh (2014), where it was established that sensitisation to students was one of the approaches adopted to help students resist peer pressure to use drugs.

4.4.7 Level of Student Participation in the Fight Against Drug and Substance Abuse

The results from the interview schedule administered to principals and deputy principals show that students participated in the fight against drug and substance abuse in the following ways. They served as peer counsellors among themselves and through their elected student leadership. Some students served as religious and motivational speakers and helped other students change their harmful drug usage habits. One deputy principal stated as follows: *"There are identified students who perform very well the role of creating awareness to their schoolmates about the dangers of drugs and substance abuse".*

The respondents (principals and deputy principals) also indicated that they utilised family groups, which comprised teachers, parents and 1 – 8 students per family. Some students played the role of informing the administration on happening related to drug and subsistence abuse. One principal stated: "*There are cases where these students volunteer information and report those who are using drugs and harmful substances".* The results are in agreement with those in a study by Ondingo et al. (2019), who found that peer counsellors played a critical role in changing students' behaviour of using harmful drugs.

4.4.8 Role of Guidance and Counselling Department Concerning the Issues of Drugs and Substance Abuse in Your School

The results from the interview schedule administered to principals and deputy principals show that the Guidance and Counseling Department played a critical role in arranging sessions with identified drug and substance abusers, trying to talk them out of this

behaviour. One deputy head principal stated: "*They are very useful, as they usually talk both to the affected students and suspected ones, and help them to stop using the harmful drugs and substances"*.

The respondents indicated the Guidance and Counselling teachers arrange for guest speakers on a periodic basis, usually experts on drug and substance abuse matters, to talk to all the students and explain to them the dangers of drugs and substance abuse. One principal stated as follows: "*After talking to the affected students, they go a step further and refer them to professional help"*. The results are in agreement with those in a study by Samoei (2012), where it emerged that the guidance and counselling department played crucial in managing cases of drug and substance abuse among students.

4.4.9 Teaching Learners on Issues Relating to Drugs

The respondents were asked to indicate whether they agreed that issues relating to drugs had been taught to them, legal implications and rehabilitation have been talked to them by law enforcement agencies, social services or health professionals, and the results were as provided in Table 37.

4.4.10 Rating of Student Safety with Respect to Safety Standards and Guidelines for Drug and Substance Abuse

The students were as asked to indicate the level of student safety in their school, with respect to adequate information on drugs and substance abuse, as well as peer pressure to use drugs and their results were as presented in Table 46.

Table 46

Rating of Student Safety with respect to Drug and Substance Abuse

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Safety due to adequate information	Very Unsafe	12	20.3%	2	2.6%	8	6.4%
	Unsafe	10	16.9%	10	12.8%	12	9.6%
	Safe	18	30.5%	50	64.1%	71	56.8%
	Very Safe	19	32.2%	16	20.5%	34	27.2%
Safety against peer pressure to use drugs	Very Unsafe	18	29.0%	4	5.1%	6	4.7%
	Unsafe	12	19.4%	16	20.5%	22	17.1%
	Safe	10	16.1%	46	59.0%	62	48.1%
	Very Safe	22	35.5%	12	15.4%	39	30.2%

The results show that 84% of the students in sub-county schools, 84.6% of those in county schools, and 62.7% of those in extra-county schools described safety due to adequate information about drugs and substances as unsafe, while the rest in the three school categories disagreed. This implied that even though the majority of the students across the three categories of schools received useful information on the risks associated with drug and substance abuse and were protected from peer pressure to use drugs, there are many others who have not received such information.

4.5 Relationship between the Implementation of Safety Standards and Guidelines for Food Safety and Student Safety

This section presents the results with respect to objective four, which sought to establish the relationship between the implementation of safety standards and guidelines for food safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya.

4.5.1 Consumption of Fresh Food

The students were as asked to indicate whether they agreed that food consumed in school is fresh and their results were as presented in Table 47.

Table 47

Consumption of Fresh Food

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
	Strongly disagree	12	30.0%	2	4.2%	8	9.3%
	Disagree	5	12.5%	8	16.7%	56	65.1%
	Agree	15	37.5%	30	62.5%	13	15.1%
	Strongly agree	8	20.0%	8	16.7%	9	10.5%

The results in Table 47 show that 25.6% of the students in sub-county schools, 79.6% of those in county schools, and 57.5% of those in extra-county schools agreed that food consumed at their school is fresh. However, the results also show that 74.4% of the students in sub-county schools, 20.4% of those in county schools, and 42.5% of those in extra-county schools. This implied that the school management of the majority of the schools in the sub-county schools' category had failed to ensure that students in their schools consumed food that was fresh. The results suggest there are unaddressed concerns regarding the quality of food consumed in all the schools, but the problem presents much in sub-county schools. If the students consume food, which is not fresh, it will result in ailments and even food poisoning.

The findings could explain the increasing incidences concerning food like food poisoning as recorded in the Inspection Reports at the County Director of Education office in Nakuru. However, on being asked about the state food consumed by learners, one deputy principal was reported saying, *"We do our best to provide our students with*

fresh food." The results are similar to those in a study by Serrem et al. (2020), where it was found that many schools were not providing students with fresh food. The researchers also observed that the majority of the Kenyan high schools studied do not provide nutritionally adequate meals.

4.5.2 Personal Cleanliness of Food Handling Personnel

The respondents were as asked to indicate whether they agreed that personnel mandated to serve food observe personal cleanliness, and their results were as presented in Table 48.

Table 48

Personal Cleanliness of Food Handling Personnel

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Personnel mandated to serve food observe personal cleanliness	Strongly disagree	6	9.1%	6	7.7%	17	13.0%
	Disagree	6	9.1%	16	20.5%	64	48.9%
	Agree	47	72.7%	38	48.7%	39	29.8%
	Strongly agree	7	10.6%	18	23.1%	11	8.4%

The results presented in Table 48 revealed that 38.2% of the students in sub-county schools, 71.8% of those in county schools, and 83.3% of those in extra-county schools agreed that personnel mandated to serve food observed personal cleanliness, while the rest of the students disagreed. The implication was that cleanliness was observed by personnel mandated to serve food, thus limiting the element of health risk associated with lack of cleanliness, such as food contamination. However, this was not the case with sub-county schools, where according to most of the students (51%), the food handling personnel did not observe cleanliness as expected by the students. This posed the risk of such personnel contaminating the food to be consumed, leading to diseases such as

typhoid and cholera. The results are similar to those in a study by Mwenga (2011), where it was revealed that in the majority of the schools, Kitchen staff did not observe personal cleanliness, and in fact, most of them are neither trained nor have medical certificates requisite for handling food.

4.5.3 Illegal Hawking of Food in School

The respondents were as asked to indicate whether they agreed that there is no illegal hawking of food to students in the school compound and their results were as presented in Table 49.

Table 49

Illegal Hawking of Food

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
There is no Illegal hawking of food to students in the school compound	Strongly disagree	8	12.1%	0	0.0%	4	3.1%
	Disagree	5	7.6%	0	0.0%	58	44.3%
	Agree	20	30.3%	24	30.8%	27	20.6%
	Strongly agree	33	50.0%	54	69.2%	42	32.1%

The results presented in Table 49 indicated that 52.7% of the students in sub-county schools, 100% of those in county schools, and 80.3% of those in extra-county schools agreed that there is no illegal hawking of food to students in the school compound. The results suggest that the school management of most of the schools in Extra County and all county schools had ensured that there was no illegal hawking of food to students in the school compound. However, over 40% of the sub-county mixed boarding secondary schools were not keen on controlling illegal hawking in schools.

On being asked whether the school had recorded any incidences of illegal hawking, one principal is reported saying, *"Yes, we had an incident two years ago, and we suspended the cook, who would bring foodstuffs to the students"*. The Safety Standards Manual prohibits illegal hawking or vending of food to schoolchildren in the school compound or its vicinity since the safety of such food cannot be guaranteed. This practice may expose learners to contaminated food, and illegal substances such as drugs and alcohol may get their way into the schools. In fact, illegally hawked food may be poorly handled or stale, and this could lead to food poisoning. The results are in agreement with those in a survey by Mutua (2017), where it was observed that in most schools, illegal hawking of food to students in the school compound was not allowed.

4.5.4 Condition of Food Purchases

The respondents were as asked to indicate whether they agreed that food purchased for students is in good condition, and their results were as presented in Table 50.

Table 50

Condition of Food Purchases

		Category of the School					
		Extra County		**County**		**Sub County**	
		F	**%**	**F**	**%**	**F**	**%**
Food purchased for students is in good condition	Strongly disagree	10	15.2%	10	12.8%	8	6.1%
	Disagree	13	19.7%	16	20.5%	55	42.0%
	Agree	23	34.8%	26	33.3%	31	23.7%
	Strongly agree	20	30.3%	26	33.3%	37	28.2%

The results presented in Table 50 show that 51.9% of the students in sub-county schools, 66.6% of those in county schools, and 65.1% of those in extra-county schools agreed that food purchased for students in their school is in good condition. This implied that even

though in most of the schools, the management ensured that food purchased for the students was in good condition, it is important to note over 30% of the students in all three categories felt that food purchased was in poor condition. Food in bad condition could make the learners lose their appetite, fail to gain the nutrients from the food and even contract diseases such as typhoid. This could explain the increasing incidences concerning food. The findings are similar to those in a survey by Mbula (2019), who observed that in some schools, the condition of food purchased for learners was wanting. Mbula noted that in one school, students had been in and out of the hospital over suspected food poisoning. The students complained of severe stomach pains and dizziness, while others had vomited or suffered diarrhoea.

4.5.5 Contamination of Food by Insects

The respondents were as asked to indicate whether they agreed that the food consumed had not been contaminated in any way by insects, and their results were as presented in Table 51.

Table 51

Contamination of Food by Insects

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Food consumed have not been contaminated in any way by insects	Strongly disagree	27	40.9%	26	33.3%	14	10.7%
	Disagree	16	24.2%	22	28.2%	61	46.6%
	Agree	15	22.7%	24	30.8%	34	26.0%
	Strongly agree	8	12.1%	6	7.7%	22	16.8%

The results in Table 51 show that 42.8% of the students in sub-county schools, 38.5% of those in county schools, and 34.8% of those in extra-county schools agreed that food consumed had not been contaminated in any way by insects. These low percentages across the responses from students in all three-school categories are indicative of the fact that in most of the schools, students were consuming food already contaminated by insects. When the learners consume food that has been contaminated by insects, they spend much of their time picking out the insects instead of enjoying the meal, some lose appetite and most importantly, the food consumed lacks all the nutritional components. On being asked about the measure that the school took to ensure that the food is not contaminated by insects, one of the deputies is quoted saying, "*we dry the cereals and treat them using chemicals, but it is difficult to treat over 100 bags of maise and beans".*

This justifies the increasing cases of diarrhoea and food poisoning in public mixed secondary schools. Similarly, in a study by Richards (2020), it was observed that retail food settings such as food stores in schools might experience a wider variety of pests, such as cockroaches, flies, ants and rodents. Food contamination can take place at any stage in the food processing, and distribution cycle and pest management professionals can help protect the health of the consumer at every stage. Richards reported that flies and cockroaches can mechanically transmit bacteria such as Salmonella, Staphylococcus aureus, Escherichia coli and Listeria that can cause food-borne illnesses. These types of illnesses can result in diarrhoea, gastrointestinal pain, cramping and fever.

4.5.6 Cleanliness in the Food Preparation Areas

The respondents were as asked to indicate whether they agreed that areas where food is prepared, including tables where food is chopped, are clean, and their results were as presented in table 52.

Table 52

Cleanliness in the Food Preparation Areas

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Areas where food is prepared, including tables where food is chopped, are clean	Strongly disagree	28	42.4%	22	28.2%	19	14.5%
	Disagree	5	7.6%	18	23.1%	51	38.9%
	Agree	19	28.8%	28	35.9%	39	29.8%
	Strongly agree	14	21.2%	10	12.8%	22	16.8%

The results provided in Table 52 show that 46.6% of the students in sub-county schools, 48.7% of those in county schools, and 50% of those in extra-county schools agreed that areas where food is prepared, including tables where food is chopped, are clean. On the contrary, the results also show that 53.4% of the students in sub-county schools, 51.3% of those in county schools, and 50% of those in extra-county schools indicated that the places where food is chopped are not clean. The results suggest that many students were of the opinion that areas where food is prepared, including tables where food is chopped, are not clean, and this compromised food safety in their schools. The situation was much worse in sub-county schools. The study findings are in agreement with those in Ngere (2010), who established that majority of the schools, did not observe cleanliness in areas where food is prepared, including tables where food is prepared.

The findings from the observation checklist on the cleanliness of the areas where the food is prepared, including tables where food is chopped, are clean, as shown in Table 53.

Table 53

Cleanliness of the Areas where Food is Chopped or Cut

Response	Frequency	Percentage
Yes	6	42.9%
No	8	57.1%
Total	14	100.0%

The findings in Table 53 were also noted from the observation checklists' results, where it was noted that in the majority of the schools (57.1%), the areas where food is chopped or cut are not clean. When these areas are not clean, they can lead to the contamination of the food served to the students. The results are similar to those in a study by Mwangi et al. (2018), who reported that many food handlers failed to adhere to the basic hygiene of food, and food preparation areas and this compromised food safety.

4.5.7 Provision of at least one Hot Meal per Day

The respondents were as asked to indicate whether they agreed that learners are provided with at least one hot meal per day, and their results were as presented in Table 54.

Table 54

Provision of at least one hot Meal per Day

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Learners are provided with at least one hot meal per day	Strongly disagree	7	10.6%	0	0.0%	6	4.6%
	Disagree	4	6.1%	2	2.6%	13	9.9%
	Agree	33	50.0%	34	43.6%	48	36.6%
	Strongly agree	22	33.3%	42	53.8%	64	48.9%

The results provided in Table 54 show that 85.5% of the students in sub-county schools, 97.4% of those in county schools, and 83.3% of those in extra-county schools agreed that learners are provided with at least one hot meal per day. The results suggest that according to the majority of the respondents, the students in their respective schools are provided with at least one hot meal per day. The results from the interview schedule also indicated that learners are provided with at least one meal per day. A deputy stated as follows: *"Yes, we ensure that the learners get at least one hot meal per day. This is our school policy"*. The guidelines direct that the school authorities, in collaboration with parents and members of the community as well as well-wishers, should be encouraged to ensure that learners are provided with a hot meal per day. This will not only enhance retention but also improve learning. The findings resonate with a study by Aliyar et al. (2012), who established that in the majority of the schools in Kenya, learners are provided with at least one hot meal per day. The researchers, however, observed that the Kenyan MoE had not specified a menu or ration composition of its own rather; it has adopted the World Food Program (WFP)'s daily hot lunch ration.

4.5.8 Catering for the Dietary Needs of Learners with Special Needs

The respondents were as asked to indicate whether they agreed that learners with special needs are catered for in relation to dietary needs, and their results were as presented in Table 55.

Table 55

Catering for the Dietary needs of Learners with Special Needs

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Learners with special needs are catered for in relation to dietary needs	Strongly disagree	25	39.1%	4	5.1%	12	9.2%
	Disagree	2	3.1%	8	10.3%	16	12.2%
	Agree	13	20.3%	26	33.3%	53	40.5%
	Strongly agree	24	37.5%	40	51.3%	50	38.2%

It was found, as shown in Table 55, that 78.7% of the students in sub-county schools, 84.6% of those in county schools, and 57.8% of those in extra-county schools agreed that learners with special needs are catered for in relation to dietary needs, while the rest disagreed. The results suggest that even though in the majority of the schools, learners with special needs are catered for in relation to dietary needs, in some schools, this was not the case. There seem to be unaddressed concerns in extra county schools, with over 30% of students indicating that learners with special needs are not catered for in relation to dietary needs. The guidelines state that the school should make efforts to ensure that learners with special needs are properly catered for in relation to dietary needs. However, when the learners consume food that they are uncomfortable with, they might become sick; get allergic reactions, among other effects. The findings are contrary to those in a study by Meresman and Drake (2016), who established that many schools did not have adequate food resources to cater for the dietary needs of learners with special needs, as this came with extra costs.

4.5.9 Referral of Students Displaying Frequent Discomforts after Eating Food

The respondents were as asked to indicate whether they agreed that students displaying frequent discomfort after eating food are referred to medical personnel for tests on allergies, and their results were as presented in Table 56.

Table 56

Referral of Students Displaying Frequent Discomforts after Eating Food

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Students displaying frequent discomfort after eating food are referred to medical personnel for tests on allergies	Strongly disagree	23	35.9%	12	15.4%	37	28.2%
	Disagree	7	10.9%	18	23.1%	28	21.4%
	Agree	19	29.7%	30	38.5%	29	22.1%
	Strongly agree	15	23.4%	18	23.1%	37	28.2%

The results in Table 56 shows that 50.3% of the students in sub-county schools, 61.6% of those in county schools, and 53.1% of those in extra-county schools agreed that there were cases where students displaying frequent discomfort after eating food are referred to medical personnel for tests on allergies. The results also show that 49.7% of the students in sub-county schools, 38.4% of those in county schools, and 46.9% of those in extra-county schools indicated that there are cases where students displaying frequent discomforts after eating food are referred to medical personnel for tests on allergies. The results suggest that in many schools, there were students displaying frequent discomfort after eating food and who were then referred to medical personnel for tests on allergies. On being asked what happened to the students who openly displayed discomfort after eating food, one of the deputy principals is reported saying. *"If you give students leeway, all of them would want a special diet. This would be expensive for the school."* The

results are in agreement with a study by Uçar et al. (2016), who observed that students who consumed contaminated food displayed frequent discomfort after eating the food. Uçar et al. explained that contamination of the food at any stage, from production to consumption, produces bacteria, viruses, parasites, chemical agents and toxins, which eventually cause food-borne diseases.

4.5.10 What is Done to Students who Display Frequent Discomforts after Eating Food in School

The results from the principals and deputy principals through interview schedules show that several actions were taken to deal with students who display regular/frequent discomfort after eating food in school. Such measures included the use of a sanitarium clinic and the utilisation of a nursing and dispensary nearby. One of the principals indicated that *"We usually ask for a medical report from the doctor, and the school will offer what is recommended by the doctor"*. There was also a mention of some learners being put on a special diet as recommended by qualified doctors. The findings are in agreement with Mberia et al. (2017), who observed that secondary schools studied were keen on ensuring that learners with dietary needs were placed under the recommended diet doctors.

4.5.11 Measures that have been put in Place to Cater for Students with Special Needs

The principals and deputy principals, through an interview schedule, indicated that there are measures the schools have put in place to cater for students with special dietary needs. The measures adopted include offering a special diet or alternative diet as recommended and ensuring students visit medical facilities on time. Some school principals indicated that they asked parents to pay for an alternative diet. The Safety Standards and Guidelines recommend that schools should make efforts to ensure that learners with special needs are catered for in relation to dietary needs. The essence of a

special diet or alternative diet in schools was emphasised in a study by Veloudaki et al. (2019) as a sure way of ensuring food safety in learning institutions. The distribution of healthy meals to the students was found to be more beneficial in terms of reducing food insecurity and improving eating habits among students, reducing childhood obesity, and improving the behaviour of students in school.

4.5.12 Basic Hygiene that Schools Encourage Learners to Observe in School

The principals and deputy principals, through the interview schedules, indicated that the schools' basic hygiene that it encouraged learners to observe in their school included washing hands in designated places, washing utensils immediately after finishing their meals, washing hands after toilet, and ensuring there is water. On being asked about the basic hygiene that the school encouraged learners to observe, one deputy principal was reported saying, *"We advise them to wash their hands before and after taking meals and also every time they visit the toilet"* The Safety Standards and Guidelines recommend that teachers should encourage learners to observe basic hygiene like washing of hands before and after meals. According to a study by Mane and Tata (2017), hand washing is an effective way to prevent the spread of common school illnesses like cold, pinkeye and flu and much more. Teaching children hand washing is important to keep them clean and healthy. For improvement of health and prevention of diseases (e.g., diarrhoea and gastrointestinal infections), hand washing with soap is very important for students.

4.5.13 Measures to Protect Food From Rodents, Insects and Bacterial Contamination

The results from interview schedules with respect to the measures that the school has put in place to protect food from rodents, insects and bacterial contamination revealed the following: Confirming the state of food before storage, such as the expiring date, using modern kitchens, proper drying and traps for rodents, treatment of the grains, and

ensuring that food lasts for a term. Toma et al. (2020) observe that checking the expiry date for food items before consumption helps one to avoid consuming unsafe foods that can cause sickness. The frequency of checking date labels when shopping and preparing meals is a behaviour that should be adopted in schools. Kaleta and Górnicki (2013) mention that it is safe to treat grains so that the food remains fit for human consumption.

4.5.14 Adequate Storage Facility

The findings from the observation checklist on whether the schools had adequate storage facilities were as shown in Table 57.

Table 57

Adequate Storage Facility

Response	Frequency	Percentage
No	14	100

The results from the observation checklist provided in table 57 revealed that all the schools (100%) had inadequate storage facility for food items. The food items were congested in small stores, old classrooms, corridors and others school kitchens. On being asked if the school had an adequate storage facility, one of the principals is reported saying: *"Building a store is very expensive. What we are focusing on now due to the 100% transition policy is to build more classes and dormitories. As you may have seen, we keep our grains in a corner in the dining hall."* Poor storage of the foodstuffs could cause contamination and even attacks by rodents. Kaleta and Górnicki (2013) point out that adequate storage facility is a requirement for ensuring that the food available is safe for consumption over a long period of time.

4.5.15 Alternative Sources of Food Available to Students in School and if they are Certified Sources

The interview schedule showed that other alternative sources of food are available to students in schools, according to the principals and deputy principals, as follows. Supplies by parents, in some schools, most foodstuff is grown in the school. The suppliers were vetted through a vetting committee recommended by the Ministry of Education. The respondents confirmed that all the sources were certified as per the Safety Standards Manual. One of the deputy principals is reported saying, *"We have a school canteen, where we have stocked various food items that the students can purchase".* Adelman et al. (2008) observed that the presence of alternative sources in school helped boost the nutrition intake of learners.

4.5.16 Rating of Student Safety with Respect to Safety Standards and Guidelines for Food Safety

The students were as asked to rate students' safety with respect to Safety Standards and Guidelines for Food Safety. The responses were as presented in Table 58.

Table 58

Rating of Student Safety with Respect to Safety Standards and Guidelines for Food Safety

		Category of the School					
		Extra County		County		Sub County	
		F	%	F	%	F	%
Safety against contaminated food	Very Unsafe	13	20.3%	12	15.4%	13	9.9%
	Unsafe	10	15.6%	16	20.5%	62	47.3%
	Safe	23	35.9%	26	33.3%	31	23.7%
	Very Safe	18	28.1%	24	30.8%	25	19.1%
Safety from taking food you are allergic to	Very Unsafe	25	39.1%	14	17.9%	19	14.7%
	Unsafe	4	6.3%	20	25.6%	57	44.2%
	Safe	18	28.1%	36	46.2%	23	17.8%
	Very Safe	17	26.6%	8	10.3%	30	23.3%

The results in table 58 show that 42.8% of the students in sub-county schools, 64.1% of those in county schools, and 64% of those in extra-county schools described safety against contaminated food as safe, while the rest described this aspect as unsafe. This implied, according to most students, their school protected them from consuming contaminated food. However, given over 30% of the participating students indicated that it was not safe, thus implying that consumption of contaminated food is still a challenge in the schools and needs to be addressed.

The results also revealed that 41.1% of the students in sub-county schools, 56.5% of those in county schools, and 54.7% of those in extra-county schools described safety from taking food the student is allergic to, while the remaining respondents indicated that it was unsafe. The results suggest that in many schools, risks associated with students taking food they are allergic were ignored by the school management.

However, one principal is quoted stating: *"They are just a few isolated cases of stomachaches; there is nothing so serious. In some cases when we investigate, we realise they are just pretending, especially during examinations time."* This situation presented heavily in the sub-county schools, with a percentage of over 50% of the respondents indicating that it is unsafe.

4.6 Correlation Analysis

This section presents the correlations between the study variables.

4.6.1 Correlations on Implementation of SSGPI and Student Safety

The results for Pearson correlations between the implementation of safety standards and guidelines for physical infrastructure and student safety were as shown in Table 59.

Table 59

Correlations on Implementation of SSGPI and Student Safety

		Influence of Implementation of SSGPI	Student Safety
Influence of Implementation of SSGPI	Pearson Correlation	1	-.146*
	Sig. (2-tailed)		.017
	N	275	269
Student Safety	Pearson Correlation	-.146*	1
	Sig. (2-tailed)	.017	
	N	269	269

*. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 59 show that the Pearson correlation results between the implementation of safety standards and guidelines for physical infrastructure and student safety were as follows. There was a negative Pearson correlation between the implementation of safety standards and guidelines for physical infrastructure and student safety ($r = -0.146^*$, $p = 0.017$). The negative association between the implementation of safety standards and guidelines for physical infrastructure and student safety is an indication that both variables move in the opposite direction. This means that as the implementation of safety standards and guidelines for physical infrastructure decreases, student safety increases with the same magnitude (and vice versa), given that the p-value (0.017) was less than the test significance level ($p < 0.05$, this relationship is statistically significant. The implication is that in most schools, the implementation of safety standards and guidelines for physical infrastructure, as implemented was not adequate to meet the recommended level of student safety. The results resonate with those in a study by Gatun (2015), who observed that most schools had not fully implemented Ministry of Education Safety guidelines to ensure the safety of physical infrastructure.

4.6.2 Correlations on Implementation of SSGSG and Student Safety

The results for Pearson correlations between the implementation of safety standards and guidelines for physical infrastructure and student safety were as shown in Table 60.

Table 60

Correlations on Implementation of SSGSG and Student Safety

		Implementation of Safety Standards and Guidelines for School Grounds	**Student Safety**
Implementation of Safety Standards and Guidelines for School Grounds and	Pearson Correlation	1	.149*
	Sig. (2-tailed)		.013
	N	275	275
Student Safety	Pearson Correlation	.149*	1
	Sig. (2-tailed)	.013	
	N	275	275

*. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 60 show that the Pearson correlation results between the implementation of safety standards and guidelines for school grounds and student safety were as follows. There was a positive Pearson correlation between the implementation of safety standards and guidelines for school grounds and student safety ($r = 0.149^*$, $p = 0.013$). This is a weak uphill (positive) linear relationship. This means that an increase in the implementation of safety standards and guidelines attracts an increase in student safety and vice versa. This shows that the implementation of safety standards and guidelines for school grounds has an influence on student safety in the secondary schools studied. Given that the p-value (0.013) was less than the test significance level ($p < 0.05$, this association is statistically significant.

4.6.3 Correlations between Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety

The results for Pearson correlations between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety were as presented in Table 61.

Table 61

Correlations between Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety

		Implementation of Safety Standards and Guidelines for Drug and Substance Abuse	**Student Safety**
Implementation of Safety Standards and Guidelines for Drug and Substance Abuse	Pearson Correlation	1	-.155*
	Sig. (2-tailed)		.011
	N	275	269
Student Safety	Pearson Correlation	-.155*	1
	Sig. (2-tailed)	.011	
	N	269	269

*. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 61 show that there was a negative Pearson correlation between the Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety as follows: ($r = -0.155$, $p = 0.011$). This shows that there was a negative association between the Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety. This means that an increase Implementation of Safety Standards and Guidelines for Drug and Substance Abuse appears to be associated with a decrease in student safety. Given that the p-value (0.011), was less than the test significance level ($p < 0.05$), this relationship is statistically insignificant. This could

imply that there is a problem/weakness with the Safety Standards and Guidelines for Drug and Substance Abuse. This could explain the introduction of the National Guidelines on Alcohol and Drug use prevention (2021) by the republic of Kenya and NACADA. These guidelines are to be used in relevant government institutions among the schools.

4.6.4 Correlations between Implementation of Safety Standards and Guidelines for Food Safety and Student Safety

The results for Pearson correlations between the implementation of Safety Standards and Guidelines for Food Safety and Student Safety were as presented in Table 62.

Table 62

Correlations between Implementation of Safety Standards and Guidelines for Food Safety and Student Safety

		Safety Standards and Guidelines for Food Safety on student safety	**Student Safety**
Safety Standards and Guidelines for Food Safety and student safety	Pearson Correlation	1	.126*
	Sig. (2-tailed)		.037
	N	275	275
Student Safety	Pearson Correlation	.126*	1
	Sig. (2-tailed)	.037	
	N	275	275

*. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 62 show that there was a positive Pearson correlation between the Implementation of Safety Standards and Guidelines for Food Safety and Student Safety as follows: ($r = 0.126^*$, $p = 0.037$). This shows that there was an association between the Implementation of Safety Standards and Guidelines for Food Safety and Student Safety.

Given that the p-value (0.037) was less than the test significance level ($p < 0.05$), this relationship is statistically significant.

4.7 Regression Analysis

Multiple regression analysis was done to establish the relationship between the independent and dependent variables, and the results are presented in this section. The variables under investigation included the relationship between the implementation of Safety Standards and Guidelines for Food Safety, Drug and Substance Abuse and Grounds and Physical Infrastructure (Independent variables) and student safety (Independent variable).

4.7.1 Model Summary

This section presents the multiple regression results with the aim of establishing the relationship between the independent variables and the dependent variable.

Table 63

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.230[a]	.053	.039	.65559

a. Predictors: (Constant), Relationship between the implementation of Safety Standards and Guidelines for Food Safety and Student Safety, Relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety, the relationship between the Implementation of Safety Standards and Guidelines for School Grounds and Student Safety, Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure and Student Safety.

The R Square value in the Model Summary table shows the amount of variance in the dependent variable that can be explained by the independent variables. The independent variables listed below in table 67 accounted for 5.3 per cent of the variability in student safety. The R-value (.230) is the multiple correlation coefficient between all the entered independent variables and the dependent variable. The Adjusted R Square adjusts for a bias as the number of variables increases. The Std. Error of the Estimate is a measure of the accuracy of the prediction. The regression result shows that the contribution of Safety Standards and Guidelines to student safety is minimal, as there appear to be other factors not covered by the study.

4.7.2 Analysis of Variances (ANOVA)

The findings with respect to the analysis of variances are provided in Table 64.

Table 64

Analysis of Variances (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.485	4	1.621	3.772	.005[b]
	Residual	116.046	270	.430		
	Total	122.531	274			

a. Dependent Variable: Student Safety

b. Predictors: (Constant), Relationship between the implementation of Safety Standards and Guidelines for Food Safety and student safety, Relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety, Implementation of Safety Standards and Guidelines for School Grounds and student safety, Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety.

In the study, the predictors are significant when Sig. (p-value) $p < 0.05$. The findings in table 64 show that the p-value was 0.005. Since the p values are less than 0.05

(confidence level), we can conclude that the relationship between the implementation of selected safety Standards and Guidelines and student safety in Public Mixed Boarding Secondary Schools and student safety is significant. As $p < 0.05$, our predictors are significantly better than would be expected by chance. The regression line predicted by selected Safety Standards and Guidelines explains a significant amount of the variance in the level of student safety. This is reported as follows: $F(4, 270) = 3.772$; $p < 0.005$, and therefore can conclude that the regression is statistically significant. This shows that the Safety Standards and Guidelines are contributing towards the enhancement of student safety.

4.7.3 Beta Coefficients

The Beta Coefficients with respect to regression outputs are presented in Table 65.

Table 65

Beta Coefficients

Model		Standardised Coefficients Beta	T	Sig.
1	(Constant)	1.739	7.256	.000
	Implementation of Safety Standards and Guidelines Safety for Physical Infrastructure	-.088	-1.245	.214
	Implementation of Safety Standards and Guidelines Safety for School Grounds	.168	2.445	.015
	Implementation of Safety Standards and Guidelines Safety for Drug and Substance Abuse	-.190	-3.105	.002
	Implementation of Safety Standards and Guidelines for Food Safety	.133	2.222	.027

a. Dependent Variable: Student Safety

The following regression model was used.

$SS = \beta_0 + \beta_1 SSGPI + \beta_2 SSGSG + \beta_3 SSGDSA + \beta_4 SSGF + \varepsilon$

$SS = 1.739 - 0.088 + 0.168 - 0.190 + 0.133 + 0.240$

From the findings, it emerges that the most influential determinant of Student safety was the Implementation of Safety Standards and Guidelines for School Grounds (Beta = 0.168). This was followed by the implementation of Safety Standards and Guidelines for Food Safety (Beta = 0.133). The rest of the factors in the order of their beta value were as follows: Implementation of Safety Standards and Guidelines for the Safety of Physical Infrastructure (Beta = -0.088), and Implementation of Safety Standards and Guidelines for Safety Against Drug and Substance Abuse (Beta = -0.190). The findings thus show that the best two determinants of student safety were implementation of Safety Standards and Guidelines for School Grounds and implementation of Safety Standards and Guidelines for Food Safety.

4.7.4 Test of Hypotheses

Using coefficients outputs for the independent and dependent variables in table 5, the study hypotheses were tested. The decision rule was to reject the null hypotheses if p values computed from the regression outputs per variable under measure were less than the conventional value of 0.05.

The first hypothesis stated that "Ho_1: There is no statistically significant relationship between implementation of Safety Standards and Guidelines for Physical Infrastructure, and student safety in public mixed boarding secondary schools in Nakuru County, Kenya." The beta value was -0.088; since the p-value associated with SSGP was 0.214, greater than 0.05 ($p > 0.05$), the null hypothesis is accepted and concludes that implementation of Safety Standards and Guidelines for Physical Infrastructure has an insignificant relationship with student safety in public mixed boarding secondary schools in the county. Accepting the null hypothesis means that the implementation of Safety Standards and Guidelines for Physical Infrastructure is not contributing positively towards student safety in schools. It could imply that there is a weakness in the

guidelines. This could be because there is non-adherence to the safety standards in some of the schools, and this made the students vulnerable to injuries or unsafe happenings. This was mainly because some form of infrastructure was not meeting the set standards in some schools. Such included classroom and dormitory doorways and windows, beds, and sanitation areas.

The second hypothesis read, "H_{O2}: There is no statistically significant relationship between implementation of Safety Standards and Guidelines for School Grounds, and student safety in public mixed boarding secondary schools in Nakuru County, Kenya." The beta value was 0.168; since the p-value associated with SSGSG was 0.015, a value less than 0.05 ($p<0.05$), the null hypothesis is rejected and therefore, it shows that implementation of Safety Standards and Guidelines for School Grounds has a relationship with student safety in public mixed boarding secondary schools in the county. Rejecting the null hypothesis means that the implementation of Safety Standards and Guidelines for School Grounds is contributing positively towards student safety in schools. This was mainly because, in the majority of the secondary schools, the Safety Standards and Guidelines for School Grounds were carefully implemented. This was seen by the fact that there was collective responsibility in the implementation process; there was a regular inspection of school grounds and proactive handling of strangers.

The third hypothesis read "H_{O3}: There is no statistically significant relationship between implementation of Safety Standards and Guidelines for Drug and Substance Abuse, and student safety in public mixed boarding secondary schools in Nakuru County, Kenya." The beta value was -0.190. Since the p-value associated with Safety against Drug and Substance Abuse was 0.002, a value less than 0.05 ($p<0.05$), the null hypothesis is rejected and therefore, it suffices that implementation of Safety Standards and Guidelines

for Drug and Substance Abuse has a significant relationship with student safety in public mixed boarding secondary schools in the county. Rejecting the null hypothesis means that the implementation of Safety Standards and Guidelines for Drug and Substance Abuse is contributing negatively towards student safety in schools, given that the beta value (-0.190) is negative. This means that majority of the secondary schools had effectively implemented the Safety Standards and Guidelines for Drug and Substance Abuse. This shows that the Safety Standards and Guidelines for Drug and Substance Abuse are inadequate. This is shown through activities such as learner enlightenment about drugs and substance abuse, regular use of external agencies to sensitise the learners, use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating of experiences, providing learners with an opportunity to suggest ways that contribute to creating a drug-free school environment, as well as sensitising learners on ways of resisting peer pressure to use drugs. These approaches appear ineffective in enhancing student safety in the majority of schools.

The fourth hypothesis read, "H_{O4}: There is no statistically significant relationship between implementation of Safety Standards and Guidelines for Food Safety, and student safety in public mixed boarding secondary schools in Nakuru County, Kenya." The beta value was 0.133. Since the p-value associated with capital adequacy was 0.027, a value less than 0.05 ($p<0.05$), the null hypothesis is rejected and therefore, it can be argued that implementation of Safety Standards and Guidelines for Food Safety has a significant relationship with student safety in public mixed boarding secondary schools, in the county. Rejecting the null hypothesis means that the implementation of Safety Standards and Guidelines for Food Safety is contributing positively towards student safety in schools.

The results suggest that in the majority of the schools, Safety Standards and Guidelines for Food Safety were properly implemented and that they contributed positively to the state of student safety. From the findings, it is clear that contributory factors included the fact that the management of most of the schools made sure that food consumed in school was fresh, personnel mandated to serve food observed personal cleanliness, and there was no illegal hawking of food to students in the school compound. However, the majority of the schools failed to ensure that food consumed has not been contaminated in any way by insects, areas where food is prepared, including tables where food is chopped, are clean, and that learners with special needs are catered for in relation to dietary needs. It is important, however, to note that this effectiveness was not observed in all public mixed boarding secondary schools in Nakuru County.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study. The purpose of the study was to establish the significant relationship between the implementation of selected safety Standards and Guidelines and student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya. In addition, the chapter contains a summary of the study findings, the conclusion, recommendations and suggestions for further studies.

5.2 Summary of the Findings

The study intended to examine the relationship between the implementation of Safety Standards and Guidelines for; Physical infrastructure, School Grounds, Drug and Substance Abuse and Food Safety (Independent Variables), and Student Safety (dependent variable).

5.2.1 Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure and Student Safety

The first objective sought to find out the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure and student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya. The results show that 83.5% of the students in sub-county schools, 84.7% of those in county schools, and 89.4% of those in extra-county schools indicated that the doors of the dormitory are never locked from outside when students are inside. The findings show that in 9 secondary schools (64.3%), the doorways in the classroom open outwards, while in 5 schools, this was not the case.

The findings show that in 4 schools (28.6%), dormitory windows are without grills, whereas in 10 mixed boarding secondary schools (71.4%), dormitory windows are with grills, 12 mixed boarding secondary schools (85.7%) dormitory windows open outwards, while in 4 schools (28.6%) dormitory windows open inwards, that 84.8% of the students in sub-county schools, 97.5% of those in county schools, and 77.3% of those in extra county schools indicated that the doorways in the classrooms are never locked from outside when the students are inside. It is also found that in 11 secondary schools (78.6%), the doorways in the classrooms do not open outwards. Concerning the corridors, it was found that 45% of the students in sub-county schools, 67.9% of those in county schools, and 68.2% of those in extra-county schools indicated that their school had corridors wide enough for the learners to walk along without bumping into each other.

The study findings reveal that 47.4% of the students in sub-county schools, 88.5% of those in county schools, and 69.7% of those in extra-county schools agreed that classroom windows in their schools are easy to open. It is also shown that 47.3% of the students in sub-county schools, 70.5% of those in county schools, and 70.2% of those in extra county schools indicated that classroom floors are always kept clean, while the rest in the three categories disagreed. In 10 mixed boarding secondary schools (71.4%), the floors of the classrooms are level.

Regarding furniture in the classroom, 44.6% of the students in sub-county schools, 97.4% of those in county schools, and 71.3% of those in extra county schools indicated that the furniture in the classroom, especially the desks are appropriate for use. In 11(78.6%) of the schools, one classroom did not accommodate 30 learners in one-seater desks or 40 learners in two-seater desks. In 10 public mixed boarding secondary schools

(71.42%), the desks are arranged in a manner that facilitates easy and orderly movement of learners in the classroom.

The results show that 67.4% of the students in sub-county schools, 89.7% of those in county schools, and 78.8% of those in extra-county schools indicated that students shared beds in the dormitory. Only 2(14.28%) out of the 14 mixed boarding schools have beds fitted with side grills. It was found that 28.5% of the students in sub-county schools, 47.4% of those in county schools and 64.1% of the students in sub-county schools, 94.9% of those in county schools. Only 3(21.4%) of the school's classroom blocks did not have a fire extinguisher.

On the state of sanitation, the results show that 48.5% of the students in sub-county schools, 94.9% of those in county schools, and 78.8% of those in extra county schools agreed that pit latrines are regularly disinfected; that 11(78.6%) of mixed boarding schools, the girls' sanitation areas are separate and offer complete privacy. The results show that 65.3% of the students in sub-county schools and 82.9% of those in county schools agreed that there is a safe and effective disposal of sanitary wear.

With respect to the safety of school infrastructure, the results show that 46.6% of the students in sub-county schools, 84.6% of those in county schools, and 72.8% of those in extra-county schools described their dormitories as safe. That 42.8% of the students in sub-county schools, 100% of those in county schools, and 89.4% of those in extra-county schools described their classrooms as safe. It was found that 38% of the students in sub-county schools, 66.6% of those in county schools, and 83% of those in extra-county schools described their school corridors as safe. It was established that 38% of the students in sub-county schools, 53.9% of those in county schools, and 54.7% of those in extra-county schools described sanitation areas as safe.

The results also show there was a negative Pearson correlation between the implementation of safety standards and guidelines for physical infrastructure and student safety ($r = -0.146^*$, $p = 0.017$). This shows that there was a negative association between the implementation of safety standards and guidelines for physical infrastructure and student safety, and this association was statistically significant.

5.2.2 Relationship between Implementation of Safety Standards and Guidelines for School Grounds and Student Safety

The second objective of the study sought to establish the relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The results show that 64.1% of the students in sub-county schools, 97.4% of those in county schools, and 86.3% of those in extra-county schools agreed that both learners and staff are collectively responsible for playground safety; that 63.5% of the students in sub-county schools, 82% of those in county schools, and 66.6% of those in extra county schools agreed that their school is located in a place with least climatic hazards such as floods, wind effects and other natural hazards.

It was established that 43.8% of the students in sub-county schools, 66.7% of those in county schools, and 66.7% of those in extra county schools agreed that there is regular inspection and supervision of the school grounds to ensure there are no items such as broken glass, loose sticks, stones that can cause injury to learners; that 77.7% of the students in sub-county schools, 94.7% of those in county schools, and 83.3% of those in extra county schools agreed that any stranger found within the school grounds was questioned.

The results show that 83.8% of the students in sub-county schools, 97.4% of those in county schools, and 73.5% of those in extra-county schools agreed that their school is located away from disruptive land use activities such as industrial facilities, bars, heavy traffic routes sewage and dumpsites. Most of the schools (78.6%) did not have the sign at the main gate, while 21.4% had the sign. Only 4(28.6%) of the mixed public boarding secondary schools had erected signposts to show directions to various facilities within the school. The majority of the schools did not have bare areas planted with grass to minimise the effects of dust. In most of the schools 8(57.1%), trees in the school are not labelled, indicating those that may be poisonous. The results show that 9(64.3%) of the schools had school grounds which have been levelled to make them easier for use by learners.

It was revealed that 9 schools 64.3% had not erected signposts to show directions to various facilities within the school; 5(35.7%) schools out of 14 had their walkways demarcated with wires rather than flowers. The results show that 38.9% of the students in sub-county schools, 73.1% of those in county schools, and 68.2% of those in extra-county schools described their playgrounds as safe, while the rest described them as unsafe.

The results also show that 70.3% of the students in sub-county schools, 74.4% of those in county schools, and 66.7% of those in extra-county schools described their playgrounds as safe. There was a positive Pearson correlation between the implementation of safety standards and guidelines for school grounds and student safety ($r = 0.149^*$, $p = 0.013$). This shows that there was an association between the implementation of safety standards and guidelines for school grounds and student safety, and this association was statistically significant.

5.2.3 Relationship between Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety.

The third objective of the study sought to determine the relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The results revealed that teachers in the majority of the schools made an effort to enlighten the learners on the dangers of drugs. The results show that 68.7% of the students in sub-county schools, 84.7% of those in county schools, and 87.7% of those in extra-county schools agreed that teachers in their subjects teach and enlighten learners about the dangers of drugs.

It was revealed that 45.7% of the students in sub-county schools, 69.2% of those in county schools, and 64.1% of those in extra-county schools agreed that learners in their school had been enriched on matters of drugs with up-to-date information that is made available by external agencies. The results show that 40.4% of the students in sub-county schools, 44.7% of those in county schools, and 54.9% of those in extra-county schools agreed that instruction on drugs had been enriched using various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating of experiences.

The majority of the schools (71.4%) had not displayed posters promoting a campaign against drug abuse. If the posters have not been displayed, it means that learners fail to see the seriousness of the campaigns. It was found that 37.4% of the students in sub-county schools, 41% of those in county schools, and 37.5% of those in extra-county schools agreed that at their school, learners have an opportunity to suggest ways that contribute to creating a drug-free school environment.

The results show that 46.6% of the students in sub-county schools, 82% of those in county schools, and 65.7% of those in extra-county schools agreed that in their respective schools, the learners have been sensitised on ways of resisting peer pressure to use drugs; that 41.2% of the students in sub-county schools, 63.2% of those in county schools, and 60.7% of those in extra county schools agreed that issues relating to drugs have been taught to them and that they have been talked to on legal implications and rehabilitation by law enforcement agencies, social services or health professionals.

It was established that 84% of the students in sub-county schools, 84.6% of those in county schools, and 62.7% of those in extra-county schools described safety due to adequate information about drugs and substances as unsafe. There was a negative Pearson correlation between the Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety as follows: ($r = -0.155$, $p = 0.011$). This shows that there was a negative association between the Implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety, and this association was statistically significant.

5.2.4 Relationship between Implementation of Safety Standards and Guidelines for Food Safety and Student Safety

The fourth objective of the study sought to establish the relationship between the implementation of safety standards and guidelines for food safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The study established that 38.2% of the students in sub-county schools, 71.8% of those in county schools, and 83.3% of those in extra-county schools agreed that personnel mandated to serve food observed personal cleanliness.

The study also found out that 52.7% of the students in sub-county schools, 100% of those in county schools, and 80.3% of those in extra-county schools agreed that there is no illegal hawking of food to students in the school compound; that 51.9% of the students in sub-county schools, 66.6% of those in county schools, and 65.1% of those in extra county schools agreed that food purchased for students in their school is in good condition.

It was revealed that 42.8% of the students in sub-county schools, 38.5% of those in county schools, and 34.8% of those in extra-county schools agreed that food consumed had not been contaminated in any way by insects; that 46.6% of the students in sub-county schools, 48.7% of those in county schools, and 50% of those in extra county schools agreed that areas, where food is prepared including tables where food is chopped, are clean. In the majority of the schools (57.1%), the areas where food is chopped or cut are not clean.

The results show that 85.5% of the students in sub-county schools, 97.4% of those in county schools, and 83.3% of those in extra-county schools agreed that learners are provided with at least one hot meal per day. It was found that 78.7% of the students in sub-county schools, 84.6% of those in county schools, and 57.8% of those in extra-county schools agreed that learners with special needs are catered for in relation to dietary needs.

The results show that 50.3% of the students in sub-county schools, 61.6% of those in county schools, and 53.1% of those in extra-county schools agreed that there were cases where students displaying frequent discomforts after eating food are referred to medical personnel for tests on allergies.

The measures put in place to deal with students who display regular/frequent discomforts after eating food in school included the use of a sanitarium clinic and the utilisation of a nursing and dispensary nearby. The measures put in place by schools to cater for students with special needs include: offering a special diet or alternative diet as recommended and ensuring students visit medical facilities in time. The practices the schools used to encourage learners to observe basic hygiene in school included washing hands in designated places, washing utensils immediately after finishing their meals, washing hands after the toilet, and ensuring there was water. The schools had put in place several measures to protect food from rodents, insects and bacterial contamination, and these included: confirming the state of food before storage, such as the expiring date, using modern kitchens, proper drying and traps for rodents, treatment of the grains, and ensuring that food lasts for a term.

It was revealed that all the schools (100%) had inadequate storage facilities for food items; that 42.8% of the students in sub-county schools, 64.1% of those in county schools, and 64% of those in extra county schools described safety against contaminated food as safe. The results also revealed that 41.1% of the students in sub-county schools, 56.5% of those in county schools, and 54.7% of those in extra-county schools described safety from taking food the student is allergic to.

The study also established that there was a positive Pearson correlation between the Implementation of Safety Standards and Guidelines for Food Safety and Student Safety as follows: ($r = 0.126^*$, $p = 0.037$). This shows that there was an association between the implementation of Safety Standards and Guidelines for Food Safety and Student Safety, and this association was statistically significant.

5.3 Conclusions

The first objective sought to find out the relationship between the implementation of Safety Standards and Guidelines for Physical Infrastructure on student safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya. The study concludes that the implementation of Safety Standards and Guidelines for Physical Infrastructure does not have a statistically significant relationship with student safety in public mixed-boarding secondary schools in Nakuru County, Kenya. This situation is brought about by the fact that in some of the schools, the corridors were not wide enough for the learners to walk along without bumping into each other and making students prone to accidents in the walkway. In some schools, the classroom floors were not clean. Another challenge was that the issue of unsafe furniture was experienced in some of the schools. In most of the schools, regular spot checks are not done at the dormitory before students retire to bed; the schools continue allowing visitors to the dormitories, thus exposing students to unsafe conditions. The influence was also inhibited by the fact that the school management failed to regularly disinfect pit latrines.

The second objective of the study sought to establish the relationship between the implementation of Safety Standards and Guidelines for School Grounds and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The study also concludes that the implementation of Safety Standards and Guidelines for School Grounds has a statistically significant relationship with student safety in public mixed boarding secondary schools in Nakuru County, Kenya. However, there were still observations showing inefficiencies in the implementation of the Safety Standards and Guidelines for School Grounds. These observations were as follows: inspection and supervision of the school grounds were not done regularly in many schools, and there were some secondary schools located in unsafe environments.

The third objective of the study sought to determine the relationship between the implementation of Safety Standards and Guidelines for Drug and Substance Abuse and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. Another conclusion is that implementation of Safety Standards and Guidelines for Drug and Substance Abuse does not have a statistically significant relationship on student safety in public mixed boarding secondary schools in Nakuru County, Kenya. This was because many students were of the opinion that instruction on drugs was not adequately done. With limited information, safety against drugs and harmful substances was compromised. Furthermore, the students felt that they were denied the opportunity to suggest ways that contribute to creating a drug-free school environment.

The fourth objective of the study sought to establish the relationship between the implementation of safety standards and guidelines for food safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The study concludes that the implementation of Safety Standards and Guidelines for Food Safety has a statistically significant relationship with student safety in public mixed-boarding secondary schools in Nakuru County, Kenya. However, there were concerns about food safety in many schools. In some schools, the learners felt that personnel mandated to serve food observe personal cleanliness and that illegal hawking of food to students was still tolerated in the school compound in some schools.

5.4 Recommendations

The study recommends as follows:

i. The school management should consider mobilising resources for enhancing the safety of school infrastructure in compliance with the safety standards and guidelines. Such resources can be used to buy safe furniture and construct corridors wide enough for the learners to walk along without bumping into each

other. The resources can also be used to buy enough beds in some schools where students are sharing beds.

ii. The school management should consider taking inspection and supervision of the school grounds seriously, as this was not done regularly in many schools. There should be serious compliance with the Safety Standards and Guidelines for School Grounds.

iii. The school management should consider making arrangements and organising forums in which students can be adequately instructed on drugs and substance abuse. The school should consider giving students the opportunity to suggest ways that contribute to creating a drug-free school environment.

iv. The school management should consider putting stringent measures in place to ensure that personnel mandated to serve food observe personal cleanliness and that illegal hawking of food to students is prohibited.

v. There is a need for the Ministry of Education to consider revising the safety standards and guidelines, especially on drug and substance abuse and that physical infrastructure, to address the inadequacies that hinder effective implementation in schools.

5.5 Areas for Further Research

The following are the recommendations for further research:

i. The effect of mobilisation of resources in the enhancement of student safety in Secondary schools in Kenya.

ii. Effect of supervision and inspection of student grounds on student safety in schools.

iii. Relationship between the implementation of the selected Safety Standards and Guidelines and student academic performance in Public Mixed Boarding secondary schools.

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APPENDICES

Appendix 1: The Letter to the County Director of Education

JACKLINE SIGEI,
P.O. BOX 12450 – 20100,
NAKURU.
CELLPHONE: 0723-711033

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY,
P.O BOX 259,
NAKURU

Dear Sir /Madam,

Re: Request to Collect Information from Secondary Schools

Referring to the above mentioned, I am requesting permission from your office to allow me collect information from public mixed boarding secondary schools in the County. I am a student at Kabarak University undertaking a postgraduate study on the relationship between Implementation of Selected Safety Standards and Guidelines and Student Safety in Public Mixed Boarding Secondary schools in Nakuru County, Kenya.
Any help given by your office will be highly appreciated. Thank you.

Yours Faithfully

Jackline Sigei

Appendix II: Letter of Introduction

JACKLINE SIGEI,
P.O. Box 12450 - 20100
Nakuru.
Cellphone: 0723-711033

Dear Sir / Madam,

I humbly request you to assist in the completion of research tools for my research thesis. I appreciate your taking the time from your busy schedule. This is part of my research for a Doctoral Thesis currently being undertaken in Kabarak University.

The questionnaires and the responses from the interviews will remain anonymous and the identity of the school will not be revealed in the thesis. Also the observations that I will make concerning the implementation of selected Safety Standards and Guidelines will be treated with confidentiality. The research findings can be used in presentations and publications as part of the dissemination of the research knowledge.

Once again, my sincere thanks for participating in this research.

Yours Faithfully,

Jackline Sigei,

Appendix III: Questionnaire for Students

Kindly provide appropriate responses to the following research questions by ticking appropriately in the spaces provided. Do not indicate your name or the name of your school anywhere in the questionnaire. Your responses will be used for academic purposes only and your information will be treated confidentially.

Part A: Background Information

1. Gender

Male [ ]

Female [ ]

2. Category of the School (Tick Appropriately)

Category of the School	**(Tick Appropriately)**
National	
Extra County	
County	
Sub County	

Part B: Physical Infrastructure on Student Safety

3. Below are statements describing some of the factors that affect student safety in public mixed boarding secondary schools . Provided also are four possible options corresponding to the statements given. Kindly tick the options that best suits your opinion on the corresponding statement

Strongly agree (SA) Disagree (DA)

Agree (A) Strongly disagree (SD)

The doorways in the dormitory are never locked from outside when the students are inside	**SA**	**A**	**DA**	**SD**
The doorways in the classrooms are never locked from outside at any time when learners are in				
The corridors are wide enough for the learners to walk along without bumping into each other.				
Classroom windows are easy to open				
Classroom floors are kept clean always				

The furniture in the classroom especially the desks are appropriate for use				
Students do not share beds in the dormitory				
Regular spot checks are done at the dormitory before students retire to bed				
No visitors are allowed in the dormitory				
Pit latrines are regularly disinfected				
Girls' sanitation areas are separate and offer complete privacy				
There is a safe and effective disposal of sanitary wear				

Section C: School Grounds on Student Safety

Both learners and staff are collectively responsible for playground safety				
Our school is located in a place with least climatic hazards such as floods, wind effects and other natural hazards				
Any stranger found within the school grounds are questioned				
There is regular inspection and supervision of the school grounds to ensure there are no items such as broken glass ,loose sticks, stones that can cause injury to learners				
My school is located away from disruptive land use activities like Industrial facilities, bars, heavy traffic routes sewage, dumpsites etc				

Section D: Safety against Drug and Substance Abuse Guidelines on Student Safety

	SA	A	DA	SD
Teachers in their subjects teach and enlighten learners about dangers of drugs				
The learners have been enriched on matters of drugs through use of up to date information that is made available by external agencies				
Instruction on drugs has been enriched through use of various methods and techniques such as brainstorming, displaying magazines or newspaper articles, posters or narrating of experiences				
Learners have an opportunity to suggest ways that contribute to creating a drug free school environment				
The learners have been sensitized on ways of resisting peer pressure to use drugs				
Issues relating to drugs have been taught to us ,legal implications and rehabilitation have been talked to us by law enforcement agencies, social services or health professionals				

Section E: Food Safety Guidelines on Student Safety

	SA	A	DA	SD
Food consumed is fresh				
Personnel mandated to serve food observe personal cleanliness				
There is no Illegal hawking of food to students in the school compound				
Food purchased for students is in good condition				
Food consumed have not been contaminated in any way by insects				
Areas where food is prepared including tables where food is chopped are clean				
Learners are provided with at least one hot meal per day				
Learners with special needs are catered for in relation to dietary needs				
Students displaying frequent discomforts after eating food are referred to medical personnel for tests on allergies				

Part F: Student Safety

4. Please indicate the level of Student safety in your school using the choices provided in the box and tick as appropriate

		Very Safe	Safe	Unsafe	Very Unsafe
Safety of your school physical infrastructure	Dormitory				
	Classrooms				
	Corridors				
	Sanitation areas				
Safety of your school grounds	Playgrounds				
	Location of the school				
Safety against drug and substance abuse	Safety due to adequate information				
	Safety against peer pressure to use drugs				
Food Safety	Safety against contaminated food				
	Safety from taking food you are allergic to				

5. The following statements describe the state of student safety. Kindly indicate to what extent this is the case in your school. Use the scale provided.

	Very Large Extent	Large Extent	Small Extent	No Extent
Students have left school due to lack of safety				
There are numerous complains about food quality				
Some students have been found with drugs and alcohol in school				
There are cases of injuries among the learners within the school compound				
Some strangers have been found within the school				
Some students sometimes sneak from school				

Appendix IV: Interview Schedule for the School Principals and Deputy Principals

1. What are the security measures that have been put at the gate concerning visitors to the school?
2. What is the school policy concerning locking of dormitory doors?
3. Are there adequate beds in the dormitories?
4. Are the double deck beds fitted with side grills?
5. Are there instances, where doors may be locked from outside while learners are inside?
6. Are there instances where the visitors are allowed in the dormitory?
7. In case a stranger is found near or within the school, what would the school do to him/her?
8. How have you separated the school playground to reflect diversity of sports talent in the school?
9. Does the school have a valid title deed?
10. Who is responsible for playground safety?
11. Are your classroom floors in good state?
12. How is the disposal of students' sanitary wear done in your school?
13. Are there any climatic hazards affecting your school?
14. Is your school located away from disruptive land activities?
15. How are the visitors guided at the main gate in your school?
16. Describe the level of student participation in the fight against drug and substance abuse in your school?
17. What are your sources of the information on drugs and substance abuse that you use in enlightening the learners on associated risks?
18. What is the role off guidance and counseling department concerning the issues of drugs and substance abuse in schools?
19. What do you do with the students who display regular/frequent discomforts after eating food in school?
20. Does your school have adequate storage facility?
21. What measures has the school put in place to cater for students with special dietary needs?
22. What basic hygiene does the school encourage learners to observe in your school?
23. What are the measures that the school has put in place to protect food from rodents, insects and bacterial contamination?

24. Are students provided with at least one hot meal per day?
25. What other alternative sources of food are available to students in your school? Please explain if they are certified sources.

Thank you

Appendix V: Observation checklist

	Yes	**No**	**Comments**
The doorways in the classrooms open outwards			
The doorways in the dormitories open outwards			
The desks are arranged in a manner that facilitates easy and orderly movement of learners in the classroom.			
Dormitory windows are without grills			
Dormitory windows open outwards			
The classrooms floors are level			
Double deck beds are fitted with side grills			
Girls' sanitation areas are separate and offer complete privacy			
One classroom accommodates 30 learners in one-seater desks or 40 learners in two -seater desks			
Each classroom block is fitted with fire extinguisher			
All walkways are demarcated with flowers rather than wires			
The bare areas of the grounds have been planted with grass to minimize the effects of dust			
Trees in the school are labelled indicating those that may be poisonous			
The school grounds have been levelled to make it easier for use by learners			
The school has a lockable gate			
The school has posted "NO TRESSPASSING" and "VISITORS REPORT TO THE HEADTEACHER'S OFFICE "signs at the main gate			
The school has erected sign posts to show directions to various facilities within the school			
The school has displayed posters promoting campaign against drug abuse			
The school has adequate storage facility for food items			
The areas where food is chopped or cut is clean			

Appendix VI: Letter of Introduction from Kabarak University

KABARAK UNIVERSITY

Private Bag - 20157
KABARAK, KENYA
http://kabarak.ac.ke/institute-postgraduate-studies/

Tel: 0773 265 999
E-mail: directorpostgraduate@kabarak.ac.ke

BOARD OF POSTGRADUATE STUDIES

26th July, 2019

The Director General
National Commission for Science, Technology & Innovation (NACOSTI)
P.O. Box 30623 – 00100
NAIROBI

Dear Sir/Madam,

RE: SIGEI JACKLINE- REG. NO. GDE/M/1122/09/14

The above named is a Doctor of Philosophy student at Kabarak University in the School of Education. She is carrying out research entitled ***"Implementation of Selected Safety Standards and Guidelines: A Correlational Study on Student Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya".*** She has defended her proposal and has been authorized to proceed with field research.

The information obtained in the course of this research will be used for academic purposes only and will be treated with utmost confidentiality.

Please provide her with a research permit to enable her to undertake her research.

Thank you.

Yours faithfully,

Dr. Betty Jeruto Tikoko
DIRECTOR, POSTGRADUATE STUDIES

Kabarak University Moral Code

As members of Kabarak University family, we purpose at all times and in all places, to set apart in one's heart, Jesus as Lord. (1 Peter 3:15)

Kabarak University is ISO 9001:2015 Certified

Appendix VII: Research Authorization

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telegrams: "EDUCATION",
Telephone: 051-2216917
When replying please quote

Ref.CDE/NKU/GEN/4/21/VOL.VI/55

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

16th September,2019

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION –JACKLINE SIGEI – PERMIT NO. NACOSTI/P/19/615

Reference is made to letter NACOSTI/P/19/615
22nd August, 2019.

Authority is hereby granted to the above named to carry out research on "***Implementation of selected safety standards and guidelines: A correlational study on student safety in public mixed boarding secondary schools in Nakuru County***" for a period ending ***21st August, 2020***

Kindly accord her the necessary assistance.

For: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

Akoko Okayo
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU

Copy to:

Kabarak University
P.O Private Bag
KABARAK

Appendix VIII: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **248451**

Date of Issue: **21/August/2019**

RESEARCH LICENSE

This is to Certify that Ms.. Jackline Sigei of Kabarak University, has been licensed to conduct research in Nakuru on the topic: IMPLEMENTATION OF SELECTED SAFETY STANDARDS AND GUIDELINES: A CORRELATIONAL STUDY ON STUDENT SAFETY IN PUBLIC MIXED BOARDING SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA for the period ending : 21/August/2020.

License No: **NACOSTI/P/19/615**

248451

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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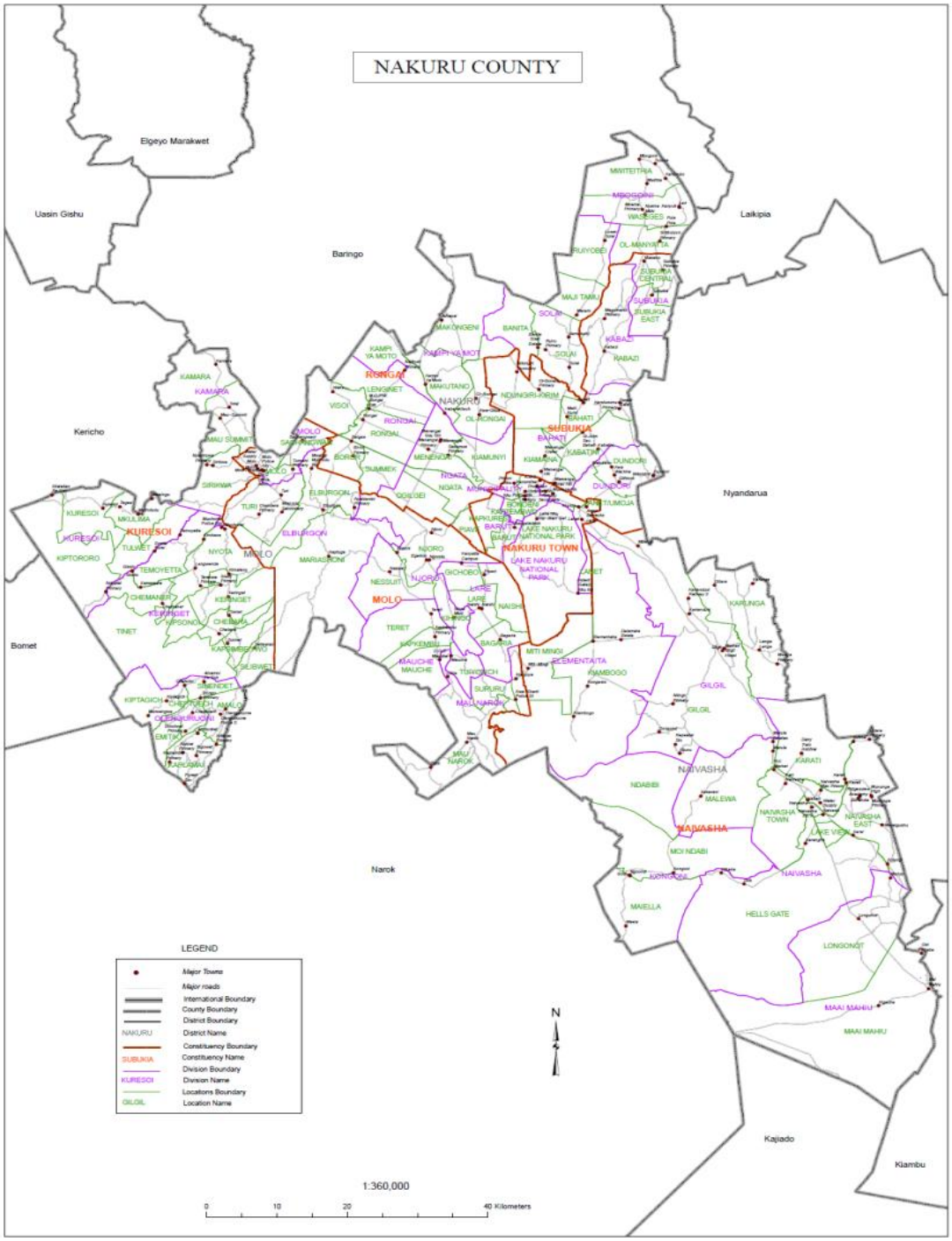
Appendix IX: Map of Nakuru County



Appendix X: List of Public Mixed Boarding Secondary Schools In Nakuru County, Kenya**.**

RONGAI SUB COUNTY

1Seet Kobor

2 Mama Ngina Kenyatta

3 Ol Rongai Sec

4 Bomasan Mixed

5 Lake solai

MOLO SUBCOUNTY

1. Elburgon Secondary

GILGIL SUBCOUNTY

1. Kahuho Mixed

2. Eburru Secondary School

KURESOI NORTH SUBCOUNTY

1Elck Kongoi

NAKURU WEST SUBCOUNTY

1 Tumaini House

2 Nakuru West Secondary

NAKURU NORTH SUBCOUNTY

1 Bavuni Secondary

SUBUKIA SUB COUNTY

1 Wei Mixed

NAKURU EAST SUBCOUNTY

1. Ngala School for the Deaf

NJORO SUBCOUNTY

1. Lamurdiac Mixed

2. Teret Secondary

TOTAL: 16

Appendix XI: Krejcie and Morgan Sample Size Determination Table

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Appendix XII: List of Publications

Editon Consortium Publishing
Transforming Scholarly Publishing

Editon Consortium Journal of Educational Management and Leadership [ISSN: 2709-1414]

Volume: 02 Issue: 01 | Nov-2021
Received: 21.10.2021; **Accepted** 26.10.2021; **Published**: 15.11.2021 at www.editoncpublishing.org
Sigei, J. et al., *Editon Cons. J. Educ. Manag. Leadership,–Blind Peer Reviewed Journal*
DOI:10.51317/ecjeml.v2i1.289

An Audit of Food Safety Standards and Guidelines Implementation in Public Mixed Boarding Secondary Schools in Kenya.

Authors
Sigei Jackline[1]; Prof. Henry K. Kiplangat[2]; Dr. Betty J.Tikoko[3].
[1.2.3] Kabarak University, Kenya.
Main author email: jsigei@kabarak.ac.ke

Abstract

The objective of this paper was to find out the relationship between the implementation of safety standards and guidelines for food safety and student safety in public mixed boarding secondary schools in Nakuru County, Kenya. Invitational Theory and Systems Theory guided the study. The target population included 2130 Form 4 students, 16 principals, 18 deputy principals representing all 16 public mixed boarding secondary schools in Nakuru, Kenya. The study applied a descriptive survey design. A census approach was used. A stratified sampling technique was used in categorising the population into three strata; principals, deputy principals, and Form 4 students. Principals and deputy principals were selected using the purposive sampling technique, while the students were selected using a simple random sampling technique. Questionnaires, interview schedules and observation checklist was used in data collection. Data analysis was performed using tools in the SPSS version 22. The analysis involved computation of descriptive statistics: frequencies and percentages, and inferential statistics: Pearson Correlation. The data was later presented in tables and textually. The study discovered that implementation of Safety Standards and Guidelines for Food Safety has a statistically significant relationship with student safety in public mixed boarding secondary schools in Nakuru County, Kenya. The study recommended that the government to allocate funds to the schools so that adequate food storage facilities can be constructed. The school management should ensure that all the learners with special dietary needs are offered an alternative diet.

Key Terms: Safety Standards and Guidelines for Food Safety, Student Safety, and Public Mixed Boarding Secondary Schools.

Article Citation (APA)

Sigei, J., Kiplangat, H. K. & Tikoko, B. J. (2021). An Audit of Food Safety Standards and Guidelines Implementation in Public Mixed Boarding Secondary Schools in Kenya. *Editon Cons. J. Educ. Manag. Leadership,* 2(1), 161-180. https://doi.org/10.51317/ecjeml.v2i1.289

Editon Consortium Publishing
Transforming Scholarly Publishing

Editon Consortium Journal of Curriculum and Educational Studies (ECJCES)

ISSN: 2663-9319

Volume: 02 Issue: 01|Sep-2020
Received: 12.08.2020; Accepted 14.08.2020; Published: 30.09.2020 at www.editoncpublishing.org
Sigei, J., et al. *Editon Cons. J. Curr. Educ. Stud., Double –Blind Peer Reviewed Journal*

Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure, and Student Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya

Sigei Jackline[1]; Dr. Betty J. Tikoko[2]; Prof. Frederick B. J. A Ngala[3]
[1,2,3] Kabarak University, Department of Education, School of Education
Main author Email: jsigei@kabarak.ac.ke

ABSTRACT:

The study aimed at finding out the relationship between implementation of Safety Standards and Guidelines for Physical Infrastructure in public mixed boarding secondary schools in Nakuru County, Kenya. The study was guided by Invitational Theory by Purkey and Schmidt and Systems Theory by Von Bertalanffy. The target population was 16 principals, 18 deputy principals and 2130 Form 4 students drawn from all 16 public mixed boarding secondary schools in the county. The study adopted a descriptive survey design. The sample size comprised 327 Form 4 students. A census approach was used. . The population of the study was clustered into 9 sub counties. Stratified sampling technique was used to categorize the population into three strata namely principals, deputy principals and Form 4 students. The principals and deputy principals were selected using purposive sampling technique, while the students were selected using simple random sampling technique. Data from students was collected by use of questionnaires, while that from principals and deputy principals was collected using interview schedules. The researcher also used observation checklist to determine the level of implementation of the selected Safety Standards Guidelines in the schools. Prior to use, the instruments were subjected to validity checks with the help of university supervisors and reliability tests guided by the 0.7 Cronbach's Alpha Reliability Coefficient level. Data analysis was done using tools in the SPSS version 22. Analysis involved computation of descriptive statistics: frequencies and percentages, and inferential statistics: Pearson Correlation and Regression coefficients. The data was then presented in tables and textually.

Key words: Implementation, safety standards and guidelines, safety standards and guidelines for physical infrastructure, student safety.

***

How to cite this article in APA (6th Edition)

Sigei, J., Tikoko, B. J.; Prof. Ngala, F.B. J. A. (2020). Relationship between Implementation of Safety Standards and Guidelines for Physical Infrastructure, and Student Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya. *Editon Cons. J. Curr. Educ. Stud.*, 2(1), 275-285.

***

Appendix XIII: Evidence of Conference Participation

KABARAK UNIVERSITY

Certificate of Participation

Awarded to

Sigei Jackline

for successfully participating in the 11th Annual Kabarak University International Research Conference on Education/Arts 2021 held from 18th – 20th October 2021and presented a paper entitled ***"Relationship between implementation of Safety Standards and Guidelines for Drug and Substance Abuse and Student Safety in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya."***

Conference Theme

21st Century Issues and Practices in Education

Prof. Frederick Ngala
Dean School of Education

Dr. Moses Thiga
Director - Research, Innovation and Outreach

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(1 Peter 3:15)

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Certificate of Participation

Awarded to

Ms. Jackline Sigei

for successfully participating in the 10th Annual Kabarak University International Research Conference held from 12th – 13th October 2020 and presented a paper entitled ***"Relationship Between Implementation of Safety Standards in Public Mixed Boarding Secondary Schools in Nakuru County, Kenya."***

Conference Theme

21st Century Issues And Practices In Education

Prof. Frederick Ngala
Dean School of Education

Dr. Moses Thiga
Director Research

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