INFLUENCE OF SECURITY MANAGEMENT MEASURES ON SAFETY OF STUDENTS IN PUBLIC SECONDARY SCHOOLS IN EMBU EAST SUB COUNTY, EMBU COUNTY, KENYA

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and it has not been submitted for award of diploma or conferment of degree in any University

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Recommendation

This thesis has been examined, passed and submitted with our approval as University supervisors

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DEDICATION

This thesis is dedicated to my wife Lydia Wangari, our children Faith Njoki and Moses Njoroge and grandmother Rahab Wanjiru.

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ABSTRACT

The execution and continuous review of security management measures enhances safety of students in a school. School safety is a crucial ingredient in providing quality education. Reacting to unrest and fatalities only when they occur reveal the

unpreparedness of schools. The various reports of school fires, riots and drug abuse have raised concerns on the security management measures of public schools. The objective of the study was to establish the influence of security management measures on safety of students in public secondary schools of Embu East Sub -County, Embu County. The study applied descriptive survey design. The study population was composed of 10258 subjects that included secondary school Principals, Teachers, Students, Sub-county Quality Assurance and Standards Officer and Head of Fire Unit in the Embu East sub-county. Proportionate stratified random sampling was applied to select 25 out of 46 public secondary schools in Embu East Sub-county. From the selected 25 public secondary schools, simple random sampling was used to select 75 Teachers and 275 Students. One Sub-county Quality Assurance and Standards Officer, one Head of Fire Unit and 25 Principals were purposively sampled. The sample size was 377 respondents. The data collection tools used to gather data in the study were questionnaires for Principals, Teachers and Students, observation schedule for the researcher and interviews for Sub-county Quality Assurance Officer and Head of Firefighting unit. Piloting involved two school Principals, six Teachers, and 30 form three Students from Embu West Sub-county. The instrument's validity was ascertained through expert judgement by supervisors and research experts from Faculty of Education, Chuka University. The reliability was determined by use of Cronbach's Alpha coefficient. A reliability coefficient of 0.854 was yielded and deemed appropriate for research instruments. Analysis of data was done using SPSS version 26 after coding and cleaning. After analyzing the obtained data quantitatively and qualitatively, it was displayed in the form of tables, percentages and frequencies. Linear regression analysis was applied in data analysis. There was a significant influence of training of learners, training of teachers, schools' technological infrastructure and security measures of physical facilities on safety of students in public secondary schools of Embu East Sub county. Most schools have not invested in technological infrastructure in the security management of learners. There is a weak link between public secondary schools and County Governments on disaster training and collaboration on averting fires and other hazards. The study recommends that the school management to nurture the formation, revival of clubs and societies and making them vibrant to train on conflict resolutions and offering skills and knowledge on accident and emergency situations responses to promote safety of learners. There is need for national and county government to collaborate to improve the physical facilities, installation of fire assembly points, firefighting training and equipment and constantly monitoring their suitability to enhance the safety of learners.

TABLE OF CONTENTS

PAGE

LIST OF TABLES

PAGE

LIST OF FIGURES

PAGE

ABBREVIATIONS AND ACRONYMS

CCTV: Closed Circuit Television

IFRC: International Federation of Red Cross and Red Crescent Societies

KESSHA: Kenya Secondary Schools Heads Association

KNBS:	Kenya National Bureau of Statistics
MOE:	Ministry of Education
NACADA:	National Campaign Against Drugs Abuse
NACOSTI:	National Commission for Science, Technology and Innovation
SAHRC:	South African Human Rights Commission
SCDE:	Sub-County Director of Education
SMM:	Security Management Measures
SPSS:	Statistical Package for Social Sciences
SQASO:	Sub-county Quality Assurance and Standards Officer
U.S.A:	United States of America
UNESCO:	United Nations' Education, Science and Culture Organization
UNGEI:	United Nations' Girls Education Initiative
UNICEF:	United Nations Children Education Fund

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Schools have a duty of ensuring that security management is mainstreamed to warrant safety of students. Safety of students is a key component in providing quality education. The safety of learners at institutions offering basic education has to be guaranteed through implementation of security` management measures for them to regularly attend, actively participate and successfully complete their studies. Safety is part of institutional culture considered to influence member's perception, attitude and efficiency in relation to performance (Cooper, 2000). Safety is preventing accidents and avoidance of property destruction caused by accidents in any recognized set up (Maphosa & Mammen, 2011).

In a school setting, safety is the overall structure that is free from potential and physical harm, violence and members of staff that are caring and protective (Republic of Kenya, 2012). School safety are the precautions that stakeholders undertake in every learning institution to either eliminate or reduce threats and conditions that are risky and may result in accidents, mental and emotional distress, as well as physical injuries (Republic of Kenya, 2008). Elimination of such obstacles provides a safe schooling environment.

Security is the level of protection against threats, harm, loss and crime (Devine & Cohen, 2007). Orpinas and Home (2003) observed that security is a form of protection where a distinction is made between the assets and threat. According to Cox, Bynum and Davidson (2010), security management measures are the strategies and guidelines required to coordinate various activities in the school. Security management is a critical mechanism that learning institutions apply to achieve and maintain safety of students (Cornell & Mayer, 2010). Learners and school's assets are exposed to risks that may cause injuries, loss of life and properties respectively once the risk occurs. Security management measures are ways of providing security technologies and strategies to lessen security threats in the school (Luara, 2014). The indication of a secure school is the availability and execution of security management measures which are geared towards students', teachers' and other stakeholders' protection within the school. School security is the setting up and maintaining of protective measures to achieve a

state of non-exposure to hostile situations in school (Menkiti, 2012). A secure place is a safe place (Trump, 2010). The security measures are the guidelines employed to achieve safety of students.

Quality learning and teaching environments are easily achieved by institutions with vigorous security management systems (Republic of Kenya, 2008). Students are most likely to be successful academically when they feel safe, comfortable, and given care in their learning setting (Telljohann, 2007). A safe learning institution should produce academic performance that improves steadily, drugs and child abuse free, involves the stakeholders entirely in its programs and indiscipline cases are minimal (Republic of Kenya, 2008). According to UNICEF (2009) secure schools should be appropriately equipped with enough resources, filled with qualified teachers, and suitable learning conditions. Therefore, institutions that effectively adopt security management measures result in students gaining an overall development.

Incidences related to disasters and accidents might occur anywhere in the world. In the U.S.A, the Columbine High School Massacre happened in 1999, as pointed by Purpura (2008). This incident occurred in Colorado, where two teenage learners who were armed with several bombs and weapons ended up killing one teacher and twelve students, and twenty-four students were wounded, after which they killed themselves. Zero-tolerance policies were implemented as a result of this incident; to promote the prevention of drug abuse and violence in learning institutions in the U.S. High school learners tangled in the use of illegal substances, weapons, and violent acts are barred from respective schools. According to Robers et al (2015) one in every three schools in US in 2009 applied the zero-tolerance policy to bar students who were causing unrest in schools. To improve safety in schools in the U.S., security management measures have been enforced. Recordings should be done in lockdown areas in the schools where learners are not allowed to exit or enter the building without being checked.

In Netherlands, security management measures in schools focus on harassment, enhanced response to incidence, premises' safety, social aptitude training as well as school capacity building (Soomeren, 2002). The Amsterdam School Safety Project enhances plans made by school to improve school's environment and curriculum

support in safety training (Soomeren, 2002). Secure schools in Philippines continuously improve teachers' capacity through training to identify learners at risk of dropping out; this is key in maintaining discipline and fostering more meaningful relationships with students and the larger community (UNICEF, 2009). In South Africa, numerous schools have applied the 'Adopt-a-Cop' program that was launched in 1996 to curb high cases of insecurity in schools (South African Human Rights' Commission, 2006). The 'Adopt-a-Cop' unit regularly visits schools that are part of the program to train and educate on drugs and substance, child abuse, illegal weapons, and gangs. The program builds a positive relationship between police and schools and boosts learners and staff support to avoid violence and crimes (Shaw, 2004). The implementation of such projects significantly improves the safety of students.

School fires have resulted in significant loss of property and lives in Uganda (Harriet, 2014). At Budo Junior Girls Boarding secondary school in Uganda twenty girls perished when a dormitory caught fire (Harriet, 2014). According to Harriet (2014) students were sleeping in the classrooms that were being used as dormitories without permission from the appropriate government officials. Further inquiry found that the school did not have an occurrence book or an attendance register to monitor the effectiveness and performance of the personnel in the security department. A study conducted by UNICEF (2009) had a similar finding that efforts geared towards mainstreaming child-friendly schools in Ethiopia and Kenya have achieved partial success.

Safety issues were highlighted first in Kenya through the Education Act (1968) which became the basis of security measures and regulations. The Act empowers cabinet secretary for education to prescribe the minimum standards for the safety of pupils. In the year 2000, 7.73% of Kenyan secondary schools experienced unrest and insecurity cases leading to the formation of a taskforce (Republic of Kenya, 2001). The 2001 high schools unrest and students' discipline Taskforce proposed that the MOE establishes an educational facilities unit to offer professional advice on standards of facilities in educational institutions (Republic of Kenya, 2001). Educational institutions premises regulation has the minimum-security measures that a physical facility should comply with (Republic of Kenya, 2012). Classrooms, dormitories and halls doors should open

from outside, adequate and never to be locked when students are in (Republic of Kenya, 2008). Nevertheless, questions have been raised over the implementation of security measures in public schools. The study investigated the status of learning infrastructure in Embu East sub-county in relation to the implementation of security measures of physical facilities on safety of students.

The launch of security measures and taskforce recommendations alone have not adequately addressed the safety concerns in schools. Kitheka (2016) conducted a study on the institutional factors influencing implementation of safety guidelines in Machakos County. The study found out that inadequate financial resource negatively influences the attainment of security measures in schools by affecting equipment and infrastructure acquisition and adequacy. Also, according to the study, training of staff on security issues was inadequate and most schools had not formed safety committees. Gathoni (2013) shares this view that teachers lacked training in firefighting skills resulting in most schools lacking firefighting preparedness at various secondary schools in Limuru District, Kenya. The teachers in charge of safety in schools had a deficiency in knowledge and skills on first aid, although it was their responsibility to administer it to students and fellow teachers. The study further found out that students were not exposed to safety awareness as indicated by 74% of the teachers sampled (Kitheka, 2016).

Prioritization of security management measures is key in achievement of safety of learners. However, Ng'ang'a (2013) sought to find out the factors affecting compliance with security guidelines in Nyeri County secondary schools. The finding was that there was no training of students on security issues. Ruto and Mugo (2005) found that teachers' skills and knowledge of first aid and disasters response is vital as it facilitates students' speedy recovery and safety in the event of a disaster in school. Hence there was need to establish whether learners had adequate skills and knowledge to enable them avoid, manage and care for fatalities when accidents happen.

Maritim (2014) carried out research on state of safety and disaster response preparedness in boarding schools in Nandi County. The researcher noted that most buildings doors were not opening from outside and had grilled or meshed windows.

Lack of finances hindered the adherence to the security measures of physical facilities (Maritim, 2014). There were no fire extinguishers at all strategic places in the sampled schools. The few available were not regularly checked and maintained hence may not function adequately. Kirimi (2014) conducted a research that established that most schools lacked emergency exits yet the few that were there had no labels in Buuri district. The students' training in security measures and awareness was below average thus putting the lives of learners at risk in case of a disaster. This reveals the unpreparedness of schools to such disasters and emergencies that impede the attainment of quality education. The research study investigated the prevention of disaster in schools.

To improve on safety of students, schools should adopt modern technology in security management. Technological security management practices deal with the application of technological devices and equipment in preventing and fighting insecurity (Mastisa, 2011). Van Jaarsveld (2011) stated that technological security management complements the physical security management and greatly contribute towards the safety of learners as well as reducing violence in schools. According to Van Jaarsveld (2011), the use of security technologies decreases significantly the chances of crime or violent acts since the culprit might be caught and evidence produced against them.

The utilization of technological security measures strengthens the existing physical security measures hence the achievement of safety of learners. According to Lombaard and Kole (2008), technological security measures include closed circuit television (CCTV) systems with surveillance footage, biometric systems, intruder alarms; metal detectors; x-ray machines. These security management measures help in lowering the chance of delinquent and violent acts in school. However, Kirui, Mbugua and Sang (2011) in their research found that principals were not conversant with security measures in schools. The research further established that though the MOE 2008 safety guidelines were issued to schools, most of the principals were not conversant with safety measures, other security management strategies and the degrees of implementation were still low.

In Kenya, high schools have a history that fire is the leading cause of loss of properties and lives as witnessed since the year 1991, yet there has not been found any lasting solution to it. St. Kizito secondary school, back in 1991, had a case involving suffocation and rape, which led to nineteen girls losing their lives (Oguye, 2012). Another incident occurred in 1998 at Bombolulu girls when a dorm burnt, and 26 learners lost their lives (Oguye, 2012). In 2001 at Kyanguli secondary school 68 students perished as a result of dorm fire while a student died at Upper Hill secondary school in a dorm fire in 2008 (Oguye, 2012). The 2016 government 's taskforce report on secondary schools' unrest found out that there were 483 cases (Republic of Kenya, 2017). These included 239 cases of fire and 244 other forms of unrest, 1075 suspects were arrested of which 1029 were students while 46 were non-students (Republic of Kenya, 2017). The wave of school fires, vandalism and unrest in secondary schools was again witnessed in 2018. The Table 1 shows the regional breakdown and nature of school's unrest in 2018.

Table 1: Breakdown and Nature of School's Unrest in 2018

Region	Arson	Walk-outs	Sit ins	Breakages	Total
Central	1	4	2	1	8
Coast	4	1	0	0	5
Eastern	22	9	5	4	40
Nairobi	2	1	0	0	3
North Eastern	0	0	0	0	0
Nyanza	17	0	1	5	23
Rift Valley	12	7	1	5	25
Western	4	1	0	1	6
Total	62	23	8	14	107

Source: Ministry of Education (2018)

In the year 2018, there were 62 cases of arson in public secondary schools with Eastern region having the highest cases. The Eastern region had 40 out of 107 cases of varied nature of unrest in 2018 in the country. Embu County is in Eastern Region that was hard hit by unrest leading to disruptions of normal school programs. In 2021, cases of school fires and students' unrest were witnessed in various regions of the country. From January 2021 to March, 2021, fires had been reported in 14 secondary schools in Embu County (County Commissioner Office, 2021). Based on the previous tendencies of emergencies and tragedies and obtained data, the effectiveness of security management measures of security operations in public schools elevates apprehensions. The study

examined the influence of security management measures on safety of students in secondary schools in Embu East Sub county, Embu County, Kenya.

1.2 Statement of the Problem

Safety of learners is greatly enhanced through continuous review and implementation of security management measures. Efforts through issuance of safety guidelines and taskforces' recommendations to curb unrest and vandalism in schools have not yielded the desired results on safety of learners. Reacting to unrest and fatalities only when they occur reveal the unpreparedness of schools. Execution and continuous review of security management measures enhance safety preparedness among public schools to prevent, mitigate and effectively prepare against potential disasters thus minimize disruption of normal operations and destruction of life and property. Therefore, the study investigated the influence of security management measures on safety of students in public secondary schools in Embu East Sub County, Embu County, Kenya.

1.3 Purpose of the Study

The purpose of the study was to establish the influence of security management measures on safety of students in public secondary schools in Embu East Sub county, Embu County, Kenya.

1.4 Objectives of the Study

The following objectives guided the study:

i. To determine the influence of training of learners in security management measures on safety of students in public secondary schools in Embu East Sub County.
ii. To establish the influence of training of teachers in security management measures on safety of students in public secondary schools in Embu East Sub County.
iii. To determine the influence of schools' technological infrastructure on safety of students in public secondary schools in Embu East Sub County.
iv. To establish the influence of security measures of physical facilities on safety of students in public secondary schools in Embu East Sub County.

1.5 Research Hypotheses

The hypotheses below were tested in the research study at $\alpha=0.05$ significant level:

H_{01}: There is no statistically significant influence of training of students in security management measures on safety of students in public secondary schools in Embu East Sub County.

H_{02}: There is no statistically significant influence of training of teachers in security management measures on safety of students in public secondary schools in Embu East Sub County.

H_{03}: There is no statistically significant influence of schools' technological infrastructure on safety of students in public secondary schools in Embu East Sub County.

H_{04}: There is no statistically significant influence of security measures on physical facilities on safety of students in public secondary schools in Embu East Sub County.

1.6 Significance of the Study

The findings of the study may be beneficial to policymakers, school administrators, educational officers, researchers, teachers and learners. Through the findings of this study, intervention measures to eliminate schools' security threats can be developed by policymakers. The research findings will also enable education officers to supervise and lead safety strategy plans in public secondary school operations leading to improved accountability and governance. The study may help educational institutions managers and teachers with information that may improve their ability to identify, evaluate and manage threats in schools. Enhanced learners' safety in schools may lead to better performance. The study could serve as an investigative guideline in security management measures in learning institutions.

1.7 Scope of the Study

The study was conducted in public secondary schools within Embu East sub-County, Embu. The respondents of the research included students, teachers as well as principals. It also included the quality assurance and standards officer and head of firefighting unit in Embu-East. The research focused on influence of security management measures on safety of students in public secondary schools in Embu East Sub county, Embu County,

Kenya in respect to training of learners and teachers, schools' technological infrastructure and security measures of physical facilities.

1.8 Limitation of the Study

Security issue is a sensitive concern which might elicit questions that are not beneficial to the study. Also, some respondents may withhold information that might give a negative image about themselves or their institutions. Nevertheless, these were remedied by assuring the respondents that the information obtained would be used for academic purpose only and non-disclosure of their identities.

1.9 Assumptions of the Study

The study was based on the following assumption:

i. The security management measures to enhance safety of students have been applied in all schools.
ii. The respondents cooperated and gave correct information.
iii. The policies on security management measures did not change during the period of research.
iv. Training of learners and teachers, schools' technological infrastructure and security measures of physical facilities were assumed to be the main factors influencing safety of students.

1.10 Operational Definition of Terms

The following terms were operationalized as follows:

Influence:	An action exerted by a person or thing with ability to cause change or manipulate. In this study, influence means to predict some results where security management measures are expected to predict extent of safety of students in schools.
Physical Facility:	built infrastructure used for provision of services in the school. It includes classrooms, dormitories, kitchens, toilets and any other room used by students while in school but excludes the technological infrastructure.
School Safety:	Feeling of being safe or certain in school. In this study, school safety is the freedom from threats, loss of property and life or injuries within a school set up. This is attained by a complete execution of security management measures that enhance the school safety.
Security Management Measures:	Procedures, practices and structures adopted to enhance the safety of schools.
Security:	Freedom from apprehension and fear of unfavorable occurrences. In the study, security is the degree of protection against threat, damage, loss and crime that maybe a threat to safety of learners.
Technological Infrastructure:	Related to modern scientific knowledge. In this study, it is any built facility or installation related to information and communication technology and related devices for use in the enhancement of safety of learners. e.g., CCTV and biometric devices.
Training:	The activity of imparting and acquiring skills. In this study, training is the dissemination and transfer of knowledge, skills and attitudes on security management measures to students, teachers and other stakeholders.
Unrest:	A state of trouble, confusion leading to riots and demonstrations. In the study, unrest refers to the interruption of normal school programs and activities led by angry or dissatisfied students who engage in protests or fights hence disrupting learning and teaching.

CHAPTER TWO
LITERATURE REVIEW

2.1 Safety of Students in Public Secondary Schools

The basic requirement for the safety of students in schools is the accessibility to suitable security measures and facilities since school setting plays a key role in retaining and improving students' learning outcomes (UNGEI & UNESCO, 2019). The Amsterdam School Safety Project in Netherlands have existed for five years involving forty secondary schools (Soomeren, 2002). It uses plans made by school to ensure safety, schools' physical enhancements, as well as social and curriculum supports to endorse a comprehensive and preventive tactic to safety in schools that are participating (Soomeren, 2002).

Brown and Taylor (2008) opined that 20% of children aged 11 years in the UK experience violence in school with a smaller percentage experiencing bullying frequently. In the US a study conducted by Robers, Zhang, Truman and Snyder (2012) found that 23 percent of public schools stated that students were being bullied on a daily basis in the school year 2009/2010. Bullying and other forms of harassments cause physical, psychological and emotional suffering hence the students become unsafe.

Pereznieto, Harper, Clench and Coarasa (2010) had a similar finding that school violence affects all the learners' spheres of life that include physical, psychological, emotional and educational achievement. According to Republic of Kenya (2008) school violence and other belittling acts affect students' self-esteem. A hostile school set up is the one that fails to accommodate or neglects the needs of the learners. Republic of Kenya (2008) states that threats to safety of students can emerge either internally or externally. The threats to safety of students include accidents, violence and harassment in school and unfriendly school environment.

According to UNICEF (2009), the surrounding where most children grow up in is unconducive, hostile and uncaring that may be harmful to children's well-being, physical, emotional, and social health. This is the overall status of almost all learning institutions in developing nations. The key components on safety of students include

safety in physical infrastructure, health and safety in school environment, safety against drug and child abuse, disaster response (Republic of Kenya, 2008).

2.2 Security Management Measures on Safety of Students

According to Rogers (2009) physical safety measures are the barriers that are used to separate assets that are at risk from the perpetrator. A security aid is a device or manpower (guards patrolling, control room) used to improve the overall security system. When Physical security measures and security aids are implemented and integrated a security measure is said to be in place (Rogers, 2009). The security measures employed enhance the safety of learners. BEST (2005) states that well-designed and maintained school facilities enhanced safety of students leading to success of every student in the United State of America.

From a report made in Venezuela in the year 2011, local committees in charge of risk management informed and trained individuals on community risks, vulnerabilities and threats and how to prepare and respond to disasters (UN, 2009). Torrington, Hall & Taylor (2005) opined that training raises rules awareness, self-confidence and -discipline. The Entire School Approach Standards include children empowerment with familiarity of their rights, participation and gender equality, capacity building of the entire educational staff including teachers, and strengthening physical learning environments (UNGEI, 2019).

An observational study undertaken by Danielson, Chung and Shannon (2009) in Morocco disclosed the necessity for the adoption of security awareness in teaching syllabus in secondary schools as well as in teachers training institutes' syllabus. In Ethiopia, a study carried out by International Federation of Red Cross and Red Crescent Societies (2000) disclosed the need for secondary schools to encompass competency of workforces in different fields and to offer demonstrations and talks to students, workers, and teachers to enhance safety. The teaching of workers and students should be intended to inform and reveal the various steps of emergency management in schools. They include preparation, mitigation, recuperation, as well as reaction (IFRC, 2000).
However, according to the Association of Fire Protection Industry Stakeholders (2018) lack of comprehensive fire and rescue laws and uncoordinated firefighting organs in

different ministries weakens firefighting in Kenya. The current disaster management laws fail to include key provisions that include fire safety, rescue and water supply. Also, by 2018 there were only 600 trained firefighters but ill-equipped in the whole country. According to MOE (2018) dormitories and students' personal properties were destroyed through arson in 58 secondary schools whereas in 6 schools stores and staffrooms were burnt in 2018. The aim of this research study was to find out the comparison among ideal and actual situations regarding the influence of security management measures on safety of students in Embu East Subcounty, Embu County.

2.3 Training of Learners in Security Management Measures on Safety of Students

The schools' security aims have shifted focus from protection of school's physical assets against destruction, theft and fire learners' safety. Consequently, schools are required to develop a well elaborate security strategy and conduct a comprehensive risk appraisal (Rogers, 2009). Currently school security requires well-developed security and safety plans, as well as undertaking comprehensive risk assessment and threat analysis exercises. The federal government of Canada launched the model comprehensive project for primary schools referred as "Together We Light the Way**"** in 1998**.** The aims of the program are; to create a safe, caring, and respectful community, as well as adopt a sense of ownership that links the schools with their surrounding communities. As a result of the project, schools have reduced significantly in problematic behaviors like bullying and truancy leading to improved education (National Crime Prevention Strategy Canada, 2004).

In the United Kingdom, the Youth Justice Board, Chief Police Officers' Association, and the Department for Education and Skills (DES) executed a Safer School Partnerships project in the year 2002. Police officers were posted to designated schools in areas with high crime rate and a multi-agency with 155 members was also established to ensure crime prevention. The responsibility of these teams is to work closely with education and health officials, schools, as well as the justice agencies in order to develop and employ preventive programs. Also, mentoring programs for elementary school pupils and school drop-outs that may require employment or training have been established. Some handbooks and anti-bullying programs have also been established

and assessed **(**Youth-Justice-Board UK, 2019). Through such effort, the safety of students is guaranteed.

Obot (2005) observed that 5% of Brazilian teenagers have ever tried marijuana and 70% consumed alcohol at least once in their lifetime. According to World Bank (2000), the majority of people who smoke bhang are in less developed nations, with about 1 billion being males and slightly below 250 million females. Mugisha, Mugisha and Hagambe (2003) observed that substance and drug abuse have a significant adverse effect on a user's physical, mental, emotional health, and financial level. Drug dependency breeds violence since the user feels mighty and unbeatable (Tabifor, 2000). Dunne et al. (2012) used information derived from a national health investigation to examine the connection amongst absenteeism and school bullying experiences amongst senior high school learners in Ghana. They established that bullying was linked with minimal students' turnout and the possibility of school's nonattendance amplified with respect to the rate of harassment. Furthermore, scholars who experienced mistreatment were nearly double as probably to miss school compared to students who did not experience bullying.

The South Africa 'Adopt-a-Cop' security program in schools focuses on teenagers in schools (South African Human Rights' Commission, 2006). The program encompasses the South African Police Service (SAPS) officers going to schools to offer scholars training in security and crime prevention. The aim of the program is to increase and reinforce communication amongst scholars and police (SAHRC, 2006). However, the foremost national study conducted on violence on schools in South Africa back in the year 2008 by Burton (2008) established that 85.5% of the learners felt secure at schools. Then why did the children feel safe with the high cases of violence taking place? The answer is due to the frequent occurrence of crimes and violence that has become a normal routine for South African people (Serrao, 2008).

The Journeys program implemented in primary schools in Uganda presents various extracurricular activities that are led by patron teachers (UNGEI, 2019). Scholars engage in partaking games and activities created to trigger debates based on gender equality, human rights, learning and personal challenges, problem solving, as well as

peer support. This comprises activities that explore various violence forms that scholars personally experience or witness when they are going to and from schools or while at school (UNGEI, 2019). The program will be replicated in Ugandan secondary schools. Disaster risk lessening has been incorporated in school curricula in Nigeria, Ethiopia, Mozambique, Madagascar, Mauritius, and Sierra Leone (UN, 2009). Training should be done regularly and continuously improved to achieve the desired results. Also, steady drills are significant for learners so as to respond to an emergency effectively.

The Kenya Violence against Children survey (2010) established that 76.1% and 79.4% of female and male respectively that were sampled indicated having experienced violence in their lifetime. For males, instructors followed by the Police were the commonest culprits of physical violence by an authority figure. Also 17.2% and 43.7% of female and male respondents between 13–17-year-olds testified at least one incident of sexual violence in their last twelve months in school. A report by the UN Girls Education Initiative policy paper 2015 listed Kenya as one of the republics where young girls experience high violence levels in and outside schools, thereby challenging their education progress. The report stated that 40% of sexual harassment was enacted by fellow students and 39% was enacted by teachers. Learners trained in security management will adequately handle demanding tasks and situations rather than projecting their fear and anger to colleagues through bullying.

A report given by NGEC (2015) acknowledged substance abuse as an issue of great concern by every respondent from selected counties, Embu County being amongst them. Most abused substances include bhang, khat, illicit brews, and tobacco. The research also found that learners who don't perform well are more prone to engage in substance and drug abuse. Leaners that use drugs also have irregular school attendance hence affecting their performance negatively, and may end up not completing school. In a research study established by Njeri and Ngesu (2014) to identify what made learners misuse drugs in Nairobi County, Dagoretti division found that the majority of students use drugs due to pressure from their age mates and be in high moods. Another study was conducted by Maundu (2013) in Mbeere North, Embu County, and found that most learners who were involved in theft and school property destruction were abusing drugs. In Embu East Sub-County, Public secondary schools have experienced

cases of unrest. Fourteen cases of learners' unrest and four cases of burning dorms from 2012 to 2016 have been reported (SCDE Office, 2017). Learners trained on the dangers of drug abuse acquire skills and knowledge to resist peer pressure and assist those abusing drugs thus cannot result to vandalization of school properties.

As stated by KSSHEA (2012), drug and substance abuse and associated cases in learning institutions have been a composite problem to the majority of teachers and principals in numerous schools since parents and learners refuse to admit the fact that there is an issue. Whenever learners are caught, most parents demand to be permitted to solve the matter on their own. Usually, they handle the issue by transferring the wrongdoer to other schools. Furthermore, majority of those schools are not aware as to why the scholar was transferred. Maithya (2009) found out that drug and substance abuse amongst scholars is common as both genders have abused drugs, boys' schools being the major participants. There is a momentous connection between age and drug abuse, easy drugs accessibility, and drugs use by some of the family members. Various influences contribute to drug abuse with most students quoting the main reasons as curiosity, ignorance, and acceptance by peers to the threats of substance use. High occurrence of drug abuse amongst students indicates that this is a major public health problematic in Kenyan secondary schools and all over the world. The usage of these elements starts at an early age and enlarges with the developmental age all the way up to adolescence stage. There are scholars who start abusing drugs before they are fourteen years of age, inferring that there is necessity for early sensitization amongst preadolescents in order to avoid development of substance use disorders in late adolescence or adulthood (Waithima, 2017). The study sought to find out whether there was any connection between drug abuse and the occurrence of unrest, vandalization of properties and fires in schools which negatively affects the safety of students.

According to a 2012 NACADA survey, one-third of students have ever abused drugs at least once in their lifetime. The investigation further found that the drugs most consumed by learners are alcohol and miraa in that order. This is a significant concern because abusing drugs at a young age can lead to addiction. Research carried out in Nyanza, Western, and Rift Valley had a similar finding that the most abused substance was alcohol while bhang and tobacco were the least abused substances (Ochieng, 2012).

The high usage of drugs amongst students signifies a tremendous social concern in Kenyan schools and globally (Waithima, 2017). Thus, the current investigation evaluated the association between influence of security management measures and safety of students in public secondary schools in Embu East Subcounty, Embu County, Kenya.

As Scaggs (2009) claimed, students who abuse drugs are not disciplined, thus jeopardizing the safety of staff and other students. When parents fail to be involved in student's school activities and know their friends, then there is a potential exposure of the youths to substance abuse. Nyaga and Mwai (2016) also noted that adolescents that are guided and guarded in a friendly way rarely engage in substance and drug use. Thomas (2008) pointed out that learners must participate in the successful management of schools' security. Schools should create platforms where scholars can frankly share and discuss how to eliminate and avert violence, bullying, substance and drug abuse, and other malicious acts that interfere with the management of school security.

According to Brunner and Lewis (2005), students should be advised against taking drugs and should report in confidence to the school authority those that abuse drugs. The use of drug-sniffing dogs and locker searches may discourage the abuse of drugs since they deter and detect drug abuse cases. The same guidance applies to weapons like guns. The dissemination of conflict intervention skills and non-violence programs can assist students to deal with their own issues (Brunner and Lewis, 2005). However, excessive anger, uncontrollable emotions, and depression are personality disorders that negatively affect the safety of the victim and others hence require the involvement of a certified counselor.

Maithya (2009) discovered that a quick inspection of lockers, dorms, and rules which outlaw drug use and trafficking are a part of measures practiced in some schools. Shauri (2007) noted that drug abuse guidance and counseling is the major widely used method in assisting and averting abuse of drugs. Maithya (2009) also had similar results that learning institutions have implemented programs for peer education and reinforced guidance and counseling to limit the abuse of drugs. Oketch (2008) noted that teens experience momentous growth and development human issues to handle. They include

a role, peer, and self-identifications as well as authority freedom. According to Otieno and Offula (2009), schools that do not enforce any guidelines on the availability of drugs, trafficking, and use put the safety of the school in danger. The study sought to find out the measures that public schools employ to prevent the availability and abuse of drugs in schools.

Inappropriate behavior in the classrooms, such as hostility and poor social interactions skills may cause insecurity to students and lead to substance and drug abuse (Dishion et al, 2002). In the research study conducted by Kingala (2000), most drug abusers started taking drugs in school. Failing to respond to students' concerns may make them start using drugs, hence, influence the security management negatively (Kingala, 2000). Shaw (2019) had a similar finding that for security measures to be effective the young people should be involved in developing, designing and carrying out the security management measures. Munyoki (2008) claimed, students involved in drug abuse tend to perform poorly in school and have bad morals. Often, those who abuse drugs are usually tangled in strikes leading to school property destruction and sometimes even death.

2.4 Training of Teachers in Security Management Measures on Safety of Students

Training of teachers in security management measures has a multiplier effect in that the teachers will disseminate the knowledge and skills acquired to the learners and also, they cannot become the tools of aggression to learners thus enhancing safety of students. As reported by Campbell (2007), fear of the occurrence of school crisis is managed by preparation, communication, as well as education, instead of denial. The school community should be informed on the strategies for a crisis. The crisis response team should be trained on procedures of crisis response and consecutively train the entire school fraternity. They should also jointly plan with law enforcement professionals and local social services on disaster response (Greene, 2005). The study investigated whether there was a coordinated plan between the schools and the County government fire unit on disaster mitigation.

Security should always be amongst the first priorities on the plan of every principal of a school (Sherif, 2007). However, there was scarce training time since most of the time

in schools was dedicated to academic matters. Poor preparation may result to a huge tragedy in case a crisis strikes leading to great loss of property and life. Thus, there should be allocated training time for all members of staff in order to play the role of first respondent (Brunner and Lewis, 2005). According to Bucher and Manning (2005), the number of teachers who purposively set time to dialogue about bullying and its preventive ways or even collaborate with students to generate classroom rules to stop bullying was less than one-third. Teachers should also counsel bullies frequently and especially when vice occur in order to discourage bullying (Bucher & Manning, 2005). The study sought to establish whether teachers adequately address dispute resolution mechanisms and peaceful coexistence amongst students to avoid violence with the claim that the syllabus was wide.

In the research study conducted in UK by Bennett (2010), the researcher suggested that secondary school staffs must be authorized to initiate every security action, counting, beckoning law enforcement agencies and those who control and put off fire directly. As stated by the Fire Fighter Forum (2009), the school stakeholders must support its management to prepare adequately for school security by steering refresher courses for latest skills acquisition by teachers as well as integrating security management training in institutions like teacher training colleges.

According to Smith-Greer (2001), teachers should be trained to handle violent circumstances and students. According to Knight, Allen and Miremba (2018), the objectives of the Good School Toolkit in Uganda are to assist teachers to generate a learning environment with no hostility where scholars can develop their confidence and skills, hence, become constructive, critical, and creative. Specific techniques on behavior-change for the administration and the entire staff include the following; - encouraging compassion through creation of opportunities to focus on violence prevention experiences; providing teachers with knowledge on restorative discipline and opportunities to exercise gained behavioral skills (Knight et al., 2018). Augmentation of new ideas and information, response on progress, as well as exhibiting new behaviors and techniques was provided by the program support team.

A controlled research study on outcomes of the toolkit in Uganda found that occurrence of previous week's physical ferocity was higher in the control schools than in the intervention schools (Devries, Child, Mirembe, Nakuti, Jones & Naker, 2015). Scholars in intervention schools described that they were feeling secure and supported and that they were experiencing fewer physical punishment (Devries et al., 2015). Although studies have settled that the involvement is very effective at lessening violence against children when in their respective schools, the focus for the outcomes was on short-term and it was noted that the general violence's prevalence maintained its high level. It was approved that schools would need multiple interventions and continued support in order to produce sound and constant change (Knight et al, 2018). Thus, the study sought to establish whether teachers possess the skills and use them to minimize violence in schools.

According to UNICEF (2009), home's child safety and protection has a direct influence on the capacity of children to attend learning classes, and also children must feel secure as they travel to schools from their homesteads. Involvements to address such situations comprise of training parents and teachers in non-violent discipline, and founding and imposing codes of conduct that protect kids from abuse, sexual harassment, bullying, violence, physical punishment, discrimination as well as stigma. In circumstances with high violence levels, mediation and counseling programs and people should be acknowledged (UNICEF, 2009). A school with a negative atmosphere and poor communication amongst faculty and administrators, reward and rules structures that are unclear, students feeling as if they are not respected or valued by teachers, abstruse consequences for misconducts, little expectations for the achievement of students, low students' engagement in the learning process, classroom environments that are disorderly may inhibit safety of students (Bucher and Manning, 2005). In such school set ups, learners feel insecure.

According to UNICEF (2008), the protective element of child-friendly school requires that parents and teachers must be trained in non-violent, and discipline interventions and strategies that are child-based. This signifies that no canings, beatings, counteracts bullying and abuse or any other forms of punishment that is humiliating. Appropriate and equitable policies are employed by teachers in schools, and a punitive culture

should be avoided. Alternatively, teachers assist scholars make informed and sensitive choices about what is good and right (Bucher and Manning, 2005). In Trump's (1996) opinion, professional training for school administrators, safety officials, teachers, support personnel, parents, community agency, and public safety partners enables participants to learn how to manage and prevent violence in schools, reduce security liability and risks, and enhance the relationship amongst schools and the community.

Purpura (2008) stated is that every employee at schools must be trained on identification of unsuitable behavior early enough. Those signs comprise of feelings of being persecuted, rejection, and isolation, as well as behaviors that indicate violence or anger, like threats. However, findings from the Kenya Violence against Children Study in 2010 showed that violence against kids is a weighty issue in Kenya. In the study, it was found out that mothers and fathers were the commonest perpetrators of physical violence in the family set up. For males, teachers', police in that order were the commonest perpetrators of physical violence by an authority figure. Teachers should strive to attain a safe environment for learners rather than being violent to those that they should care and protect.

Kukali (2016) states that a committee should be formed in schools whose duties are inspection of safety, auditing, and limiting accident-related risks. Accidents may result in serious bodily injury, permanent disability, and death. Additionally, some accident victims may suffer from emotional and psychological trauma leading to unsatisfactory performance of duties and low self-esteem (Republic of Kenya, 2008). As stated by the Republic of Kenya (2009), the teacher responsible for school safety is accountable and entirely in charge of safety measures at their schools and implementing corrective strategies in response to safety issues affecting students, staff, and the neighboring community. The safety committee oversees the domestication of security management measures at the school level and review as need arises.

Ruto and Mugo (2005) found that the knowledge of teachers in disasters response and skills on first aid is vital as it facilitates students' speedy recovery and safety in the event of a disaster in school. Kitheka (2016) found that most secondary schools' staff was not adequately educated on safety issues. The study further found that the training was not

appropriate to ensure full participation in bringing about security practices in schools. The study examined whether teachers are being sufficiently trained in security issues to enhance safety of students.

Gathoni (2013) shares this view that teachers lacked training in firefighting skills resulting in most schools lacking firefighting preparations at various secondary schools in Limuru District. From a survey conducted in Turkana region by Rono and Wambua (2009), 85.7% of the questioned teachers said that they had not undergone training in firefighting, and how to respond to tragedies. The teachers in charge of safety in schools had a deficiency in knowledge and skills on first aid, although it was their responsibility to administer it to students and fellow teachers. Wanyama (2011) advanced that emergency drills should be conducted frequently. The research therefore examined the influence of training of teachers in security management measures on safety of students.

2.5 Schools' Technological Infrastructure in Security Management on Safety of Students

The adoption of information and communication technology instruments and systems in security management by a school greatly improves the real and perceived view of the prioritization of safety of students. As stated by Sherif (2007), security management measures should be prioritized in every school. According to Green (1999), whether technological security measures truly improve students' safety or not determined, yet, they still send key messages suggesting that the school takes security threat solemnly and is working hard to fight it. Thus, the technological security measures may have an added advantage of portraying that schools are safe institutions (Green, 1999). Van Jaarsveld (2011) stated that technological security management measures reinforce physical security management thus is a significant tool and boost the learner's safety.

The purpose of using security technologies is to minimize the chances to commit violent acts, increase the probability that the offender will be caught and gather evidence for prosecution (Van Jaarsveld, 2011). Green (1999) had a similar finding that the key goals of technological security infrastructure in schools are to detect, deter, or delay crimes and disorders. While preventing crimes and any kind of misbehaviors before they happen is the definitive goal of any safety plan, schools cannot deter all inappropriate

behaviors, thus detection comes in place. The purpose of applying security technologies is to lessen the likelihood to commit violence or crimes, to upsurge the possibility that somebody would be caught and evidence of committed violence acts produced, hence making prosecution process easier (Green, 1999). Thus, there was need to look into the place of school's technological infrastructure on safety of students.

There are several security technologies that schools can implement. These technologies include the use and retrieval of closed-circuit television (CCTV) systems footage, intruder's alarms; hand- held or fixed metal detectors, card reader systems, x-ray machines, as well as trap doors (Lombaard & Kole, 2008). Many security devices may deter and detect just like the metal detectors, the surveillance cameras, and lighting (Green, 1999). The greatest projected advantage of using technological security measures in schools is that they will advance and ensure that the schools are safe. It is significant that security technological measures are not be considered as human beings' replacement method. A CCTV system can't be effective unless an officer is present in the control room to always monitor the system and act immediately if need be (Gaustad, 1999). Schools employing such kind of systems in South Africa are few whereby, only a few schools can afford the incurred installation costs, operational costs, maintenance costs and the constant manning of those systems. However, some schools have opted to keep the CCTV surveillance system operating costs minimal by only using automated 24/7 recording systems; hence occurrences are only dealt with later (Green, 1999). With the available resources being scarce against unlimited and competing wants, schools that install and fully operationalize a multidimensional technological infrastructure demonstrate how critical the safety of students is regarded by the management.

According to Trump (2010), to enhance safety on school's compounds, cameras should be placed at strategic points on the school buildings and for monitoring the surrounding. Also, a computer aided design program in 3-Dimensional be put up to map the number of persons that are at a certain location or in a given room. According to research carried out by Xaba (2015), the access control device helps in the prevention of unauthorized school building's access, enhances lockdowns that are remotely controlled to isolate security incident and decreases monitoring requirements by personnel. The

communications interoperability through incident response device consolidates all information concerning an incident**.** Other technological devices to enhance security in the school include; self-defense network, digital signage, smart connected buildings, notification services, desktop video, as well as visitor management systems (Xaba, 2015).

Some countries have developed and are disseminating the disaster response curricula materials in schools using the technological channels. According to UNICEF (2009), Philippine has adopted a technological security system that tracks every student and establishes those that are about to drop out, irregularly attending school due to poor socio-economic backgrounds and those suffering from child abuse. The system gathers pertinent information about the child in order to create an academic, socio-economic, nutrition and health profile that allows teachers to recognize the kid well and understand their learning strengths and weaknesses. The security surveillance technologies, like metal detectors and the video surveillance cameras, are disliked particularly by boys (Brown, 2005). Current technological-based applications, that are interactive and transparent with users, can help to enhance both students' attitudes and ambience of the school towards the general operations' acceptance for school security (Isomäki, 2010). The acceptance of technological based infrastructure in security management by all members of school community promotes safety of students.

In Australia the use of smartphone educational applications to educate school children and public on disaster mitigation and response measures have been put in place and the online educational tool in New Zealand, 'What's the Plan, Stan?' has been successful (UN, 2009). Prevention prospectuses are only unable to handle immediate threat to staffs and students' safety (Green, 1999). Security measures should be used in an integrated instead of being used in isolation manner (Gaustad, 1999). Training school staff and students about technology-supported security management information can improve their consciousness and response, for both their work and their lives after school. Amplified security awareness is significant especially to adolescents who need to start taking care of themselves (Isomäki, 2010).

Tagbo (2015) opined that schools have to improve the physical security, train staff and other stakeholders on security issues and develop security devices and adopt systems such as radio and video surveillance and physical access controls to improve the safety of students. The technological security devices and systems have greatly enhanced security for the students, staff and assets in schools. However, there are difficulties associated with them as opined by Voters (2007) that include inadequate fund, unskilled personnel to man, hardware, and software and power failure. Oloo (2009) stated that factors to be considered when assessing an institution's technological readiness include; infrastructural availability such as electricity, infrastructure accessibility as well as the availability of manpower. According to Hutchison and Reinking (2011), rampant electricity interruptions have been an obstacle in modern technological projects in Nigeria and Sub-Saharan Africa. A research study by 'The Connect to Learn Program' (2013), identified that despite electrical grids being laid in majority of the schools in both Uganda and Kenya, the power blackouts issue was still common. Therefore, the study sought to determine the influence of schools' technological infrastructure on safety of students.

2.6 Security Measures of Physical Facilities on Safety of Students

The U.N. Conference held in Geneva, Switzerland, in 2009 advised on National Appraisal of School Infrastructure to determine the achievement of safety standards. In addition, the lack of adequate physical equipment and disaster preparedness indicates a deficiency in the overall approach to safety in educational institutions (UNESCO, 2012). U.S.A schools adopted security measures that require students to put on uniforms, metal detecting machines, and visitor's personal details documented at the point of entry. Also, the provision of violence protection devices to students and the absence of drugs and weapons policy on school compound have been employed. (U.S. Department of Education, 2002). Nevertheless, in the school year ending on 30th June 2005, violent deaths totaling 28 (twenty-one homicides and seven suicides cases) were recorded. This led to an amplified adversity rate of death of a school-going child on a school compound per two million registered students (Dinkes, Cataldi, Kena & Baum 2006). The current study assessed the link amongst security management measures and safety of students in secondary schools.

The inclusion of escape routes, distanced buildings and use of little or non-combustible building and decoration materials reduce significantly the loss suffered when fire breaks. Atlas (2002) observed that buildings' design and drawings in schools should be made in a way that ensures the institution's safety. Planners in designing and registered civil engineers should be involved in the building and maintenance of school infrastructure (Republic of Kenya, 2001). Some learning institutions are eradicating buildings design that causes quarantine areas, putting common rooms near supervision, and eradicating blind patches in constructions and having surveillance in critical places to promote schools' security management (Atlas, 2002). BEST (2005) observed that security measures implementation had greatly improved learner's attendance and completion, resulting to better academic attainment in the U.S. Through such efforts, the security management of public secondary schools is improved. Therefore, this research examined the influence of security management measures on safety of students.

The integration of fire safety plans and inspection mitigate the risk of fire occurrence in schools. Tobago and Trinidad's MOE have enforced a duty for supervision and monitoring of student's safety and school assets in the institutions. School principals ensure they provide secure and safe learning environments by hiring qualified professionals to review the tragedy preparedness procedures annually (Trinidad and Tobago MOE, 2005). According to a study conducted by Suraya and Yunus (2013) in Malaysia, teachers who were mindful about students' learning progress, conducive environments, and safety created a robust desire in students to attend and complete their education.

The absence of operational fire extinguishers, fire alarm system, smoke detectors and sand bucket make learning institutions risky places in case of fire outbreak. Nthenya (2011) in a study on involvement of secondary schools' administrators in school's safety on physical facilities established that only 16% had fitted fire alarms. The Fire Administration National Data Center (FANDC, 2007) stated that learning institutes had become dangerous places for students and what they possess, which was contrary to what their parents expected. Fires in boarding schools that lead to loss of lives and properties are common in developing nations. The report showed that these nations had

a shortage of school fire inspection units or simply did not comply with their fire inspection obligations (FANDC, 2007). The school security guidelines in South Africa were launched in 2001 to ensure disciplined and safe school surroundings. These security measures include making learning institutions zones that are free from violence, precise access to school buildings, and ensuring improved safety for staff and students (Eberlein, 2009). Referring to South African Schools Act 84, educators are expected to ensure that students experience physical and emotional comfort in order for them to develop self-esteem and be accountable for their deeds (Naong, 2007).

In South Africa rural areas, school safety was limited due to poorly maintained infrastructure (Netshitahame & Vollenhoven, 2002). As a result, the teaching and learning setting was unsafe, and most interviewed principals didn't know much about school security guidelines. Masitsa (2011) stated that South Africa schools deal with students who are encountered in either major or small indiscipline cases at schools and can result in injury or death. Lulua (2008), in a study on the safety of schools in Uganda, established that stakeholders in education had responded to infrastructural aspects fairly. Nevertheless, they did not consider the safety of teaching and learning surroundings. An inspection report from the Uganda's MOE stated that half of the secondary schools did not comply with security guidelines that were presented in 2008. Officers of the Directorate of Education Standards who are required to do inspections at least on a yearly basis did not conduct the safety inspection due to the absence of personnel and financial resources (Ssenkabirwa, 2012). This research examined the impact of security management measures of classrooms and other study areas on safety of students.

According to the Republic of Kenya (2001), safety instructions should be established clearly in workshops and laboratories at strategic points. An investigation on implementation of a science laboratory rules discovered that almost 60% of the principals did not have enough knowledge in science laboratory safety, hence, divulging students to unsafe scenarios (Stroud et al., 2007). A standard 7.5M x 5.85 M classroom should only accommodate up to 30 students in one seat or up to 40 students in two seats (MoE, 2001). However, Omolo and Simatwa (2010) evaluated security strategies in secondary schools in the western and eastern sections of Kisumu, Kenya.

The results from the survey showed that there was overcrowding in 70% and 93% of the sampled schools lacked enough latrines hence they did not follow security guidelines.

A safe learning institution should have buildings with enough exit doors that open outwards and windows with no grills for easier exit during emergency cases (Republic of Kenya, 2008). The buildings should also have enough ventilation, light, and fire extinguishers that are operational and put at tactical points (Republic of Kenya, 2008). Regular monitoring and corrective actions should be taken to rectify any abnormal conditions (Maritim, 2014). The study investigated the status of security management measures related to physical facilities on the safety of students in Embu East sub-County, Embu County.

Functional first aid boxes and emergency lineups should be put strategically in classrooms for use in case of emergencies (Wanyama, 2011). The primary purpose of the security measures is to initiate and retain a caring and safe atmosphere that nurtures quality learning and teaching atmospheres in learning institutions (Ng'ang'a, 2013). A positive and secure learning environment encourages students to continue attending schools since their safety is assured. Most parents believe that poor performance by children in public schools is a result of insufficient learning amenities.

Maritim (2014) ca**r**ried out a research that assessed the state of security and disaster preparedness in boarding schools. The premises for most of the schools that were sampled had not conformed with all the security measures like doors that open from outside and having ungrilled or unmeshed windows. The study further recognized that there were no fire extinguishers in every strategic place from the sampled schools. The few available were not being maintained regularly which is an indicator for poor disaster preparedness in schools. Telewa (2014) had a similar finding that in most schools, fire extinguishers were placed inside the building's contrary to the safety guidelines to avoid theft cases. Fire extinguishers must be put at strategic places, so that they can serve their purpose at the right time. This reveals the unpreparedness of schools to such disasters and emergencies that impede the attainment of student's safety.

2.7 Theoretical Framework

The systems theory of management guided the investigation. According to Flood and Jackson (1991), a system is an intricate and extremely interconnected parts of a network revealing synergistic properties whereby the overall is bigger than the total of its components. The linkage can become very complex, in that, a slight event in one subsystem may intensify into weighty unintentional repercussions elsewhere in the whole organization. The school is an open system that has inputs, processes, output and outcomes that provide feedback. Inputs include pupils, teachers, and security measures, physical and technological infrastructure. The inputs are organized, coordinated and controlled to meet the school's goals. Therefore, the systems theory presents education as a production process. The education inputs that include students, capital, managerial skills including security management measures are combined in various proportions to produce a competent student in a safe environment. Failure to include security management measure in the right proportion, the end product which is a competent student will not be optimally produced due to unsafe schooling environment.

Human factors are essential in security management measures and can interfere with safety of students if ignored (Omolo and Simatwa, 2010). Regulations and rules should respect individuals and their needs and provide a mutually supportive environmental spirit. After a rule, program, or strategy related to security is implemented, and it produces conducive environment the student is deemed to be safe. Similarly, in case it produces unpleasant results, then the students will be unsafe. Outputs are the results obtained once the inputs are processed. The students' safety and academic achievement are some of the systems outputs. The system's feedback includes the society and government that evaluate the state of learners' safety in schools. Therefore, the purpose of system theory is to comprehend how the different parts interrelate to advance the school's security measures thus promoting and maintaining the safety of learners.

The theory above relates to this research study in that the school community aims to produce and maintain a safe surrounding where students and staff can achieve their objectives. School security management measures create programs and processes that promote learner's safety. Students must experience and be assured that the school is safe and they receive support from staff. Rules concerning promotion as well as

maintenance of safety and order must be established and exercised with reverence by every person involved. Secure schools take care of individuals' physical, emotional, and mental health through the provision of a safe surrounding that's violence, drug and child abuse free. Therefore, it was significant to examine the influence of security management measures on safety of students.

2.8 Conceptual Framework

The conceptual structure visually denotes relationship among intervening, dependent and independent variables as developed from the literature review and is presented in Figure 1.

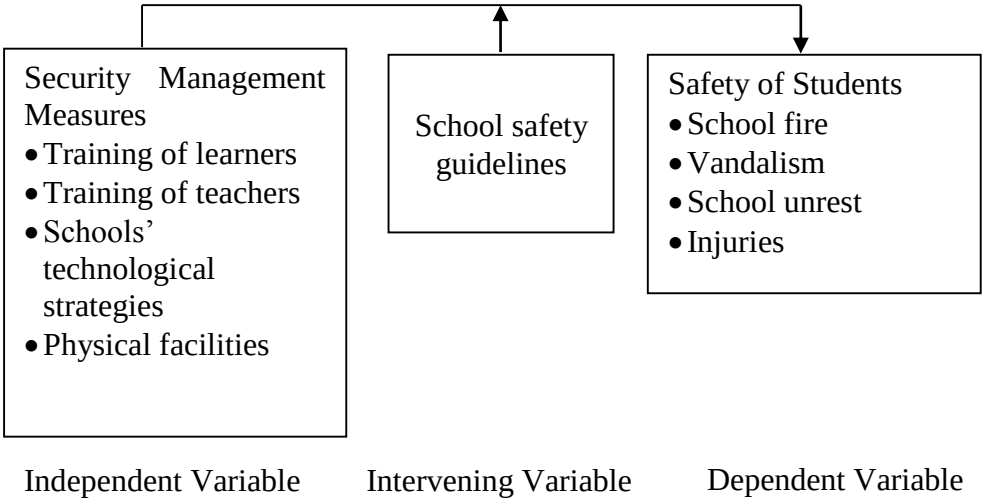

Figure 1: Influence of Security Management Measures on Safety of Students

The figure indicates that the dependent variable consists of safety of students that may be influenced by training of learners, training of teachers, schools' technological strategies, and physical facilities. The indicator of dependent variable was school fire, vandalism of school property, unrest and injuries. Secure schools take care of individuals' physical, emotional, and mental health through the provision of safe school environments that are free from violence, threats, drug and child abuse. Intervening variable was school safety guidelines issued in 2008. The intervening variable links the influence of security management measures to safety of students. Therefore, the study examined the influence of security management measures on safety of students.

CHAPTER THREE
METHODOLOGY

3.1 Location of the Research Study

Embu County is located approximately between latitude 0° 8‟ and 0° 50‟ South and longitude 37° 3‟ and 37° 9‟ East. It borders Kirinyaga County to the West, Kitui County to the East, Machakos County to the South and Tharaka Nithi County to the North. The county is divided into 5 subcounties namely EMBU West, Embu North, Embu East, Mbeere South and Mbeere North. The Embu East Subcounty has an area of 253.8km^2 with a population of 129,564 (KNBS, Population and Housing Census, 2019). The research was performed in 25 public secondary schools within Embu East; Embu County. According to Borg and Gall (1989), a suitable location is where the researcher's concerns are connected with the availability of investigative complexities that they expect to find a solution to the research problem. The sub-county was selected since the schools in the region were encountering safety threats. From January 2021 to March, 2021, fires had been reported in 14 secondary schools in Embu County (County Commissioner Office, 2021). Also, there is no linked research carried in that region regarding the influence of security management measures on safety of students.

3.2 Research Design

The research study adopted descriptive survey design. Arguably, a descriptive survey entails gathering comprehensive illustrations of already existing facts to obtain information for verification of recent situations and activities (Nsubuga, 2000). Moreover, the adopted design was relevant in the research since it focuses on gathering data and utilize findings reports on the influence of security management measures on safety of learners in the secondary schools without altering the main variables.

3.3 Target Population

The study population included principals of public secondary schools, teachers, students, head of firefighting unit and sub-county quality assurance and standards officer (SQASO) within the region of Embu East, Embu County. The total study population was estimated at 10258 subjects from forty-six public schools.

3.4 Sampling Procedures and Sample Size

A sample is a subset of participants from the available population that was used to provide responses during interviews and filling of administered questionnaires (Mugenda & Mugenda, 1999). Orodho (2003) stated that statements concerning the sample selected ought to be a true representation of the population under study. Additionally, a sample size of 375 for a study population surpassing 10,000 subjects but not more than 15,000 is regarded as suitable (Kathuri & Pals, 1993) as shown in Appendix VII. The research used purposive and proportionate stratified sampling methods. The target population was composed of 4 strata namely girl's boarding, boy's boarding, mixed day as well as mixed day and boarding schools. According to Nsubuga (2000), in stratified sampling, the researcher groups the population into strata by some characteristics and from each of this homogeneous group randomly obtains a predetermined number of units. The researcher created 4 clusters based on school category.

Table 2: Categories of Schools

Category	Number of schools	Sampled school
Boys' boarding	2	1
Girls' boarding	7	4
Mixed day and boarding	2	1
Day	35	19
Total	46	25

From the four clusters, simple random sampling was applied to select schools from each category. Based on the identified schools; simple random sampling was applied in selecting three teachers and eleven form three students from each participating school. Principals, SQASO and head of fire unit were sampled using purposive sampling. The school principal oversees the implementation of identified security management measures within the school environment. Besides, teachers are involved in social and academic wellbeing of learners within the school. The form 3 class has been in the school for 3 consecutive years; thus, the students are informed of the daily routine security concerns and phenomena. In addition, SQASO represents the ministry of education that coordinates the enactment of security guidelines within their field of operations. The head of fire unit oversees firefighting preparedness and response in the sub county.

Table 3: Sampling Matrix

Description	Population	Sampling procedure	Sample size
School principals	46	Purposive	25
Students	9610	Simple random	275
Teachers	600	Simple random	75
SQASO	1	Purposive	1
Head of fire unit	1	Purposive	1
Total	10258		377

3.5 Research Instruments

A questionnaire to obtain information from the school principals and teachers was used and a different questionnaire was issued to form 3 students for data collection. Also interview schedules was applied for head of firefighting unit and SQASO and an observation schedule of the researcher to gather data.

3.5.1 Questionnaires

It involves segregating particular questions for deliberation to substantiate, intensify, and standardize the observations that participants make (Nsubuga, 2000). The set of questionnaires entailed open and closed ended questionnaires. The open-ended questions allowed participants the right to demonstrate ideas whereas the closed-ended questions helped in the compatibility of particular information from respondents. The questionnaires contained five parts. Part A of the questionnaire obtained the demographic data. Part B was on training of learners, C was on training of teachers, D was on schools' technological infrastructure and E obtained information on security measures of physical facilities.

3.5.2 Interview Schedule

According to Nsubuga (2000) a researcher gathering data through interview obtains extra information from interviewee's bodily signs and voice variations. The interview schedule comprised of questions on influence of training of learners and teachers, schools' technological strategies in security management and security measures of physical facilities on safety of students. The interviews were carried out with SQASO and head of firefighting unit on influence of security management measures on safety of students.

3.5.3 Observation Schedule

Dalen (2005) views that checklists objectify the observations and offer similar categorization of information. The researcher gathered information based on the contemporary status of the organization by observing and attending to significant items of the study. The researcher prepared a suitable observational schedule to carry out research.

3.6 Piloting

Mugenda and Mugenda (1999) stated that a tenth of the research sample is suitable in deciding on which participants engaged during the pilot study. The researcher used purposive sampling procedures in identifying 2 schools in Embu West Sub-county for testing of research tools. The piloting study involved two school principals, six teachers, and thirty form three students. Subsequently, the study tools were clarified for practicability in the real study.

3.6.1 Reliability

Reliability is the regularity in the measurement of data collected (Gary, 1990). It is the extent by which subsequent administrations of research instrument provided related outcomes. The researcher obtained results from a single test administered to the participants. The Cronbach's Alpha coefficient was used in evaluating reliability. A reliability coefficient of 0.854 was yielded and deemed appropriate for research instruments. According to Polgar and Thomas (2009), all objects with a reliability coefficient of 0.7 or more show a higher degree of reliability of the study tool and hence justifiable for application in the data analysis. The computation of the Cronbach's Alpha Coefficient for each variable was carried out. The results are in Table 4.

Table 4: Cronbach's Alpha Reliability Coefficients

Variable	No. of Items	Cronbach Alpha
Training of learners	09	0.854
Training of teachers	07	0.883
Technological strategies	06	0.8902
Physical facilities	10	0.904

The Cronbach's Alpha for training of learners that had 09 items was 0.854. Training of teachers which comprised 07 items had a Cronbach's Alpha of 0.883. The Cronbach's

Alpha for physical facilities that had 10 items was 0.904. All the variables had Cronbach's Alpha reliability of above 0.70 indicating sufficient internal consistency thus adequate for statistical inferences. The reliability of interview schedule was enhanced by having a structured interview with open ended interview.

3.6.2 Validity

According to Wiersma (2000), validity is the level by which conclusion captured by the researcher originate from the research outcomes and do not emerge from chance or inaccurate sources. Content validity is the ability of a measuring item to capture the domain intended (Borg & Gall, 1989). Face validity involves evaluation whether each of the measuring items seems relevant and appropriate for what it's assessing. The supervisors and study experts from Chuka University Faculty of Education and Resource Development provided professional judgment in enhancing content and face validity.

3.7 Procedure of Data Collection

Chuka University issued an introductory letter and Ethics letter to the researcher that were used in application of the research permit from the National Commission for Science, Technology, and Innovation (NACOSTI) (Appendix XII). Subsequent clearance was sought from Sub- County Director of Education (SCDE), Embu East Sub-County (Appendix X) and County Director of Education (Appendix XI). The investigator visited the identified schools to acquire the clearance to issue questionnaires to the participants. An introductory letter was drafted by the investigator for the purpose of self-identification to research respondents. The respondents and researcher agreed on when the filled in questionnaires were to be picked. The researcher further requested approval from the school principals to fill in the observation schedule. Physical interviews were carried out with SQASO and head of firefighting unit at the appropriate period. The researcher took up to four weeks to gather the entire information.

3.8 Data Analysis

Data analysis is the process of examining the kind of information that has been derived from the experiments or surveys and making inferences and deductions (Kombo and

Tromp, 2006). The research generated qualitative and quantitative data. Themed organization of qualitative data from open ended questions were done based on the research objectives. The quantitative data was analyzed using descriptive statistics. The collected data was cleaned; then later responses were coded referring to the coding sheet that was pre-prepared. A computer-based analysis referred to as Statistical Package for Social Science (SPSS-version 25) was used to perform data analysis and produce inferences. The results were presented in forms of frequencies, percentages; standard deviation as well as means. Hypothesis testing was done using simple regression analysis at 0.05 significance level at one degree of freedom. If the significance level = < 0.05, the null hypothesis was accepted. Simple linear regression analysis was applied to estimate the prediction level of the research model and to approximate the regression coefficients after transforming the data. The research adopted the model below:

$Y = \alpha 0 + \alpha j Xj + e$

Where,

Y = Safety of students

$\alpha 0$ = Constant (Y intercept if X = 0)

αj= Regression coefficient of j^{th} independent variable (j= 1, 2, 3, 4)

Xj= Independent variable j (j= 1, 2, 3, 4) in security management measures (SMM)

E=Error term

The Table 5 gives a Summary of data analysis.

Table 5: Summary of Data Analysis

Research Hypotheses	Independent variable	Dependent variable	Data Presentation and Test Statistic
$H_0$1: There is no statistically significant influence of training of students in security management measures on safety of students in public secondary schools in Embu East Sub county.	Training of students in SMM	Safety of students	Standard Deviation Mean Percentages Frequencies Linear regression
$H_0$2: There is no statistically significant influence of training of teachers in security management measures on safety of students in public secondary schools in Embu East Sub county.	Training of teachers in SMM	Safety of students	Standard Deviation Mean Percentages Frequencies Linear regression
$H_0$3: There is no statistically significant influence of schools statistical significant' technological infrastructure in security management on safety of students in public secondary schools of Embu East Sub county.	Schools' technological infrastructure	Safety of students	Standard Deviation Mean Percentages Frequencies Linear regression
$H_0$4: There is no statistically significant influence of security measures of physical facilities on safety of students in public secondary schools of Embu East Sub county.	Security measures of physical facilities	Safety of students	Standard Deviation Mean Percentages Frequencies Linear regression

Source: Researcher (2023)

For the range interpretation of the Five Point Likert Scale Mean, Carifio and Racco (2007) interpretation was applied. The Table 6 shows the scoring range of the Five Point Likert Scale Mean.

Table 6: Interpretation of Five Point Likert Scale Mean Scores Mean

Likert Scale	Interpretation
$0.0.00 \leq MS \leq 1.79$	Fully Disagree
$1.80 \leq MS \leq 2.59$	Disagree
$2.60 \leq MS \leq 3.39$	Neutral
$3.40 \leq MS \leq 4.19$	Agree
$4.20 \leq MS \leq 5.00$	Fully Agree

Source: Carifio and Racco (2007)

3.9 Ethical Considerations

Ethical considerations integrate values and rules that guide the researcher in carrying out the study (Kombo and Tromp, 2006). The participants were assured that their right to confidentiality is protected throughout the research process and freedom of withdrawal from involvement in the study at any stage was guaranteed. The respondents did not indicate their particulars on the questionnaire. Also, the study focused on ensuring that information provided by the participants were only used for academic purpose.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Response Rate

Out of the targeted 377 respondents, 361 gave feedbacks. This represented a response rate of 95%. A response rate of at least 50% is considered sufficient for reporting and analysis (Mugenda & Mugenda, 2003). The Table 7 shows the response rate of various categories of respondents.

Table 7: Response Rate

Description	Number sampled	Number returned	%
School principals	25	25	100
Students	275	262	95.3
Teachers	75	72	96.0
SQASO	1	1	100
Head of fire unit	1	1	100
Total	377	361	95.7

The results in Table 7 show that the response rate for school principals, SQASO and head of fire unit was 100%. The students and teachers had a response rate of 95.3% and 96% respectively. The general response rate was 95.7%. The high return rate was achieved since the researcher personally issued and later picked the instruments with all the respondents.

4.2 Demographic Characteristics of the Respondents

Demographic information helps the reader understand the respondents in a better way. The demographic information collected include gender, age of the learners, learner's period in the current school, academic qualifications of principals and teachers qualification.

4.2.1 Gender Representation of Respondents

The researcher sought the respondent's gender. The results are in Table 8

Table 8: Gender Representation of Respondents

Gender Representation Gender	SQASO Frequency %	HEAD OF FIRE Frequency %	Principal/Teachers Frequency %	Learner Frequency %
Male	1 100	1 100	45 45	121 46.2
Female	0 0	0 0	54 55	141 53.8
Total	1 100	1100	99 100	262 100

The results in Table 8 indicate that the gender composition of the principal and teachers involved in the study satisfied the constitutional gender threshold of at least one third opposite gender representations. The learners are almost equally represented by gender.

4.2.2 Age Bracket of Learners

The researcher sought information on the learner's age. The results are in Table 9.

Table 9: Age Bracket of Learners

Age Bracket	Frequency	Percent
Less than 16 years	8	3.1
16 – 17 year	97	37
18 year	139	53
Above 18 years	18	6.9
Total	262	100

The results in Table 9 show that 90% of the learners involved in the study are aged between 16 to 18 years. This implies that students would adequately give their insights on safety in schools.

4.2.3 The Learners Period in the Current School

The researcher sought for the learners period in the current school. The results are in Table 10.

Table 10: The learner's Period in the Current School

Period	Frequency	Percent
Less than 1 year	2	0.8
1 year	3	1.1
2 years	23	8.8
3 years	69	89.3

The information in Table 10 show that 89.3% of the students included in the study have been in the current school for 3 years thus adequately informed of the daily routine security concerns and phenomena

4.2.4 Academic Qualifications of Principals and Teachers

The researcher sought for the information on principals' and teachers' academic qualifications. The results are in Table 11.

Table 11: Academic Qualifications of Principals and Teachers

Qualification	Frequency	Percentage
PhD	0	0
Masters	3	3.1
Bachelors	89	91.8
Diploma	5	5.2
Total	97	100

From the results in Table 11, the sampled principals and teachers who hold a bachelor's degree were 91.8% hence adequately qualified to identify and implement security management measures within the school environment.

4.2.5 Period in the Current Position

The sampled principals and teachers were requested to indicate the period in the position in the present station. The results are in Table 12.

Table 12: Period in the Current Position

Year	Frequency	Percentage
Below 5 years	58	59.8
5 - 8 years	26	26.8
9 - 12 years	11	11.3
13 years and above	2	2.1
Total	97	100

From the results in the Table 12, 59.8 % of the teaching staff had less than 5 years teaching experience in the station due to delocalization whereas 2.1% have been in the school for 13 years and above. The teaching experience gained was considered a vital factor in enriching a respondent's ability to be more resourceful in solving security management concerns related to safety of students.

4.2.6 Category of the Schools

The researcher sought for information on category of the schools. The results are in Table 13.

Table 13: Category of the Schools

Category	Frequency	Percentage
Boys Boarding	1	4
Girls Boarding	4	16
Mixed Boarding	1	4
Mixed Day	19	76
Total	25	100

From the results in Table 13, 76% of the secondary schools are day, 16% are girls boarding. Majority of the schools being day schools imply that they are only in charge of learners' security during the day.

4.3 Diagnostic Test for Regression Analysis

The Kolmogorov-Smirnov test was used to test normality of data obtained. The results are in Table 14.

Table 14: Normality Test

Variable	Kolmogorov-Smirnov test	Sig
Safety of students	0.092	0.078
Training of students	0.083	0.059
Training of teachers	0.058	0.087
Schools' technological infrastructure	0.073	0.059
Security measures of physical facilities	0.075	0.063

From the results in Table 14, K-S tests for safety of students, training of students, training of teachers, schools' technological infrastructure, and security measures of physical facilities was 0.078, 0.059, 0.087, 0.059 and 0.063 respectively. Since their significance levels were > 0.05, then all the study variables were normally distributed. Levene Statistic Test was used to test for homoscedasticity. The results are shown in Table 15

Table 15: Test of Homogeneity of Variances

Variable	Levene Statistic test	Sig
Training of students	1.416	0.043
Training of teachers	1.497	0.035
Schools' technological infrastructure	1.527	0.021
Security measures of physical facilities	1.781	0.013

The results in Table 15 shows that the Levene test for independent variables against safety of students were statistically significant at 5% significance level since the p-values=<0.05 for all variables. This implied that the independent variables were homoscedastic.

Variance inflation factor (VIF) and tolerance levels were used to test for multicollinearity. According to Munga (2014), VIF of less than 10 and tolerance level of more than 0.1 are acceptable. The results are as shown in Table 16.

Table 16: Multicollinearity Test

	Collinearity Statistics	
Variable	Tolerance	VIF
Training of students	0.53	2.734
Training of teachers	0.651	1.527
Schools' technological infrastructure	0.385	1.714
Security measures of physical facilities	0.622	1.588

From the finding in Table 16, schools' technological infrastructure had the least tolerance level at 0.385 and training of teachers had the greatest tolerance level at 0.651 suggesting the absence of multicollinearity. All independent variables had a VIF of less than 3 indicating absence of multicollinearity among the independent variables.

4.4 Reliability and Validity of Results

4.4.1 Overall Position of Safety of Students

The researcher sought the respondent's view on the overall position of safety of students. The results are in Table 17.

Table 17: Overall Position of Safety of Students

Statement	Mean	Std Deviation
The school has a policy on training of learners in security management measures	1.93	0.604
Training of learners in security management measures has a positive influence on safety of students	4.30	0.749
The school has a policy on training of teachers in security management measures	3.04	0.712
Training of teachers in security management measures has a positive influence on safety of students	4.30	0.744
The school has incorporated modern technology in the security management to promote safety of students	2.38	0.307
The technological security measures have reduced indiscipline cases in schools	2.54	0.362
The physical facilities are secure for the safety of students	3.03	0.674
All teachers and learners are knowledgeable in laboratory and workshop safety rules	4.06	0.677
Overall mean	3.198	0.604

The overall mean for the safety of students was calculated as the average of the items mean scores used in measuring the safety of students. The standard deviation was calculated as the square root of variance. The standard deviation measures how far a value is from the mean. A small standard deviation indicates that the sample mean has a high chance of being close to the population mean thus a good estimator of the population mean. From the information obtained in Table 17, schools have a policy on training of learners in security management measures as established by low mean of 1.93. The low mean implies that there is inconsistent in training of learners' security management measures. The training of learners in security management measures has a positive influence on safety of students as strongly approved by a mean of 4.30. The training of teachers in security management measures has a positive influence on safety of students as indicated by high mean of 4.30. The incorporation of modern technology in the security management had a mean of 2.38. Also, on whether technological security measures have reduced indiscipline cases in schools had a mean of 2.54. This would be a result of low usage of technological measures by schools in Embu East Sub County. All teachers and learners are knowledgeable in laboratory and workshop safety rules had a high mean of 4.06. This implies that the teachers and learners are inducted when they report to school for the first time. The general mean on the overall safety of students was 3.198 with a standard deviation of 0.604. The overall mean score indicates

neutrality of the responses hence safety of students is not given the priority by school managements.

4.5 The influence of Training of Learners in Security Management Measures on Safety of Students

The researcher sought the respondents view on training of learners in security management measures. The results are in Table 18.

Table 18: Training of Learners in Security Management Measures

Statement	Mean	Std Deviation
Experts are invited to talk about the consequences of strikes in schools	3.81	0.517
Students are aware of the consequences of illegal and violent actions	4.30	0.808
The school organizes forum to address students concerns	4.00	0.644
Schools regularly conduct training and sensitization on drug abuse.	3.99	0.628
Learners' participation in decision making enhance safety of students	4.09	0.669
There are at least two fire drill sessions in a term	2.27	0.469
Most learners can administer first aid to disaster victims	3.04	0.460
No bullying in school	3.45	0.770
Teachers and learners relations influence safety of learners	4.47	0.803
Overall mean	3.71	0.641

From the finding in Table 18, experts are invited to talk about the consequences of strikes in schools had a mean of 3.81 and that consequences of illegal and violent actions are known by students had a mean of 4.30. This concurs with Muriithi (2010) who opined that Head teachers who manage through punishments encounter greater indiscipline issues thus should be used as a last resort**.** The school organizes forum to address students concerns had a mean of 4.00. Schools regularly conduct training and sensitization on drug abuse had a high average of 3.99. Learners that are knowledgeable acquire peer pressure and drug abuse resistance skills. The research established that teachers and learners' relations influence safety of learners at a mean of 4.47.

Learners' participation in decision making enhance safety of students had a high average of 4.09. The finding is in agreement with Thomas (2008) who pointed out that learner's involvement in decision making leads to successful management of schools'

security. There are at least two fire drill sessions in a term was lowly approved by respondents at 2.27. The head of fire response unit interviewed stated that the unit rarely conducts fire drills in schools. The fire chief also observed that there is no structured training of the school staff and students in prevention and fight against fire. Most learners can administer first aid to disaster victims was at 3.04. Learners in school do not experience bullying in school had a mean of 3.45. This contrasted a study conducted by Ngakane, Muthukrishna and Ngcobo (2012) that established students in Lesotho's secondary schools experienced authoritarian atmosphere in schools. The students experienced violence in form of punishment and intimidation from teachers and principals that affected their self-esteem and safety. The overall mean on the training of learners in security management measures was 3.71 with a standard deviation of 0.641. The overall mean score indicates that the respondents agreed that training of learners in security management measures influences safety of students. The researcher sought information from respondents on other factors that affect the training of learners in security management measures on safety of students. The results are in Table 19.

Table 19: Other Factors that Affect the Training of Learners

Comments	Students (%)	Teachers (%)
Tight school program	29.1	27.4
Fully occupying of student in syllabus coverage	45.2	38.8
Lack of enough financial resources to support learners training	8.2	19.2

From the results in Table 19, the respondents in the questionnaire identified full occupation of learners in syllabus coverage at 45.2% (Students) and 38.8% (Teachers) as an impediment to the training of learners in security management measures on safety of students. Tight school program was identified by 29.1% (Students) and 27.4 % (Teachers) whereas lack of enough financial resources to support learners training was mentioned by 8.2% (Students) and 19.2% (Teachers). The researcher further sought the respondents view on ways to enhance training of learners. The results are in Table 20.

Table 20: Ways to Enhance Training of Learners

Comments	Students (%)	Teachers (%)
Invite Redcross and St. John ambulance on security training	10.4	18.3
Incorporate local security officer to train	4.1	7.4
Inviting experts to sensitize learners on dialogue and peace	15.7	18.5
Increase sessions of security training	13.3	11.7
Listen to learners opinions	11.4	0.0
Use life skills lessons to train security	9.7	8.3
Balance between academic and co-curricular program	33.1	21.6

From the results in Table 20, Invite Redcross and St. John ambulance on security training had 10.4% (Students) and 18.3 % (Teachers) whereas dialogue and peace experts' invitation had 15.7% (Students) and 18.5% (Teachers) was listed as a way to enhance training of learners. Listening to learners opinions was identified by11.4% (Students) as use of life skills lessons to train security was suggested by 9.7% (Students) and 8.3% (Teachers)of those involved in the sample. The respondents suggested that there should be a balance between academic and co-curricular program at 33.1% (Students) and 21.6% (Teachers) respectively. This is in line with Ng'ang'a (2013) finding that there was no adequate training of students on security issues.

The first hypothesis stated that there is no statistically significant influence of training of students in security management measures on safety of students in public secondary schools of Embu East Sub county. To test the hypothesis, a linear regression analysis was conducted at 95% confidence level (α=0.05). The training of students in security management measures was regressed against safety of students. The results are presented in Table 21

Table 21: Model Summary of the Influence of Training of Students

Model	R	R^2	ARS	SEE	F	Sig
Training of students	0.565[a]	0.314	0.312	0.76154	175.96	0.000[b]

Table 22: Regression Coefficient of the Influence of Training of Students

Model	Unstandardized coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig
(constant)	0.844	0.180	0.561	4.69	0.000
Training of students	0.725	0.047		15.43	0.000

a. Predictors: (Constant) training of learners
b. Dependent Variable: safety of students

From the results in Table 21, training of learners in security management measures has a statistically significant influence on safety of students. The $R^2 = 0.314$ meaning 31.4% variations of safety of students can be explained by training of learners in security management measures. F statistic = 175.96 with a p-value = 0.000 < 0.05 indicated that the overall model was statistically significant. This implies that training of learners in security management measures influences safety of students at 5% significance level. T- test was used to determine the individual significance of the model. The results in Table 22 shows that training of learners in security management measures were considered to be statistically significant having a regression coefficient of 0.725 with a t-value=15.43 and p-value=0.000<0.05. Thus, the regression equation was stated as follows;

Y = 0.844 + 0.725X1 where Y=safety of students, *X*1= training of learners in security management. The constant 0.844 is a measure of the expected value of safety of students when training of learners in security management measures is zero. The coefficient 0.725 estimated the expected change in safety of students for a unit increase in training of learners in security management measures. Thus, training of students in security management measures is statistically significant in predicting the variations in safety of students in public secondary schools. Hence the hypothesis that there is no statistically significant influence of training of students in security management measures on safety of students in secondary schools of Embu East Sub County was rejected. The results are in line with those of the SQASO that whenever training on security is done on the students their safety is enhanced. Also the hypothesis results agree with those of descriptive statistics that indicated that training of learners in security management measures has a positive influence on safety of students at a mean of 4.30.

4.6 Training of Teachers in Security Management Measures on Safety of Students

The researcher sought the respondents view on training of teachers in security management measures. The results are in Table 23.

Table 23: Training of Teachers in Security Management Measures

Statement	Mean	Std Deviation
Impromptu and back to school Searches on student and their items always done	3.13	0.704
School indiscipline cases influence safety of students	3.10	0.918
Teachers and learners relations influence safety of students	3.63	0.640
No bullying in school	3.78	0.775
Most teachers can administer first aid to disaster victims	4.20	0.642
Schools regularly conduct education and counseling sessions on drug abuse.	4.22	0.716
Learners' participation in decision making enhance safety of students	4.26	0.600
Overall mean	3.76	0.714

From the results in Table 23, impromptu and back to school searches on student and their items always done was at mean of 3.13. School indiscipline cases influence safety of students was at 3.10. The study established that there was no bullying in school with a high mean of 3.78. The study was in agreement with Smith-Greer (2001) that teachers should be trained on handling violent students and circumstances. Most teachers can administer first aid to disaster victims was also highly approved at 4.2. This is in line with Kitheka (2016) finding that 51% of the principals engaged professionals to give talks on safety and risk management. The study further established schools regularly conduct education and counseling sessions on drug abuse at a mean of 4.22. Learners' participation in decision making enhance safety of students had a mean of 4.26. The overall mean for training of teachers in security management measures was 3.76 with a deviation of 0.714. The overall mean score indicates that the respondents agreed that training of teachers in security management measures influences safety of students. The researcher sought information from respondents on other factors that affect the training of teachers. The results are in Table 24.

Table 24: Other Factors that Affect the Training of Teachers

Comments	Students (%)	Teachers (%)
Priorities on other issues	23.1	19.2
Time constraints	29.1	36.0
Lack of expert in training of teachers	8.3	10.5
Excess academic workload	0.0	24.0
Lack of managerial goodwill	7.1	10.3

From the information in Table 24, Priorities on other issues was mentioned by 23.1% (Students) and 19.2 % (Teachers) of the respondents as an impediment to training of teachers. Excess academic workload was listed by 24.0% (Teachers) as Lack of managerial goodwill was suggested by 7.1% (Students) and 10.3% (Teachers)of the respondents. Time constraints at 29.1% (Students) and 36.0% (Teachers) negatively affect the training of teachers in security management. Teachers should also counsel bullies frequently and especially when vice occur in order to discourage bullying (Bucher & Manning, 2005). However, the respondents in the questionnaire identified lack of time to train due to tight academic programs. The researcher further sought the respondents view on ways to enhance training of teachers. The results are in Table 25.

Table 25: Ways to Enhance Training of Teachers

Comments	Students (%)	Teachers (%)
Certification of security training be recognized by employer through monetary gain	0.0	34.6
Start peace, peer and other related clubs in schools	23.1	10.4
Sponsoring teachers for first aid courses	28.0	43.2
Increase and intensify impromptu searches	15.2	5.8
Improve teachers and learners relations	23.7	4.5

From the results in Table 25, certification of training be recognized by employer at 34.6% (teachers) was identified as a way to motivate teachers to take safety related courses and be involved in learners' safety matters. This is in line with Taylor (2005) finding that training boosts awareness of the rules, enhances self-confidence and discipline. Start peace, peer and other related clubs in schools was identified by 23.1% (Students) and 10.4 % (Teachers). The patrons of the clubs to be inducted and trained on team work, negotiation and conflict resolutions skills so that they can train the learners. Sponsoring teachers for first aid courses had 28.0% (Students) and 43.2%

(Teachers) as improvement of teachers and learners relations was mentioned by 23.7% (Students) and 4.5% (Teachers) as ways to enhance training of teachers.

The second hypothesis stated that training of teachers in security management measures has a statistically significant influence on safety of students. To test the hypothesis, a linear regression analysis was conducted at 95% confidence level (α=0.05). The training of teachers in security management measures was regressed against safety of students. The results are presented in Table 26.

Table 26: Model Summary of the Influence of Training of Teachers

Model	R	R^2	ARS	SEE	F	Sig
Training of teachers	0.509[a]	0.298	0.295	0.77624	158.287	0.000[b]

Table 27: Regression Coefficient of the Influence of Training of Teachers

Model	Unstandardized coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig
(constant)	0.803	0.204		3.94	0.000
Training of teachers	0.675	0.051	0.543	13.24	0.000

a. Predictors: (Constant) training of teachers
b. Dependent Variable: safety of students

From the results in Table 26, training of teachers in security management measures has a statistically significant influence on safety of students. The R^2 = 0.298 meaning 29.8% variations of safety of students can be explained by training of teachers in security management measures. F statistic = 158.287 with a p-value = 0.000 < 0.05 indicated that the overall model was statistically significant. This indicates that training of teachers in security management measures influences safety of students at 5% significance level. The results in Table 27 shows that training of teachers in security management measures was considered to be statistically significant with regression coefficient of 0.675 with a t-value=13.24 and p-value=0.000<0.05. Thus, the regression equation was stated as follows;

Y = 0.803 + 0.675 X2 where Y=safety of students, *X*2= training of teachers in security management measures. The constant 0.803 is a measure of the expected value of safety of students when training of teachers in security management measures is zero. The

coefficient 0.675 estimated the expected change in safety of students for a unit increase in training of teachers in security management measures. Thus, training of teachers in security management measures is statistically significant in predicting the variations in safety of students in public secondary schools.

The results are in line with those of the SQASO that training of teachers in security management measures enhances their ability to save the situation in cases of disasters. Also, the hypothesis results agree with those of descriptive statistics that indicated that training of teachers in security management measures has a positive influence on safety of students at a mean of 3.76 with a standard deviation of 0.714. Thus, training of teachers in security management measures has significance influence on safety of students in public secondary schools. Hence the hypothesis that there is no statistically significant influence of training of teachers in security management measures on safety of students in public secondary schools of Embu East Sub County was rejected.

4.7 Schools' Technological Infrastructure on Safety of Students

The researcher sought the respondents view on schools' technological infrastructure on safety of students. The results are in Table 28

Table 28: Schools' Technological Infrastructure on Safety of Students

Statement	Mean	Std Deviation
Visitors screening through CCTV and metal detectors before admission to school premises always done	3.04	0.425
Use of CCTV, metal detectors and other devices enhances safety of students	2.75	0.277
Most of the schools' areas that learners go are monitored by modern technology infrastructure i.e., CCTV to enhance safety of students	2.56	0.398
CCTV is under constant surveillance and manned round the clock	2.36	0.469
School technological infrastructure is used to fight and prevent drug abuse for the safety of students	2.36	0.404
Learners have a positive attitude towards use of modern technology in security management for the safety of students	2.61	0.408
Overall mean	2.612	0.397

From the results in Table 28, visitors screening through CCTV and metal detectors before admission to school premises always done was at a mean of 3.04 with a standard

deviation of 0.425. Use of CCTV, metal detectors and other devices enhances safety of students was at a mean of 2.75 with a deviation of 0.277. The finding is in line with Van Jaarsveld (2011), the use of security technologies decreases significantly the chances of crime or violent acts since the culprit might be caught and evidence produced against them. CCTV is under constant surveillance and manned was lowly approved at a mean of 2.36; standard deviation of 0.469. Most of the schools' areas that learners go are monitored by CCTV to enhance safety of students had a mean of 2.56. School technological infrastructure is used to fight and prevent drug abuse for the safety of students was lowly approved at a mean of 2.36 with a deviation of 0.404. The overall mean for schools' technological infrastructure was 2.612 with a deviation of 0.397. The overall mean score indicates neutrality of the responses on schools' technological infrastructure on safety of students. The SQASO view on school technological infrastructure was that the use of CCTV has minimized cases of arson attacks, fire incidents and strikes in the schools that have adopted it. The researcher also sought information from respondents on other factors that affect the schools' technological infrastructure. The results are in Table 29.

Table 29: Other Factors that Affect Schools' Technological Infrastructure

Comments	Students (%)	Teachers (%)
Lack of funds	21.10	32.3
System breakdown	9.90	6.2
Insufficient devices and lack of monitoring	18.4	20.3
High expenses of electricity power	0.0	14.3
Power failure	20.1	15.2
Lack of technological knowhow	12.4	11.7
Reduce CCTV cameras cause they make learners feel uncomfortable	9.2	0.0

From the information in Table 29, insufficient devices and lack of monitoring affect schools' technological infrastructure at 18.4% (students) and 20.3% (teachers). Also lack of funds at 21.10% (students) and 32.3% (teachers) affect schools' technological infrastructure. This is in line with Kitheka (2016) finding that inadequate financial resource negatively influences the attainment of security measures in schools by affecting equipment and infrastructure acquisition and adequacy. Power failure was mentioned by 20.10% (students) and 15.20% (teachers) whereas lack of technological knowhow by 12.4% (students) and 11.7% (teachers). The CCTV cameras causes

learners feel uncomfortable was identified by 9.2% of learners hence affecting learners' attitude and acceptance of school technological systems. This is in line with Brown (2005) finding that security surveillance technologies, like metal detectors and the video surveillance cameras, are disliked particularly by boys. The researcher sought the respondents view on ways to enhance schools' technological infrastructure. The results are in Table 30.

Table 30: Ways to Enhance Schools' Technological Infrastructure

Comments	Students (%)	Teachers (%)
Integrate alarms and notifications at entrances	5.0	25.4
Monitor CCTV cameras always	11.0	19.5
Acquisition of technological skills	12	16.0
Using drone cameras especially in the night to enhance security	11.0	7.1
Buy generator	15.0	25.4
Technological infrastructure fund	4.0	6.3

From the findings in Table 30, Integrate alarms and notifications at entrances was suggested by 5.0% (students) and 25.4% (teachers) as monitoring CCTV cameras always was listed by 11.0% (students) and 19.5% (teachers) as ways to enhance schools' technological infrastructure. Using drone cameras especially in the night to enhance security 11.0% (students) and 7.1 % (teachers) was identified by respondents as a way to enhance schools' technological infrastructure. Buying generator to ensure non-interruptible power supply was listed by 15.0% (students) and 25.4 as a way of enhancing schools' technological infrastructure. Acquisition of technological skills was indicated by 12% (students) and 16.0% (teachers) as a way to enhance schools' technological infrastructure. This is in line with Isomäki (2010) finding that technological-based applications, which are interactive and transparent with users, can help to enhance both students' attitudes and ambience of the school towards the general operations' acceptance for school security.

The third hypothesis stated that there is no statistically significant influence of schools' technological infrastructure on safety of students in secondary schools of Embu East Sub County, Embu County, Kenya. To test the hypothesis, a linear regression analysis was conducted at 95% confidence level (α=0.05). The schools' technological

infrastructure was regressed against safety of students. The results are presented in Table 31

Table 31: Model Summary of Schools' Technological Infrastructure

Model	R	R^2	ARS	SEE	F	Sig
Schools' technological infrastructure	0.421	0.172	0.169	0.75342	82.988	0.000[b]

Table 32: The Regression Coefficients of Schools' Technological Infrastructure

Model	Unstandardized coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig
(constant)	1.227	0.2239		5.48	0.000
Schools' technological infrastructure	0.465	0.069	0.542	6.739	0.000

a. Predictors: (Constant) schools' technological infrastructure
b. Dependent Variable: safety of students

The results in Table 31 indicate that schools' technological infrastructure has a statistically significant influence on safety of students. The R^2= 0.172 meaning 17.2% variations of safety of students can be explained by schools' technological infrastructure. F statistic = 82.988 with a p-value = 0.000 < 0.05 indicated that the overall model was statistically significant. This indicates that schools' technological infrastructure in security management measures influences safety of students at 5% significance level. The results in Table 32 shows that schools' technological infrastructure was considered to be statistically significant with regression coefficient of 0.465 with a t-value=6.739 and p-value=0.000<0.05. Thus, the regression equation was stated as follows;

Y = 1.227 + 0.465 X3 where Y=safety of students, *X*3= schools' technological infrastructure. The constant 1.227 is a measure of the expected value of safety of students when schools' technological infrastructure zero. The coefficient 0.465 estimated the expected change in safety of students for a unit increase in schools' technological infrastructure in security management measures. Thus, schools' technological infrastructure in security management measures has statistical significance influence on safety of students in public secondary schools. Hence the hypothesis that there is no statistically significant influence of schools' technological

infrastructure on safety of students in public secondary schools of Embu East Subcounty, Embu County, Kenya was rejected. Also, the hypothesis results are in harmony with those of descriptive statistics that indicated that schools' technological infrastructure has a positive influence on safety of students at an overall mean of 2.612.

4.8 Security Measures of Physical Facilities on Safety of Students

The researcher sought information from respondents on influence of the security measures of physical facilities on safety of students. The results are in Table 33

Table 33: Security Measures of Physical Facilities on Safety of Students

Statement	Mean	Std Deviation
Administration block relative to classroom position influences safety of learners	3.75	0.631
Distanced classroom and dormitories influence safety of learners	2.55	0.347
Fully stocked first aid kit influences safety of learners	3.04	0.538
Safety instructions displayed in the laboratory	2.84	0.634
There is a labeled fire assembly point	2.97	0.340
There are smoke detectors in most school buildings	2.37	0.499
There are operational fire extinguishers in strategic places	3.53	0.535
Classroom and dormitories windows do not have grills	3.60	0.690
Classroom, dormitories and emergency doors open from outside	4.18	0.716
Suggestion boxes at strategic points promote safety of learners	3.63	0.623
Overall mean	3.246	0.555

The findings in Table 33 indicate that administration block relative to classroom position had a mean of 3.75; standard deviation= 0.631 and fully stocked first aid kit had a mean of 3.04; deviation= 0.538 at influencing safety of learners. There is a labeled fire assembly point was at a mean of 2.97; standard deviation= 0.631. There are operational fire extinguishers in strategic places had a mean of 3.53; deviation= 0.535. There were no fire extinguishers at all strategic places in the sampled schools. The few available were not regularly checked and maintained hence may not function adequately. From the observation schedule, the researcher observed that most firefighting equipment were not easily accessible as they were put inside buildings that are sometimes locked. Telewa (2014) had a similar finding that in most schools, fire extinguishers were placed inside the buildings contrary to the safety guidelines to avoid

theft cases. Fire extinguishers must be put at strategic places, so that they can serve their purpose at the right time.

There are smoke detectors in most school buildings was at a mean of 2.37; standard deviation=0.499. This indicated the ill preparedness of schools in fire fighting. The head of fire response unit observed that though buildings design may accelerate fire, the occupiers' materials and belongings are the key items that accelerate and make fire spread fast. The fire chief further observed that public secondary schools rarely install smoke detectors yet they give an early warning sign. Nthenya (2011) had a similar finding in a study on participation of secondary schools' administrators in school safety on physical facilities established that only 16% had fitted fire alarms. The respondents in the questionnaire poised that frequent security fora be conducted and installing fire assembly points be done. Classroom and dormitories windows do not have grills was at a mean of 3.60. Classroom, dormitories and emergency doors open from outside was highly approved at a mean of 4.18; standard deviation=0.716. The respondents in the questionnaire findings contrast Maritim (2014) that most buildings doors were not opening from outside and had grilled or meshed windows. This indicates that schools have progressively adopted the MOE safety measures over time. The suggestion boxes at strategic points promote safety of learners had a mean of 3.63. Suggestion boxes though available there was no documented feedback mechanism on issues raised in most schools sampled. The overall mean for security measures of physical facilities on safety of students was 3.246 with a standard deviation of 0.555. The overall mean score indicates neutrality of the responses. The researcher further sought information from respondents on other factors that affect security measures of physical facilities. The results are in Table 34.

Table 34: Other Factors that Affect Security Measures of Physical Facilities

Comments	Students (%)	Teachers (%)
Destruction by criminals, naughty and violent learners	10.2	17.3
Lack of disability friendly access routes to some routes	1.2	6.3
Lack of secure fence	19.1	23.5
Inadequate security personnel	12.6	13.1
Improper and inadequate furniture and fittings	17.5	8.9
Delayed repairs to building	39.4	30.9

The results in Table 34 indicate that destruction by criminals, naughty and violent learners at 10.2% (students) and 17.3% (teachers) and lack of secure fence at 19.1% (students) and 23.5 % (teachers) affect security measures of physical facilities. Inadequate security personnel at 12.6 % (students) and13.1% (teachers) affect security measures of physical facilities. Also, the respondents at 17.5% (students) and 8.9 % (teachers) indicated that improper and inadequate furniture and fittings affect security measures of physical facilities. Delayed repairs to building at 39.4% (students) and 30.9 % (teachers) affect security measures of physical facilities. The finding is in line with Maritim (2014) recommendation that regular monitoring and corrective actions should be taken to rectify any abnormal conditions on physical facilities. The researcher also sought the respondents view on ways to enhance security measures of physical facilities. The results are in Table 35

Table 35: Ways to Enhance Security Measures of Physical Facilities

Comments	Students (%)	Teachers (%)
Ensure there are no weapons or tools in the classrooms	7.9	8.4
Declaring certain hidden areas out of bounds for students	0.0	5.6
Timely repairs and maintenance of buildings	39.0	33.0
Frequent response to mock fire	15.1	19.7
Installing a fire assembly point	26.7	28.3

From the results in Table 35, declaring certain hidden areas out of bounds for students was suggested by 5.6 % (teachers) and timely repairs and maintenance of buildings by 39.0% (students) and 33.0% (teachers) to enhance security measures of physical facilities. Ensure there are no weapons or tools in the classrooms was indicated by 7.9% (students) and 8.4% (teachers) and frequent response to mock fire at 15.1(students) and 19.7% (teachers), installing a fire assembly point at 26.7% (students) and 28.3 % (teachers) was identified by respondents as a way to enhance security measures of physical facilities. Gathoni (2013) shares this view that most secondary schools lack firefighting preparedness at the human and physical level.

Finally, there is no statistically significant influence of security measures on physical facilities on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. To test the hypothesis, a linear regression analysis was

conducted at 95% confidence level (α=0.05). The security measures on physical facilities was regressed against safety of students. The results are presented in Table 36

Table 36: Model Summary of Influence of Security Measures on Physical Facilities

Model	R	R^2	ARS	SEE	F	Sig
Security measures on physical facilities	0.467[a]	0.192	0.191	0.83256	89.106	0.000[b]

Table 37: Regression Coefficient of Influence of Security Measures on Physical Facilities

Model	Unstandardized coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig
(constant)	1.108	0.237		4.683	0.000
security measures on physical facilities	0.558	0.058	0.427	9. 621	0.000

a. Predictors: (Constant) security measures on physical facilities
b. Dependent Variable: safety of students

From the results in Table 36, security measures on physical facilities have a statistically significant influence on safety of students. The R^2 = 0.192 meaning 19.2 % variations of safety of students can be explained by security measures on physical facilities. F statistic = 89.106 with a p-value = 0.000 < 0.05 indicated that the overall model was statistically significant. This indicates that security measures on physical facilities influences safety of students at 5% significance level. The results in Table 37 shows that security measures on physical facilities was considered to be statistically significant with regression coefficient of 0.558 with a t-value=9.621 and p-value=0.000<0.05. Thus the regression equation was stated as follows;

Y = 1.108 + 0.558X4 where Y=safety of students, *X*4= security measures on physical facilities. The 1.108 is a measure of the expected value of safety of students when security measures on physical facilities is zero. The 0.558 estimated the expected change in safety of students for a unit increase in security measures on physical facilities.

Thus, security measures on physical facilities on safety of students have significance influence on safety of students in public secondary schools. The alternative hypothesis that there is statistically significant influence of security measures on physical facilities

on safety of students in public secondary schools of Embu East Sub County was accepted. The SQASO stated that a lockable gate that is always manned, doors and windows opening outwardly enhance safety of students. The Head of Sub County Fire Response was in agreement that the schools' designs are suitable however inside the structure due to congestion, beds and students' personal equipment accelerate fire in case of outbreak. The fire chief also advised that no fire in the compound should be left unattended or students to put it off without supervision.

4.9 Results from Observation Schedule

The researcher filled in an observation schedule for each sampled school and the percentages based on each item of observation are shown in Table 37.

Table 37: Influence of security Management Measures on Safety of Students in Public Secondary Schools

Statement	Available		Remarks
	Yes (%)	No (%)	
Boarding and classrooms adequately spaced	63	37	
Exit emergence points in dormitories and halls remain unlocked	54	46	Some exit emergence points not labelled
Study rooms and dormitory doors open toward the outside	94	06	
Ungrilled/unmeshed windows for dormitory and classroom	89	11	
Firefighting equipment are easily accessible	36	64	
Fire emergency meeting points marked	13	87	
Operational first aid kit	74	26	
Safety instructions displayed in the laboratory	79	21	
Pre-entry screening of visitors done	46	54	

4.10 The General Regression Analysis

The general objective was to establish the influence of security management measures on safety of students in secondary schools of Embu East Sub county, Embu County, Kenya. Thus, the general null hypothesis was derived as follows: H_0: There is no statistically significant influence of security management measures on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya.

The independent variables were regressed against safety of students to determine the goodness of fit, overall and individual significance of the model. The results are presented in Table 38.

Table 38: Model Summary of the Influence of Security Management Measures

Model	R	R^2	ARS	SEE	F	Sig
1	0.578	0. 349	0.336	0.77362	43.643	0.000b

Table 39: Regression Coefficient of the Influence of Security Management Measures

Model	Unstandardized coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig
(constant)	0.843	0.191		4.414	0.000
Training of learners	0.542	0.146	0.257	3.712	0.000
Training of teachers	0.412	0.125	0.198	3.296	0.000
Schools' technological infrastructure	0.219	0.101	0.119	2.168	0.000
Security measures on physical facilities	0.358	0.117	0.245	3.059	0.000

a. Predictors: (Constant), Training of learners, Training of teachers, schools' technological infrastructure, security measures on physical facilities

b. Dependent Variable: safety of students

The findings in Table 38 indicate an $R^2 = 0.349$. This shows that 34.9% variations in safety of students in Embu East Sub County are explained by training of learners, training of teachers, schools' technological infrastructure and security measures on physical facilities**.** The F statistic = 43.643 had a p-value 0.000 < 0.05 thus there was statistically significant relationship between security management measures and safety of students.

From Table 39, the training of learners had a factor of 0.542 with a significant p-value 0.000 < 0.05. This implies that a unit increase in training of learners will increase safety of students by a positive factor of 0.542. Schools' technological infrastructure had positive coefficient of 0.219 and statistically significant with a p-value of 0.000 < 0.05. Thus, a unit increase in schools' technological infrastructure increases safety of students by 0.219 all other factors held constant. Security measures on physical facilities had a B coefficient of 0.358 and a p-value of 0.000< 0.05. This denotes that a unit increase in security measures on physical facilities will increase safety of students by 0.358.

Thus overall regression equation formulated from Table 32 is ;

$Y = 0.843 + 0.542X1 + 0.412X2 + 0.219X3 + 0.358X4$

Where,

Y = Safety of students

X1 = Training of learners

X2 = Training of teachers

X3= Schools' technological infrastructure

X4= Security measures on physical facilities

0.843= constant

A constant of 0.843 indicates the level of safety of students that will take place in the absence of training of learners, training of teachers, schools' technological infrastructure and security measures on physical facilities. This indicates safety of students could be influenced by other factors excluded from the overall regression model. From the overall regression equation, training of learners was most significant among the independent variables with a co-efficient of 0.542. From the findings, there is a significant positive relationship of security management measures on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Research Findings

The study main objective was to determine the influence of security management measures on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. All the school principals gave feedback on the questionnaire. The teachers and learners filled the questionnaire and the response rate was 96% and 95.3% respectively. The SQASO and head of firefighting unit in Embu County Government were interviewed at the appointed time.

The first objective was to determine the influence of training of learners in security management measures on safety of students in public secondary schools of Embu East Subcounty, Embu County, Kenya. Teachers and learners relations influence safety of learner had the highest mean score whereas having at least two fire drill sessions in a term had the least mean score. The finding of the study was training of students in security management measures significantly influence the safety of students in public secondary schools. The respondents identified tight academic school program as an impediment to the training of learners in security management measures on safety of students.

The second objective was to establish the influence of training of teachers in security management measures on safety of students in public secondary schools of Embu East Sub County, Embu County, Kenya. The study established that training of teachers in security management measures significantly influence the safety of students. The respondents identified tight school program as an impediment to the training of teachers in security management measures on safety of students. The respondents suggested certification of safety related training be recognized by employer through monetary awards as a sufficient way to motivate teachers to take safety related courses and be involved in learners' safety matters.

The third objective was to determine the influence of schools' technological infrastructure on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. Visitors screening through CCTV and metal detectors

before admission to school premises always done was fairly approved whereas CCTV is under constant surveillance and manned round the clock had the least mean score from the respondents. The SQASO stated that the use of CCTV has minimized cases of arson attacks, fire incidents and strikes in the schools that have adopted it. Thus schools' technological infrastructure significantly influences safety of students in public secondary schools. The respondents identified insufficient devices and lack of monitoring through the modern technological infrastructure as an impediment to schools' technological infrastructure on safety of students.

Finally, the study sought to establish the influence of security measures of physical facilities on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. Classroom, dormitories and emergency doors open from outside had the highest approval by the questionnaire respondents whereas presence of smoke detectors in most school buildings was the least approved. The study established that security measures of physical facilities significantly influence safety of students in public secondary schools. The respondents identified delayed repairs to building as an impediment to the training of learners in security management measures on safety of students.

5.2 Conclusion

The study revealed that experts are invited to talk about the consequences of strikes in schools and that consequence of illegal and violent actions are known by students. Guidance and counseling was somehow adequate however it required to be enhanced for the full realization of safety in learners in schools such that students may prioritize dialogue and non-violence conflict resolutions methods in solving challenges facing them.

The study revealed that teachers are encouraged to be role models. Vigorous and continuous training of teachers in security management measures create a multiplier effect since the teachers handle the learners in a humanly manner and simultaneously train the learners thus cultivating and maintaining safety of learners in schools. Impromptu and back to school searches promote safety of learners are done. Most teachers can administer first aid.

Most schools have not invested in technological infrastructure in the security management of learners. Thus, most schools cannot seamlessly identify, investigate and deter crimes and other safety related incidences. There is a weak link between public secondary school and County Government on disaster training and averting fires and other hazards. Mock fire incidences are not conducted at public secondary school.

5.3 Recommendations of the Study

Based on the findings of the study, the following recommendations were made

i. There is need for the school management to nurture the formation, revival of clubs and societies and making them vibrant to train on conflict resolutions and offering skills and knowledge on accident and emergency situations responses to promote safety of learners.

ii. There is need to sponsor teachers for security related programs and those that train and qualify to be renumerated by the employer. The school management to cultivate a balance between the academic and learners' welfare (goodwill care) since a tilt towards academic program causes a burn out that ultimately affects the academic program and learners wellbeing.

iii. The MOE should accelerate the adoption of schools' technological infrastructure in schools through provision by the government or formation of a fund at the school level. The technological arm of violence fighting may be beneficial since the perpetrators are aware that evidence will be produced against them.

iv. There is need for national and county government to collaborate to improve the physical facilities, installation of fire assembly points, firefighting training and equipment and constantly monitoring their suitability to enhance the safety of learners. The school administration should provide secure and conducive learning environment

5.4 Suggestions for Further Research

The following areas were suggested for further research:

i. ICT and social media as drivers and accelerators of strikes in public secondary schools

ii. Assessment of school catchment community relations on safety of students

iii. The role of criminal law to curb arson cases in public secondary schools in Kenya

iv. The effectiveness of association between County Governments and public secondary schools on safety of students.

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APPENDICES

Appendix I: Introduction Letter

Chuka University,
Department of Education,
P.O. Box 109-60400,
Chuka.

Dear Sir/Madam,

I'm a Chuka University postgraduate student conducting a research titled '**Influence of Security Management Measures on Safety of Students in public secondary schools of Embu East Sub county, Embu County, Kenya'**. I do request you to fill in the questionnaire. The information given shall be treated in confidence and for the purpose of the study only.

Thanks in advance.

Samwel Kagiri
(Researcher)

Appendix II: Questionnaire for Principals and Teachers

The objective of this questionnaire is to collect data on influence of security management measures on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. The responses given will be highly appreciated.

Section A: Biographical Information

1. Gender

Male ( ) Female ( )

2) Highest qualification?

PhD ( ) Master's Degree ( ) Bachelor's Degree ( ) Diploma ( )

3. Position

Principal ( ) Teacher ( )

4. Period served in your current position in the school (in years)

a) Less than 5 ( ) b) 5 – 8 ( ) c) 9 – 12( ) d) 13 and above ( )

5. Category of school

a) Boy's boarding ( ) b) Girls boarding ( ) c) Mixed day and boarding ( )

d) Mixed day ( )

6. **Overall Position of Safety of Students**

The statements below relate to the overall position of security management measures on safety of students in public secondary schools of Embu East Sub county, Embu County, Kenya. Use a tick (√) to show the rate of agreement using the scale of FA - Fully Agree (5), A- Agree (4), N –Neutral (3), D- Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	FD
The school has a policy on training of learners in security management measures					
Training of learners in security management measures has a positive influence on safety of students					
The school has a policy on training of teachers in security management measures					
Training of teachers in security management measures has a positive influence on safety of students					
The school has incorporated modern technology in the security management to promote safety of students					

The technological security measures have reduced indiscipline cases in schools					
The physical facilities are secure for the safety of students					
All teachers and learners are knowledgeable in laboratory and workshop safety rules					

Section B: Training of Learners

7 (a) The following statements seek your rating on the influence of training of learners in security management measures on safety of students. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	SD
Experts are invited to talk about the consequences of strikes in schools					
Students are aware of the consequences of illegal and violent actions					
The school organizes forum to address students concerns					
Schools regularly conduct training and sensitization on drug abuse.					
Learners' participation in decision making enhance safety of students					
There are at least two fire drill sessions in a term					
Most learners can administer first aid to disaster victims					
No bullying in school					
Teachers and learners relations influence safety of learners					

7 (b) Name other factors that affect the training of learners in security management measures on safety of students.

……

7(c) Give suggestions on ways that schools may use to enhance training of learners in security management measures on safety of students.

……

Section C: Training of Teachers

8 (a) The following statements seek your rating on the training of teachers on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	FD
Impromptu and back to school Searches on student and their items always done					

School indiscipline cases influence safety of students					
Teachers and learners relations influence safety of students					
No bullying in school					
Most teachers can administer first aid to disaster victims					
Schools regularly conduct education and counseling sessions on drug abuse.					
Learners' participation in decision making enhance safety of students					

8 (b) Name other factors that affect the training of teachers on safety of learners.

……

8(c) Give suggestions on ways that schools may use to enhance training of teachers on safety of learners.

……

……

Section D: School Technological Infrastructure

9 (a) The statements below seek your rating on the school technological infrastructure on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	FD
Visitors screening through CCTV and metal detectors before admission to school premises always done					
Use of CCTV, metal detectors and other devices enhances safety of students					
Most of the schools' areas that learners go are monitored by modern technology infrastructure i.e., CCTV to enhance safety of students					
CCTV is under constant surveillance and manned round the clock					
School technological infrastructure is used to fight and prevent drug abuse for the safety of students					
Learners have a positive attitude towards use of modern technology in security management for the safety of students					

9 (b) Name other factors that affect the schools' technological infrastructure on safety of learners

……

……

9 (c) Give suggestions on ways that schools may use to enhance technological infrastructure on safety of learners

……

……

Section E: Security Measures on Physical Facilities

10 (a) The following statements seek your rating on the security measures on physical facilities on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	FD
Administration block relative to classroom position influences safety of learners					
Distanced classroom and dormitories influence safety of learners					
Fully stocked first aid kit influences safety of learners					
Safety instructions displayed in the laboratory					
There is a labeled fire assembly point					
There are smoke detectors in most school buildings					
There are operational fire extinguishers in strategic places					
Classroom and dormitories windows do not have grills					
Classroom, dormitories and emergency doors open from outside					
Suggestion boxes at strategic points promote safety of learners					

10 (b) Name other factors that affect the security measures of physical facilities

……

……

10 (c) Give suggestions on ways that schools may use to enhance security measures of physical facilities

……

……

Appendix III: Questionnaire for Learners

The objective of this questionnaire is to collect data on influence of security management measures on safety of students in public secondary schools of Embu East Subcounty, Embu County, Kenya.The responses given will be highly appreciated.

Section A: Biographical Information

1. Gender
   Male ( )
   Female ( )
2. Age
   Less than 16 years ( )
   16 -17 years ( )
   18 years ( )
   above 18 years ( )
3. Period that you have been in the school
   Less than 1 year ( )
   1 years ( )
   2 years ( )
   3 years ( )
4. Category of school
   Boy's boarding ( )
   Girls boarding ( )
   Mixed day and boarding ( )
   Mixed day ( )

Overall Position of Safety of Students

5. The statements below relate to the overall position of safety of students in public secondary schools of Embu East Subcounty, Embu County, Kenya. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	FD
The school has a policy on training of learners in security management measures					
Training of learners in security management measures has a positive influence on safety of students					
Regular guidance and counseling enhances safety of students					
Learners who follow school rules promote safety of students					
The school has incorporated modern technology in the security management to promote safety of students					
The technological security measures have reduced indiscipline cases in schools					
The physical facilities are secure for the safety of students					
All teachers and learners are knowledgeable in laboratory and workshop safety rules					

Section B: Training of Learners

6. a) The following statements seek your rating on the influence of training of learners in security management measures on safety of students. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

STATEMENT	FA	A	N	D	SD
Experts are invited to talk about the consequences of strikes in schools					
Students are aware of the consequences of illegal and violent actions					
The school organizes forum to address students concerns					
Schools regularly conduct training and sensitization on drug abuse.					
Learners' participation in decision making enhance safety of students					
There are at least two fire drill sessions in a term					
Most learners can administer first aid to disaster victims					
No bullying in school					
Teachers and learners relations influence safety of learners					

b) Name other factors that affect the training of learners in security management measures on safety of students.

……

c) Give suggestions on ways that schools may use to enhance training of learners in security management measures on safety of students.

……

……

Section C: Training of Teachers

7. a) The following statements seek your rating on the training of teachers on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

Statement	FA	A	N	D	FD
Impromptu and back to school Searches on student and their items always done					
School indiscipline cases influence safety of students					
Teachers and learners relations influence safety of students					
No bullying in school					

Most teachers can administer first aid to disaster victims					
Schools regularly conduct education and counseling sessions on drug abuse.					
Learners' participation in decision making enhance safety of students					

- Name other factors that affect the training of teachers on safety of learners.

  ……

- Give suggestions on ways that schools may use to enhance training of teachers on safety of learners.

  ……

Section D: School Technological Infrastructure

8. (a) The statements below seek your rating on the school technological infrastructure on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD- Fully Disagree (1).

Statement	F A	A	N	D	FD
Visitors screening through CCTV and metal detectors before admission to school premises always done					
Use of CCTV, metal detectors and other devices enhances safety of students					
Most of the schools' areas that learners go are monitored by modern technology infrastructure i.e., CCTV to enhance safety of students					
CCTV is under constant surveillance and manned round the clock					
School technological infrastructure is used to fight and prevent drug abuse for the safety of students					
Learners have a positive attitude towards use of modern technology in security management for the safety of students					

(b) Name other factors that affect the schools' technological infrastructure on safety of learners

……

……

(c) Give suggestions on ways that schools may use to enhance technological infrastructure on safety of learners

……

……

Section E: Security Measures on Physical Facilities

9. (a) The following statements seek your rating on the security measures on physical facilities on safety of learners. Use a tick (√) to show the rate of agreement using the scale of FA-Fully Agree (5), A- Agree (4), N –Neutral (3), D-Disagree (2), FD-Fully Disagree (1).

Statement	FA	A	N	D	FD
Administration block relative to classroom position influences safety of learners					
Distanced classroom and dormitories influence safety of learners					
Fully stocked first aid kit influences safety of learners					
Safety instructions displayed in the laboratory					
There is a labeled fire assembly point					
There are smoke detectors in most school buildings					
There are operational fire extinguishers in strategic places					
Classroom and dormitories windows do not have grills					
Classroom, dormitories and emergency doors open from outside					
Suggestion boxes at strategic points promote safety of learners					

(b) Name other factors that affect the security measures of physical facilities

……

……

(c) Give suggestions on ways that schools may use to enhance security measures of physical facilities

……

……

Appendix IV: SQASO Interview Schedule

1. Are the public secondary schools secure to guarantee safety of learners?
2. What is the influence of training of learners in security management measures on safety of students in secondary schools?
3. What is the influence of training of teachers in security management measures on safety of students in secondary schools?
4. What is the influence of schools' technological infrastructure in security management on safety of students in secondary schools?
5. What is the influence of security measures of physical facilities on safety of students in secondary schools?
6. How can school security be enhanced?

Appendix V: Head of Sub County Fire Response

1. How adequately prepared is the firefighting unit to immediately respond to fire?
2. How is the working relationship between secondary schools and the firefighting unit?
3. Can the secondary schools' buildings designs and materials accelerate or retard fire in case of outbreak?
4. Is the firefighting unit involved in a structured training of the school staff and students in prevention and fight against fire?
5. How can technology be integrated in the prevention and fight against fire?
6. How can school security be enhanced?

Appendix VI: Observation Checklist

Influence of security management measures on safety of students in public secondary schools in Embu East Subcounty, Embu County, Kenya.

Statement	**Available**		**Remarks**
Boarding and classrooms adequately spaced			
Exit emergence points in dormitories and halls remain unlocked			
Study rooms and dormitory doors open toward the outside			
Ungrilled/unmeshed windows for dormitory and classroom			
Firefighting equipment are easily accessible			
Fire emergency meeting points marked			
Operational first aid kit			
Safety instructions displayed in the laboratory			
Pre-entry screening of visitors done			

Appendix VII: Determination of Sample Size

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	225	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	256	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

N= Population size

S= Sample size

Source: Kathuri & Pals (1993)

Appendix VIII: Ethics Review Letter

CHUKA UNIVERSITY

Knowledge is Wealth *(Sapientia divitia est)* Akili ni Mali
CHUKA UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE

Telephones: 020-2310512/18
Direct Line: 0772894438
P. O. Box 109-60400, Chuka
Email: info@chuka.ac.ke,
Website: www.chuka.ac.ke

REF: **CUIERC/ NACOSTI 291** 24th May, 2022
TO: Samuel Kagiri Njoroge

Dear Sir/madam

RE: Influence of Security Management Measures on Safety of Students in Public Secondary Schools of Embu East Sub-County, Embu County, Kenya"

This is to inform you that *Chuka University IERC* ***has*** reviewed and approved your above research proposal. Your application approval number is *NACOSTI/NBC/AC-0812.* The approval period is 24th May, 2022 to 24th May,2023.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by *Chuka University IERC*..
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to *Chuka University IERC* within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to to *Chuka University IERC* within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to *Chuka University IERC*.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely

Dr. Benjamin Kanga
SECRETARY

Appendix IX: Sub County Director of Education Authorization

MINISTRY OF EDUCATION

STATE DEPARTMENT OF EARLY LEARNING & BASIC EDUCATION

Telephone:

Email: deoembueast@yahoo.com
When replying, please quote

OFFICE OF THE
SUB-COUNTY DIRECTOR OF EDUCATION
EMBU EAST
P .O. BOX 80-60103
RUNYENJES

Ref: EBU/E/EDU/C.37/VOL 1/82

28TH JUNE, 2022

TO PRINCIPALS
PUBLIC SECONDARY SCHOOLS
EMBU EAST SUB COUNTY

RE: RESEARCH AUTHORIZATION

The bearer of this letter, Mr Samwel Karigi Njoroge has been authorized to conduct an academic research on "Influence of Security Management Measures on Safety of students in Public Secondary Schools Embu East Sub-County, Embu County Kenya, for a period ending 15th June 2023".

Kindly accord him the necessary assistance and ensure that students learning time is not interfered with.

Kind regards.

SUB-COUNTY DIRECTOR OF EDUCATION
EMBU EAST
28 JUN 2022
P. O. BOX 80-60103 RUNYENJES

LILIAN W. GITAHI
FOR SCDE
EMBU EAST

Appendix X: County Director of Education Authorization

MINISTRY OF EDUCATION

State Department of Early Learning and Basic Education

Telegrams: "Provedu", Embu
Telephone: Embu 31711
Fax: 30956
E-mail: cde.embu@yahoo.com
When replying please quote:

OFFICE OF THE
COUNTY DIRECTOR OF EDUCATION
EMBU COUNTY
P o Box 123-60100
EMBU

Ref: EBC/GA/32/1/Vol. V/65

Date: 22ND JUNE 2022

SAMWEL KARIGI NJOROGE
CHUKA UNIVERSITY

RE: RESEARCH AUTHORIZATION

Reference is made to NACOSTI letter dated 15th June, 2022.

This office acknowledges receipt of your research authorization to carry out research on **influence of Security Management Measures on Safety of Students in Public Secondary Schools of Embu Sub- County, Embu County, Kenya for** a period ending 15th June, 2023.

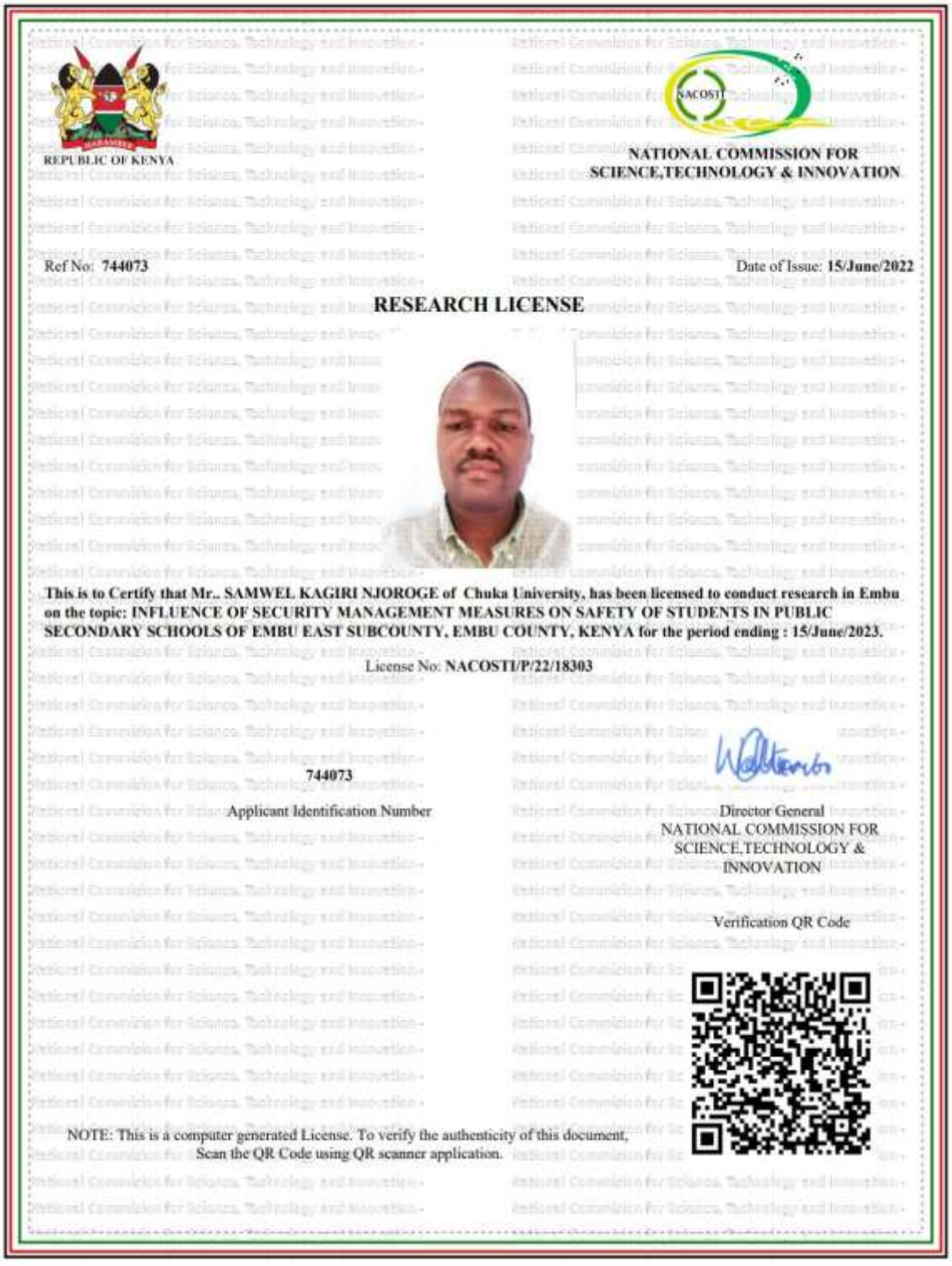
This office has no objection and therefore wishes you success in this undertaking and requests prospective participants/respondents to accord you cooperation or support you may require.

FRIDAH KAGWIRIA (CQASO)
For County Director of Education
EMBU COUNTY

Copy to:

The Principal Secretary,MOE-**NAIROBI**
The Secretary/CEO, NACOSTI – **NAIROBI**
The County Commissioner – **EMBU COUNTY**
The Sub-county Directors of Education – **EMBU COUNTY**

Appendix XI: National Commission for Science, Technology and Innovation (NACOSTI) Permit



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **744073**

Date of Issue: **15/June/2022**

RESEARCH LICENSE

This is to Certify that Mr.. SAMWEL KAGIRI NJOROGE of Chuka University, has been licensed to conduct research in Embu on the topic: INFLUENCE OF SECURITY MANAGEMENT MEASURES ON SAFETY OF STUDENTS IN PUBLIC SECONDARY SCHOOLS OF EMBU EAST SUBCOUNTY, EMBU COUNTY, KENYA for the period ending : 15/June/2023.

License No: **NACOSTI/P/22/18303**

744073

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.