

**ADHERENCE TO SCHOOL SAFETY AND ITS RELATIONSHIP TO
STUDENTS' PERFORMANCE IN MACHAKOS COUNTY, KENYA**

MWONGELI MERCY WAMBUA

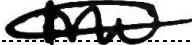
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**A RESEARCH PROJECT SUBMITTED IN FULFILLMENT OF THE
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EDUCATION AND LIFELONG LEARNING OF
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FEBRUARY, 2025

DECLARATION

I declare that this research project is my original work and has not been presented in any other university/institution for consideration of any certification. This research project has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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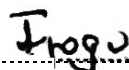
Mwongeli Mercy Wambua

E55/CE/27957/2019

Department of Educational Management, Policy and Curriculum Studies

Supervisors' Declaration

This research project has been submitted with my approval as University Supervisor.

Signature 

Date 26/2/2025

Dr. Irene N. Njogu

Department of Educational Management,

Policy and Curriculum Studies

Kenya University

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God bless you all.

DEDICATION

I dedicate this project to my parents Reuben Wambua Katithi and Regina Wambua;

My son Nehemiah Wambua;

And my brother Victor Katithi

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ABBREVIATIONS AND ACRONYMS

KCSE	:	Kenya Certificate of Secondary Education
MOE	:	Ministry of Education
OECD	:	Organisation for Economic Co-operation and Development
PISA	:	Program for International Student Assessment
SSMS	:	Safety and Standards Manual for Schools

ABSTRACT

Safety in schools is a crucial component of the wellbeing and success of learners in all educational institutions. Learners who do not perceive their school to be safe may not concentrate well in studies for good performance. The aim of the research was to examine the effect of school safety on the achievement of high school learners in Machakos County, Kenya. Specifically, this research sought to: establish the safety status of public secondary schools within Machakos County, examine how safety in schools impinges on the learning process in high schools in Machakos County, establish whether secondary school students' perception of safety in school correlates with their academic achievement, and find out the measures being taken to improve safety in the schools. This research study employed a descriptive survey research design. The targeted respondents were all the 84,800 students, 2,954 teachers, and 332 principals in the 332 public high schools in the County. The research utilized stratified random sampling method to select 20 schools for the study, with 10 schools comprising those that consistently perform well in KCSE while 10 schools were drawn from those that consistently perform poorly. The sample size was computed using a sample size determination formula, arriving at 400 students (0.5%), 40 teachers (1.4%) and 20 principals (6.0%), leading to 460 participants. Data was obtained using students' questionnaires, teachers' questionnaires, and principals' interview schedules. To ensure reliability of the instrument, test-retest method was utilised, and the questionnaires was deemed reliable with an index of 0.781. Data was analysed per research objective, by use of statistical analysis as well as descriptive approach. Qualitative data was analysed thematically using content analysis. The study found that, while the respondents generally perceive certain aspects of school safety positively, there are notable areas of concern that warrant further attention and intervention to enhance overall safety and well-being in secondary schools. Results indicated a moderate positive correlation between students' perception of school safety and their academic performance ($r = 0.136$, $p < 0.05$). Recommendations include enhancing safety protocols, increasing stakeholder involvement, and investing in technology to enhance school safety. The study findings could be useful to policymakers, principals and tutors by identifying measures that may be utilised to improve school safety for the wellbeing of students in schools.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This section comprises the introductory information related to the research. The key content presented in the chapter include background information, problem statement, aims of the research, specific aims of the research, the questions that were answered, justification, limitation and delimitation of the research, research assumption, theories guiding the research, the conceptual outline of the research, and operationalization of key research variables.

1.2 Background to the Study

Safety of schools represents a key factor of the wellbeing and success of learners in all educational institutions. Learners with a feeling that they are unsafe within their schools, be it in terms of physical or psychological safety, are unable to learn well and realize good grades. When schools assure the safety of their learners, they make the school environment attractive to students, and the learners become more connected to each other, their teachers and the learning process (Darling-Hammond, Flook, Cook-Harvey, Barron & Osher, 2020). If learners feel that their essential security requirements are unmet, they may end up with feelings of discomfort in the institutions which could lead to absenteeism or socially withdrawn from the school programmes. It is therefore important for educators to create a safe environment where learners can thrive (Applebury, 2022).

According to Muhlhausen (2020), school safety encompasses three primary elements: the physical well-being, the overall atmosphere, and the conduct of students. The school administration, led by the principal, can improve school safety

by focusing on the improvement of these three elements. Physical wellbeing encompasses aspects such as the structural integrity of school buildings, regulating access to and from the premises, and ensuring the well-being of the student and educators within the school grounds. It entails the absence of any harm or injury resulting from physical objects or activities involving physical objects. On the other hand, school climate pertains to the environment within the school and encompasses the collective emotions and perceptions held by individuals towards the school surroundings (Carlton, Wyrick, Frederique and Lopez, 2019).

The school overall atmosphere refers to the way in which individuals within the school community perceive and engage with the educational institution. This encompasses various aspects such as interpersonal connections, teaching methods employed by educators and other staff, as well as the overall organizational structure. The school climate comprises elements that create an environment conducive to learning, ensuring both physical and emotional safety, fostering meaningful connections and support, and promoting active engagement among all stakeholders (Yoder, Darling-Churchill and Mayo, 2017). Student behaviour component of school safety encompasses mental health, behavioural health, and discipline of students. Unresolved student behaviour problems and unpleasant happenings during childhood have a direct correlation with detrimental outcomes for learners. These outcomes include subpar academic performance, behavioural challenges, school abandonment, and involvement in delinquent activities (Muhlhausen, 2020).

School safety is anchored in theories such as the Hierarchy of Needs model (Maslow, 1943), which is based on the proposition that there are certain needs that

all humans must satisfy to reach their full potential. These are: physical/biological needs, needs related to safety, love and social bonding needs, needs related to self-esteem and the need for self-actualization. Maslow argues that for higher needs to be satisfied, less important needs have to be met. This means that, in a school setting, for students to have a sense of belonging to the school and feel that they are loved and accepted by teachers and other students, their physiological and safety needs must be met first. Safety needs, according to the Hierarchy of Needs Theory, are the needs that humans have to feel safe and secure. In a school setting, this would entail the establishing of safe and convivial environments for every student in a classroom setting (Llego, 2021).

If learners are educated within a secure and protected setting, their attention is directed towards studies, resulting in enhanced academic accomplishments. Hence, it is imperative for educators to actively assess the comfort levels of students and staff within their educational settings, encompassing both physical and emotional aspects. Additionally, it is essential to consider whether learners' families feel at ease with the school environment in which their children are being educated. Studies conducted in the USA indicate that safety within schools significantly influences the performance of learners in examinations. For instance, research by Milam, Furr-Holden and Leaf (2010) discovered that enhancing the perception of safety among elementary schools in Baltimore resulted in a notable increase of 16 to 22% in academic performance on standardized math and reading assessments. The researchers observed a correlation between lower academic scores and students who reported feeling unsafe within their school environment. Conversely, institutions

with higher academic scores were associated with a student population that felt secure and comfortable within their educational surroundings (Milam *et al.*, 2010).

Similar findings to those of the United States of America were reported in European countries, whereby research by Hristova and Tosheva (2021) found that the students perceive their safety at school to be high. The safety scale scores (measured out of 4 points) were found to vary between 3.4 in Bulgaria to 3.8 in Portugal and the Netherlands. The researchers found that perceptions of school safety were associated in good academic achievement (Hristova and Tosheva, 2021). These studies were conducted in developed countries, where the main safety concerns are school shootings and gang violence. In contrast, the main safety concerns in Kenya are related to student riots, school fires and drug abuse. Research by the Programme for International Student Assessment (PISA, 2019) in the OECD countries showed that school safety is one of the main concerns by parents as they decide which school to enrol their children. This concern is valid, during the critical period of adolescence, learners undergo significant physical and emotional changes, and educational institutions have a substantial impact on their overall contentment and well-being (Rees & Main, 2015). Bearing in mind the considerable time per day that a learner spends in school, it becomes crucial to note that the level of satisfaction they experience in their school lives emerges as a strong indicator of their overall happiness, as evident from PISA data.

Within the Asian countries, a study by OECD (2020) showed that in most South East Asian countries, including Malaysia, Viet Nam, and Indonesia, bullying was the most predominant threat to school safety, and this affected academic performance of learners, particularly those from socio-economically disadvantaged regions. In

Nigeria, research by Lukumon, Abraham and Haftamu (2018) indicated that public secondary schools in Lagos State lacked effectual resources and tools for ensuring the institutions are safe, and this affected academic performance of learners. Kibriya, Zhou, Zhang and Fatema (2018) carried out a research of the impacts of safety in schools on learner performance using data collected from Zambia, Tanzania, and Rwanda. Their study found that institutional environments considered unsafe correlated with poor performance for reading and math among Rwandan students. For instance, the results indicated that for 6th grade math examinations, a learner who reported feeling unsafe was unable to solve simple addition sums as contrasted with classmates who reported feelings of safety within the institution.

In Kenya, safety within schools is emphasized through government policies such as the Children's Act of 2022, the Basic Education Act of 2013, and the School Health and Safety Policy of 2018, which establish necessary protective measures and offer guidelines for their implementation. These regulations are designed to safeguard the health and overall well-being of children within schools and their surrounding environments. The Basic Education Act of 2013 (Republic of Kenya, 2013) underscores the supreme significance of safeguarding all individuals within these institutions. In alignment with this, the Children Act of 2001 places strong weight on the need to protect the Kenyan child, ensuring their entitlement to be shielded from both psychological and physical abuse as well as being neglected.

In an effort to further improve the safety situation in Kenyan schools, the MoE engaged experts for compilation of a manual for Safety and Standards to be used in schools. The manual encompasses a range of safety concerns, including physical infrastructural safety, institutional environment safety, hygiene and health, safety of

foods, prevention of alcohol, drugs, and substance abuse, socio-cultural setting of the institutions, safety for learners with disabilities, protecting learners from any forms of cruelty, safety of school transport, relationships of schools with surrounding neighbourhood, and security of the institutional campus (Ministry of Education, 2008). The Manual addresses various factors that impact the wellbeing of students, staff, parents/guardians, and the surrounding community associated with the institutions.

In 2019, a special audit initiated by the Auditor General (Republic of Kenya, 2020). investigated the inadequate fire preparedness in secondary schools. The audit revealed that a majority of these schools fail to adhere to safety standards and are ill-equipped to handle fire incidents. Furthermore, the audit highlighted issues such as overcrowding and a lack of proper safety equipment in schools. It identified specific factors contributing to fires in secondary schools, including student indiscipline and riots, the use of kerosene lamps and candles for night-time studying, as well as electrical faults.

In February 2021, the Ministry of Education issued a circular on wellbeing and safety of boarding secondary schools in Kenya (Ministry of Education, 2021) in response to increased cases of student indiscipline and arson. The circular listed measures that schools are expected to implement for ensuring wellbeing and security. These included: enhancing vigilance to control discipline and drug abuse, accounting for every learner at all times, reporting any criminal activity by students to the police, enhancement of guidance and counselling, and effective channels of communication with learners. Despite the efforts by the government to enhance

school safety in Kenya, students in most secondary schools still learn under unsafe conditions (Wanderi, 2018).

A research by Alunga and Maiyo (2019) in Trans-Nzoia County revealed that most of secondary institutions had failed to comply with the guidelines set in the MoE safety manual, and that most of the educators, learners and support staffs had not been educated or were unaware of such safety standards. There have been tragic incidences that point to lack of safety in Kenyan secondary schools. For instance, over 350 schools had fire incidences between 2015/2016 (Hourelid and Ndiso, 2017). In the year 2017, a girl's high school in Nairobi had a fire incidence that led to the death of 9 learners (Wanzala, 2017). Such cases of student strikes and arson have continued to be witnessed in secondary schools in the country to date, suggesting that the schools are not adhering to safety guidelines.

Machakos County has recently witnessed concerning trends regarding school safety. Research conducted by Mutiso and Maithya (2019) in the County revealed widespread non-adherence to school safety guidelines in secondary schools. Moreover, a study conducted by Mutiso (2019) revealed pervasive issues including overcrowded dormitories and classrooms, inadequate infrastructure maintenance, and deficient safety features such as lack of emergency doors and fire extinguishers. Similarly, Musyoka (2023) carried out a study in Machakos County whose findings highlighted the absence of essential health and safety resources like proper waste disposal systems and fire extinguishers, coupled with insufficient teacher training on student health and safety matters. These studies collectively underscore the urgent need for comprehensive safety interventions in Machakos County schools to address the identified deficiencies and ensure the well-being of students and staff.

A study by Makau (2016) in Machakos County reported that secondary schools were yet to completely implement the guidelines of the MoE safety manual. Makau reported that the main factors hindering effective implementation of the guidelines were inadequate finances and lack of training for teachers and support staff. However, the study by Makau (2016) did not show how these factors influenced academic performance of students. Similar findings were reported by Mutiso (2019), whose study in Machakos County established that, notwithstanding the presence of the MoE safety manual within the institutions, unawareness of the guidelines by educators, insufficient funding, growing enrollment of learners, and disregard for safety measures by the administrators posed significant obstacles to the effective implementation of the guidelines. This study by Mutiso (2019) did not focus on how implementation of safety standards influences academic performance.

There have been concerns about the poor performance posted by secondary schools in Machakos County as compared to other regions in Kenya (Mutuku, Kanyili and Arasa, 2021; Mulinge, Mulwa and Kanyili, 2021). In the year 2021, Machakos County had a KCSE mean score of 6.234 as compared to a national mean score of 7.017. In the year 2020, the County had a mean score of 5.92 while the national KCSE mean score was 6.409. Similarly in 2019, the KCSE mean score for Machakos County was 5.80 in comparison to a national mean score of 6.98. Previous studies that addressed academic performance in Machakos County considered the influence of factors such as strategic management practices (Mulinge *et al.*, 2021), instructional leadership practices (Muasya, 2018), adequacy of instructional resources (Mutiso, Kirimian and Itegi, 2020), provision of extra tuition (Maithya and Mutua, 2015), and teacher factors such as motivation and

compensation (Mutukuet *al.*, (2021). The researcher therefore set out to establish the effects of school safety on educational achievement of secondary school learners in Machakos County, Kenya. Table 1.1 presents the Kenya Certificate of Secondary Education (KCSE) data for the period 2020 – 2022.

Table 1.1: KCSE Performance for Machakos County (2020 -2022)

Sub-county	2020	2021	2022	Average Mean Score (M/S)
Masinga	4.251	3.996	4.427	4.224667
Kathiani	4.33	3.932	4.33	4.197333
Matungulu	4.242	3.954	4.363	4.186333
Yatta	4.24	4.066	4.154	4.153333
Athiriver	4.196	3.94	4.052	4.062667
Machakos	3.699	3.389	4.371	3.819667
Mwala	3.866	3.537	3.821	3.741333
Kalama	3.482	3.195	3.419	3.365333
Kangundo	3.39	3.163	3.226	3.259667
County Average	3.966222	3.685778	4.018111	3.890037

Source: Machakos County Director of Education Office (2023)

1.3 Statement of the Problem

In Kenya, the escalation of student unrests, fires, and disasters in secondary schools has become a pressing concern, leading to significant human and property losses. Despite governmental directives, including strict compliance with Basic Education Regulations 2015, and efforts to enhance security, the persisting issues indicate a gap in the effectiveness of the measures taken. Specifically, in Machakos County, existing research highlighted non-compliance with school safety guidelines in most secondary schools, suggesting that students in these schools may be exposed to unsafe conditions, posing risks of physical, emotional, or psychological harm. Furthermore, concerns have been raised about poor academic performance in KCSE

by schools in the county. While acknowledging that academic performance is influenced by various factors, including school safety, there was a shortage of studies investigating the potential impact of poor school safety on academic outcomes in Machakos County. This research aimed to address this deficiency by investigating how school safety relates to the academic achievements of high school students in Machakos County, contributing valuable insights for informed interventions and policy improvements.

1.3.1 Purpose of the Study

This research had the aim of investigating the effects of school safety on the academic achievement of secondary school students within Machakos County, Kenya. The research aimed to examine the existing state of school safety, considering factors such as compliance with safety guidelines, potential risks faced by students, and the overall safety conditions in secondary schools within the county. Additionally, the study sought to analyse the impact of these safety factors on students' academic performance, particularly in the Kenya Certificate of Secondary Education.

1.3.2 Specific Objectives

The research had the specific objectives listed as:

- i. To establish the safety status of public secondary schools within Machakos County, Kenya.
- ii. To examine how school safety influences the teaching/learning process in public secondary schools in Machakos County.
- iii. To establish whether secondary school students' perception of safety in school correlates with their academic performance.

- iv. To find out the strategies being employed for the improvement of school safety in Machakos County and its correlation to school performance.
- v. To determine the challenges of adherence to school safety standards by secondary school administrators in Machakos County and its correlation to school performance.

1.3.3 Research Questions

The main questions that the study sought to answer are:

- i. What is the safety status of public secondary schools within Machakos County, Kenya?
- ii. In which ways does school safety affect the teaching/learning process in the high schools in Machakos County?
- iii. Is there a correlation between learners' perception of safety in school and their performance in academics?
- iv. Which strategies are being employed to improve safety situation of secondary schools in Machakos County?
- v. What are the challenges to adherence to school safety standards by secondary school administrators in Machakos County?

1.4 Significance of the Study

While it is generally agreed that a secure and safe learning environment is necessary for teaching and learning to happen effectively, it was unclear how school safety affects the performance of high school learners in Machakos County. The research may thus be of value to school principals, tutors, students, parents and the Ministry of education in the following ways:

- i. This research may be of benefit to institutional principals and tutors who are under constant pressure to ensure improvement of academic achievement of learners. The research aimed at determining the safety components – physical environment safety, institutional climate, and students’ behaviour – that could have the greatest impact on performance of learners in KCSE. In so doing, the study may come up with recommendations which, if implemented, could lead to students from Machakos County and the rest of the country performing well in examinations.
- ii. School safety and poor academic performance are two factors that are strongly associated with education wastage due to dropouts. By establishing the link between school safety and students’ achievement, this study could benefit the ministry of education since it provides recommendations on effective strategies for improving safety and making the school environment friendlier and welcoming for learners.
- iii. Parents and the community in Machakos County have raised concerns over the deteriorating state of safety in schools due to strikes, arson, destruction of property, and loss of life. This research was therefore timely, and the findings and recommendations could be used to assist in coming up with measures for improving the safety of schools not only in Machakos, but also around the country.
- iv. The research also provides empirical statistics that may be utilized by future scholars and researchers concerned with school safety and academic performance of secondary school students.

1.5 Limitations and Delimitations

1.5.1 Limitations of the Study

- i. This research could have a limitation in that, respondents were required to divulge important details about safety situation in their schools, which could be viewed as sensitive by respondents. Therefore, to mitigate potential reluctance among respondents to share accurate information crucial for this study, the researcher emphasized the importance of the study's findings to the participants, and guaranteed them that the research outcomes would be utilised only for academic purposes. The researcher also held personal interviews with concerned officials in order to get more in-depth and reliable information.
- ii. The research was limited by the fact that, due to time constraints, it was not possible to assess the school safety situation using all parameters spelled out in the SSMS manual.

1.5.2 Delimitations of the study

- i. The research was done only among the public high schools within Machakos County. Therefore, outcomes of the research may only be interpreted and generalizations made to public high schools and not other levels of learning such as primary schools.
- ii. The study only focused on four aspects of safety in schools, that is, safety of the physical environment, the climate of the schools and students' behaviour, and how these influence schools' performance in KCSE examinations. Any other aspects of safety such as transport safety, mental health, cybersecurity, natural disaster preparedness were not covered.

1.6 Assumptions of the Study

The study assumed the following:

- a) The participants would provide reliable information in relation to school safety and academic performance in their schools.
- b) All the respondents were aware of the efforts being put in place in their schools to improve safety within the schools.

1.7 Theoretical and Conceptual Models

1.7.1 Theoretical Model

This research was directed by Maslow's (1954) Hierarchy of Needs model, which explores how individuals fulfill their various individual needs within a social situation. Maslow, a humanistic psychologist, proposed that people tend to follow a consistent pattern of recognizing and satisfying their needs in a particular sequence. He also introduced the concept of "prepotency," suggesting that people cannot progress to fulfilling higher-level needs until their current need is substantially or fully fulfilled. Maslow (1954) categorized human needs into five distinct levels, arranged in an ascending pyramid from lower to higher: physiological needs (food and clothes), needs related to safety, the need for love and belongingness, the need for regard, and self-actualization.

At the foundational level of the pyramid, there exist physiological needs which encompass the fundamental requirements for survival, such as nourishment, hydration, clothing, and shelter. Moving up the hierarchy, safety and security needs emerge, representing the innate yearning for freedom from harm or peril. This category includes physical safety and protection against potential dangers such as violence, fires, and accidents. Finally, the third tier in Maslow's hierarchy

encompasses love and belonging needs, which highlight the innate human desire for social connection and a sense of belongingness. As humans are inherently social creatures, the need for belongingness and acceptance is an essential aspect of their existence. This social need encompasses the desire for companionship, affection, affiliation, interaction, and love. Moving up the hierarchy, the fourth tier comprises esteem needs, also known as ego needs. These needs revolve around the desire for self-esteem and the esteem received from others, stemming from factors such as one's social status, recognition, and the responsibilities they possess.

The pinnacle of Maslow's hierarchy is represented by the category of self-actualization. This denotes the profound yearning to actualize one's complete potential and to achieve self-fulfillment by optimizing abilities, skills, and untapped potential. Often referred to as the need for self-realization, it embodies the perpetual aspiration for personal growth. It is important to note that the last three levels of needs, encompassing the higher-order needs, are inherently insatiable as human beings consistently strive for more, recognizing that their desires and aspirations are boundless. Maslow's theory is frequently regarded as a model that recognizes the importance of addressing both physical and emotional needs in educational settings, particularly in relation to safety. By establishing boundaries, maintaining consistency, implementing routines, and promoting predictability, schools can effectively fulfil the need for safety. Once this need is met, attention can be directed towards fulfilling the needs for self-esteem and self-actualization. By adopting this framework, schools can streamline the process of addressing the safety needs of their students and engage all staff members in playing crucial roles in meeting these needs.

1.7.2 Conceptual Framework

The study aimed at determining the effect of school safety on students' performance in academics among high school learners. As conceptualized in Figure 1.1, the independent variable was school safety, whose indicators include physical safety, school climate and student behaviour. Physical safety encompasses the state of being free from any form of harm or injury resulting from physical objects or activities involving physical objects. These objects can include individuals, the physical environment of the classroom, furnishings, equipment, banned articles, artwork, and so on. However, it is essential to recognize that physical safety cannot be fully achieved without concurrently ensuring that learners are emotionally and psychologically safe.

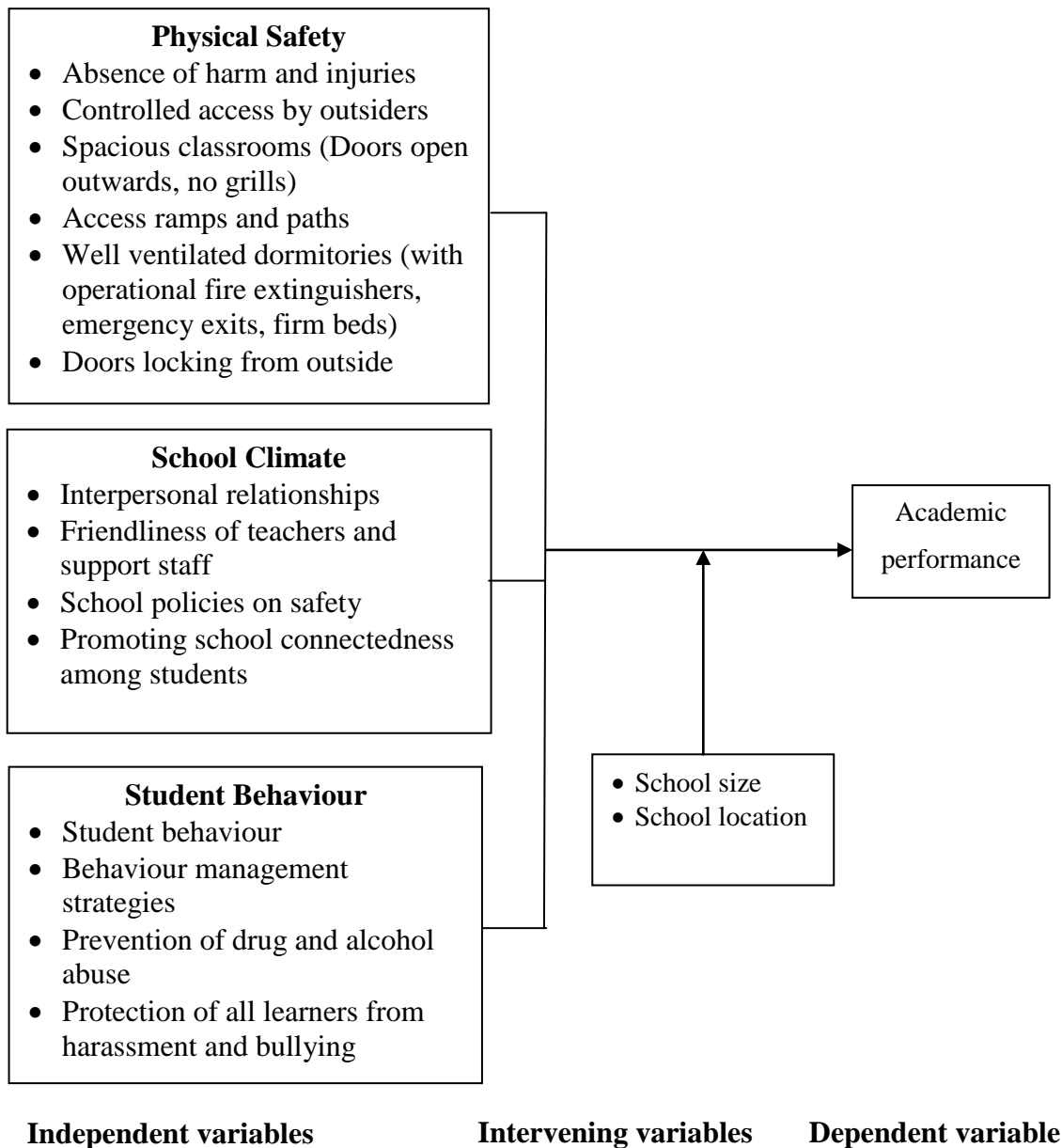


Figure 1.1: Conceptual Framework – School safety and academic performance

Source: Researcher (2022)

School climate has to do with the school environment, or to the perceptions and feelings that learners have about the school setting. School climate entails the interpersonal relationships such as student-student relationships, student-teacher relationships, and the relationships between students and the support staff. It also has to do with the school policies regarding safety and how such policies are

implemented. Student behaviour component of school safety encompasses the psychological health, behavioural health, and discipline of students.

The dependent variable of this research was academic performance. This was assessed by use of the schools' KCSE performance. This enabled the researcher to compare school safety for the institutions that have consistently been posting good performance and those that have been posting poor performance in KCSE. The research also had intervening variables, which in this case included the school size and school location.

1.8 Operational Definition of Terms

Academic performance: Refers to the quantitative assessment of a student's achievement in formal education, measured through objective indicators. In this case, academic performance will be measured using the mean grade obtained by the school in KCSE examination.

Poor performing school: Refers to schools whose performance is below the C+, that is, mean marks below 55%

School environment: This concerns the institutional resources, classroom practices, the health support systems, and disciplinary policies and practices.

School Safety practices: Daily operations and programs of a school towards eliminating potential risks and facilitating prompt response to any security incident within the school.

School Safety: Encompasses the aspects within schools that promote the overall well-being of students, including physical,

psychological, emotional, social, and spiritual health.

It encompasses the condition of school infrastructure addressing unsafe students' behaviors, ensuring online safety, and mitigating the presence of gang activity within the school environment.

Student discipline: Refers to the set of rules, behaviors, and practices employed to promote a positive and conducive learning environment while addressing and managing inappropriate conduct or disruptions.

Well performing school: Refers to a school whose mean score is consistently above C+, that is, mean marks above 55%.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the research studies done in the past are reviewed in relation to the study on school safety and its influence on academic achievement of learners. The reviewing of literature has been done in line with these themes: status of safety in schools, effects of school safety on teaching and learning, and perceptions of school safety and academic performance. Also provided is a brief summarization of reviewed research work and the gaps to be filled.

2.2 Status of Safety in Schools

Students require feeling that they are safe in school in order to learn effectively. Schools with a safe learning environment are those whose school compound, both inside and outside the classrooms, is free from external and internal threats to the wellbeing of students and teachers; whereby the school infrastructural resources and all the persons in the school environment have a feeling of safety. The safety of the learning environment in schools could be affected by external or internal threats. External threats could be in form of factors such as natural disasters, attack by outsiders and other environmental factors. Internal threats on the other hand could include factors such as arson and other forms of destruction by unruly students, bullying, drug abuse and trafficking, and injuries related to faulty school infrastructure (Kibriya, Zhou, Zhangand Fatema, 2018). While there are many external and internal threats to safety in a school setting, this research focused on physical safety, school climate and student behaviour factors.

Globally, the increasing cases of potential consequences of safety threats present substantial ramifications for the welfare of children and adolescents attending school. Their heightened vulnerability arises from their physical vulnerability, their ongoing mental and emotional growth, and their reliance on adults for support and protection (Karr, 2019). Due to this fact, school-going children share the largest blunt of the negative impacts of hazards. As pointed out by Kousky (2016), about 50% of the individuals impacted by disasters worldwide are children and young people, and there is a projected considerable rise in numbers of affected children and youth in the coming decade. Disasters have varied consequences on learners and their educational experiences. Educational establishments that lack appropriate design, construction, or maintenance to resist the specific local hazards in their region are at an elevated risk of experiencing damage and structural failure when these hazards occur. Consequently, there has been a distressing series of widely recognized school catastrophes that have tragically claimed the lives of tens of thousands of individuals (Petal, 2018). Such catastrophes have been experienced in all parts of the world, including Machakos County where this study was conducted.

Schools have not been spared from armed conflict and crisis, becoming targets themselves and endangering the lives of students who may be subjected to assault and forced conscription, thereby violating the rights of children during times of conflict (UNICEF, 2009). Nevertheless, the immediate consequences of natural and man-made hazards, such as death, injury, and disrupted school days, are only the tip of the iceberg. A cascade of additional repercussions adversely affects children and young people. Educational disruptions leave them vulnerable to compounding psychosocial effects in the short and long term, including depression, anxiety, sleep

disturbances, and behavioural issues. Moreover, school closures contribute to higher dropout rates, an increase in children and youth joining the workforce, a decline in academic progress and test scores, as well as reduced confidence and self-perception among students (Dwiningrum, 2017). For this reason, the research aimed to investigate the impact of school safety on the teaching and learning environment within public secondary schools located in Machakos County.

School safety measures that guarantee a safe learning environment are important for learners at any age. School safety ensures that students and teachers can focus on learning the skills that are necessary to succeed in education and future careers. Unsafe school environments affect all learners and educators, and thus school administrators should pay attention to school safety (Applebury, 2022). School safety is an issue of concern for governments and communities all over the world. In USA, the official statistics (NCES, 2017) indicate that 79% of public educational institutions record an incident of school violence at the least in a school year, averaging to roughly one-and-a half million crime incidences per year. The main safety concerns in schools in the USA include shootings, bullying and gang violence (Snyder, Brey and Dillow, 2019). In contrast to schools in USA, the main concerns in Kenyan secondary schools include strikes/riots and drug abuse.

Schools in South Africa frequently experience incidences of violence related to drugs, whereby educational institutions are infiltrated by drug traffickers and gangs with an aim of selling drugs and weapons (Simpson, 2021). Cases of abductions, assault and rape are common among school children (Udali, 2020). While use of weapons is not a challenge in Kenyan secondary schools, drug abuse is a problem

facing many schools in the country, including Machakos County where this study was conducted (Makau, 2019).

Gautham, Gururaj, Nadig, Roy and Nair (2020) carried out an investigation of the status of safety in educational institutions in Kolar and Bengaluru regions in India. School safety was assessed using a researcher-developed school safety appraisal tool which covered the following domains: macro-level safety appraisal, physical facilities, transportation wellbeing, fire security as well as first-aid service. Data was summarized by computing the safety level percentage for each school based on scores obtained in each domain. The results of the assessment showed that the overall school safety level was low and the schools had not met the threshold set in the policy documents. These findings by Gautham et al. (2020) suggest the importance of improving safety situation in educational institutions. The reviewed studies show that in countries such as USA and South Africa, focus was on violence and gangs. In this study, the researcher focused on safety of physical environment, institutional climate and students' behaviour as the domains of school safety.

2.3 Influence of School Safety on Teaching and Learning

Studies from different regions show that safety in educational institutions is vital for learners to study and perform well in examinations. In particular, researchers have demonstrated that unsafe educational institutions are associated with absenteeism, low levels of school connectedness, disengagement and lack of motivation among learners (Kibriya *et al.*, 2018). Students in schools that are considered unsafe are also reported to exhibit higher instances of issues like diminished self-esteem, low concentration in class, depression, and other mental health problems (Dune, Sabate, Bosumtwi and Owusu, 2013). These factors can have negative implications on the

teaching and learning process, as the studies reviewed below have shown. To mitigate these adverse consequences, teachers and school administrators can help by creating a supportive and inclusive school environment through programs that promote mental well-being, fostering open communication channels, and organizing workshops on coping mechanisms can contribute to enhancing students' self-esteem. Additionally, comprehensive safety assessments, effective disciplinary policies, and targeted interventions against bullying and harassment contribute to cultivating a secure and positive school atmosphere. Through these efforts, educators and administrators can collectively contribute to fostering a safe and supportive learning environment that nurtures students' mental health and overall well-being.

A study conducted in Nyeri and Nairobi Counties by Wanderi (2018) investigated on the impact of safety in schools on the quality of high school education. The researcher made use of a descriptive research approach, with a sample of 383 students and 44 principals/deputy principals. The results of the study were that the physical infrastructure in the schools was not safe since most of the institutions did not comply with the requirements of the safety standards manual. Wanderi (2018) also found that school safety had a significant influence on the teaching and learning process in the institutions both in Nyeri and Nairobi City counties. While this study by Wanderi was conducted in Nyeri and Nairobi City counties, the proposed study will be conducted in Machakos County. A key consideration is whether these findings by Wanderi (2018) can be applied or generalized to other counties, especially considering the diverse contexts and challenges that schools may face in different regions.

Another study conducted in Nigeria by Salahudeen (2022) sought to examine how safety of institutional environment influences learner academic achievement in the high schools within Lagos State. This research was done among one hundred teachers. Data were obtained using questionnaires. The outcomes of the research indicated that the schools in Lagos State Nigeria had unsafe facilities and equipment, and that school safety issues and student discipline measures were not strictly enforced in most of the institutions. The results further found that institutional safety significantly influenced the performance of the learners in examinations. This study by Salahudeen (2022) therefore implies that school safety influences teaching and learning process, which is indicated by poor achievement in academics. Salahudeen (2022) nonetheless relied only on the views of teachers as it did not involve a sample of students. This study was conducted with a sample of students in order to get their views on school safety and the teaching/learning process in the educational institutions in Machakos County.

Studies on school safety in relation to student learning outcomes have also been conducted in developed countries. For instance, Duszka (2015) did a research in USA to look at the influence of school safety on the academic achievement of learners in schools in Miami-Dade Public School district. The research was done in 359 public schools, among which 229 were elementary schools, 75 were middle schools, and 55 were high schools. The researcher utilized a panel random effects model with robust standard errors. Academic achievement was assessed using schools' standardized testing. On the other hand, school safety was assessed using the annual School Climate Survey results. The aim of the school climate survey is to collect data on learner perceptions regarding a number of safety issues in their

school. Duszka's (2015) findings indicated that there existed correlations between student perception of school safety and academic performance. Nevertheless, the research found no relation between perceptions of safety and student performance at the high and middle school levels. This implies that the outcomes of the study by Duszka (2015) were inconclusive, and this study sought to reconcile these conflicting findings.

In the neighbouring country Tanzania, Kibriya and Jones (2021) did a research to examine the effect of the safety of school learning environment on learning outcomes of secondary school students. Academic performance was measured using examination scores for mathematics and language, whereas school safety was measured using school principals' perception of the safety of the institutional environment. The outcomes of the study showed that perception of the school as unsafe had a negative impact on academic performance. This study by Kibriya and Jones (2021) focused on perceptions of school principals regarding school safety, meaning the voice of students regarding this variable were not captured, and this will be captured in the proposed study. The studies reviewed above show that, although there has been effort to establish how schools safety influences academic performance, much of the research was conducted outside Kenya in countries such as USA, Nigeria and Tanzania. The study by Wanderi in Kenya was conducted in Nyeri and Nairobi City counties. The current study was conducted in Machakos County with one of the objectives being to examine how school safety affects teaching and learning in public secondary schools in Machakos County.

2.4 Perceptions of School Safety and Academic Performance

The way learners and educators perceive their school environment is an important determinant of attitudes formed toward the school and feelings of connectedness to school. The perceptions that students have toward school and school events can influence their emotions and behaviours, and in turn their emotional and behavioural reactions contribute in shaping the school learning environment as well as skewing beliefs of the learning environment. In a study conducted in the USA by William, Shneider, Wornall and Langrichsen-Rolling (2018), learner perception of institutional safety were correlated with absenteeism associated with feeling unsafe in school. The predictors that were considered in the study included: being a victim of bullies, relationship with significant adults (teachers and parents), clarity and uniformity of school rules and regulations, positivity or negativity of the learning environment, and learners' sense of belonging in school. The research was done using 585 students from public high schools in the US. It was established that 25 percent of the students perceived their schools to be unsafe, while 15 percent of the students failed to attend school as a result of feeling that they were not safe in their schools. Upon further analysis of the data, Williams *et al.* (2018) established that student perceptions of their schools as unsafe decreased when there was an increase in good relationships between students and teachers, when rules were applied consistently, when the school physical environment was tidy, and when students' sense of belonging in school was high. On the other hand, it was established that students avoided going to school when there was low sense of belonging and when there were poor relationships between students and teachers. These findings by Williams *et al.* (2018) underscore the diverse nature of factors influencing students' perceptions of school safety. Positive relationships, consistent rule enforcement, a

tidy physical environment, and a sense of belonging all play crucial roles in shaping how students perceive the safety of their school. Addressing these aspects positively can contribute to creating a secure and supportive school environment.

Another study by the US National Center for Education Statistics (2022), learners aged between twelve and eighteen years were required to indicate the rate at which they felt fearful of getting attacked or injured both in and outside their school grounds for the past 12 months. The results were that, about five per cent of the learners expressed fear of being attacked or harmed at school during the past 12 months compared to the percentage of learners who reported similar fears outside of the school setting during the same period. This implies that students felt more unsafe at school than away from school. This raises concerns about the efficacy of current safety measures within school environments and emphasizes the need for a comprehensive reassessment of school safety protocols. Understanding the factors contributing to students' heightened sense of insecurity at school can inform targeted interventions aimed at creating a safer and more supportive learning environment.

Barnhardt (2020) carried out a research of the perceptions of high school learners regarding how safe and secure their school environment is. The study was done using a qualitative research approach, whereby interview guides, focus-group discussions and observation guides were used to carry out the research. The researcher was interested in establishing how students experience their school environment, as well as what they believed and hoped for the security and safety situation in the schools. The outcomes of the research were that majority of the learners felt safe while in school. Barnhardt (2020) further established that those students who had positive relationships with peers and teachers had more positive

perceptions of school safety. The researcher however found that there were some school procedures that made learners feel unsafe, such as how safety rules are implemented. Barnhardt's findings, indicating that a majority of learners felt safe in school, corroborate with the notion that students' perceptions of safety are important in shaping their overall well-being within the educational setting. The revelation that positive relationships with peers and teachers correlate with more positive perceptions of school safety is particularly relevant to the current study. It reinforces the importance of fostering positive interpersonal connections within schools, aligning with the broader focus on how safety measures, relationships, and overall school environment influence academic achievement in the specific context of Machakos County.

Research conducted by Hochfeld, Schmid, Errington and Omar (2022) focused on the perceptions of students towards school safety in Johannesburg, South Africa. The research was carried out among 1780 high school students who were sampled using convenience sampling technique. The students were asked two questions that probed their biggest worries at school and what they hoped to see done about their worries. As it turned out, the concerns raised by students indicated that they experienced their schools as unsafe. The main concerns raised by students included coercion and violence against students either by teachers or by other students within the school compound. However, the students generally considered the school physical environment to be safe. The students suggested that bullies and instigators of violence in schools should be punished, and teachers should become more accountable in the way they handle students.

Adebiyi, Akinyemi and Sangowawa (2022) carried out a study in Nigeria to establish the perceptions of high school students regarding safety at school and in the community. The study adopted a cross-sectional research design and was done using a sample of 364 students. A researcher-designed questionnaire was used for gathering data. The results of the study were that, 50 percent of the students held the perception that their schools were safe, 42 percent considered their schools to be unsafe, while eight percent of the students were undecided. On the other hand, 73 percent of the students considered the community to be safe, 18 percent viewed their communities as unsafe, while nine percent were undecided on this. The researchers concluded that, students in south Africa viewed their schools to be unsafe, with the issues of most concern being drug abuse and presence of gangs. More students viewed the community to be safer than the schools. The findings of this study underscore the importance of recognizing and addressing students' subjective views on safety, with a significant proportion expressing concerns about their schools, particularly pertaining to issues like drug abuse and the presence of gangs. These insights emphasize the need for targeted interventions to enhance the safety measures within schools, ensuring a secure and conducive learning environment for high school students.

In Kenya, a study conducted by Atugi and Njeru (2018) utilized a survey of secondary data sources to establish perceptions of teachers and educational administrators regarding disaster awareness and preparedness of the educational institutions. The review indicated that there was low awareness and preparedness of educational institutions in Kenya to deal with safety and security issues. Most of the educational institutions were ill-equipped to deal with disasters in case they arise.

The study also indicated that there were many barriers that should be dealt with in order to enhance disaster preparedness and safety in schools, the most significant of which is perceptions of school administrators and teachers regarding disaster preparedness. While these past studies have focused on perceptions of students about school safety, no clear link was established between this and students' academic performance. This means that it is not possible to tell from the previous studies whether it is school safety alone that influences performance, or student perceptions about safety plays a role. This study aimed at addressing this research gap.

2.5 Strategies for Improving School Safety

Research conducted by the proponents of the Effective Schools movement such as Lezotte (2010) has shown that one of the correlates of effective schools is school safety, which is characterised by a structured, focused, professional ambiance that is devoid of any potential physical danger. The overall school climate is not restrictive and promotes an environment conducive to effective teaching and learning. Lezotte (2010) suggests that institutions should extend their efforts beyond the mere elimination of unwanted behavior and prioritize teaching learners the essential behaviors that contribute to a safe and well-organized school environment. These desired behaviors encompass collaborative team-based learning, embracing and respecting human diversity, and fostering an appreciation for democratic values (Lezotte, 2010). It is crucial for teachers to serve as role models by exhibiting these desirable behaviors themselves.

Research by Gotfredson, Gotfredson, Payne, and Gotfredson (2015) has established manifold determinants associated with the institutional climate that have a positive

impact on school safety. Gotfredson, *et al.* (2015) further states that the key elements for a positive school environment encompass a sense of security and well-being, setting high standards for both academic progress and conduct, fostering a sense of belongingness to the school and wider community, and providing substantial support from the administration to both the school staff and students, with a focus on academic success and the development of social skills. Further research by Green and Ross (2018) has shown that successful school safety programmes focus on regular assessment of learner attitudes and perceptions regarding the aforementioned areas and seeking ways for improving those found not to meet the expected outcomes.

For efforts aimed at improving school safety to bear fruits, educators and communities must adopt a holistic approach to school safety. According to Community Oriented Policing Services (2020) of the USA, the crucial strategies for improvement of school safety should be based on a number of basic principles. These include: assuming an objective approach to enhance school safety and the protection of all pupils and workers within the school, taking an integrated approach reflecting on all the aspects of school safety; using multidiscipline approaches that brings together all adults in the school and concerned government authorities; and focusing on preventing schools from security threats (COPS, 2020). These basic principles of school safety are based on the assumption that approaches to safeguarding learners should adopt a holistic approach, meaning they should be all-encompassing and encompass multidisciplinary planning and execution. Inclusive institutional safety and security plans encompass preventive measures, response

strategies, and recovery protocols for addressing mass casualty attacks and other perilous incidents.

A review of school safety improvement measures conducted by OECD (2014) found that the OECD countries had adopted proactive approaches to school safety, but not all of them were fully comprehensive in their approach. The review found that, effective schools safety improvement programmes are comprehensive in nature, and include the following salient features: engaging and rallying essential stakeholders within schools, such as teachers, learners, families, government and community agencies, and the private entities; collaboratively conducting a thorough examination of local issues related to the school; formulating localized action plans; executing and assessing both short-term and long-term results; and adapting and creating initiatives to address evolving needs (OECD, 2014). These insights provide valuable guidance for the current study's objective of establishing strategies for the improvement of school safety in Machakos County. By adopting a comprehensive and collaborative approach, involving key stakeholders, and addressing localized issues, the study aimed to contribute to the development of effective and context-specific safety improvement initiatives in high schools within the county.

Sprague and Walker (2022) argue that ensuring safety in schools necessitates a collective endeavor involving diverse community stakeholders, such as teachers, students, parents, law enforcement entities, businesses, and faith-based organizations, among others. By embracing a comprehensive strategy that encompasses preventing, intervening, and responding, the school can enhance the safety and protection of their learners. The authors suggest five strategies that schools can adopt in designing school safety improvement programmes. The first

strategy is enhancing school security by effectively deploying school security technologies, engaging school staff, and implementing crime deterrence measures by the application of standards and techniques related to environmental design.

The second strategy is addressing the peer culture and its problems in order to transform destructive peer culture. The third strategy entails involving parents in making the school safer. The fourth strategy is creating a positive, inclusive school culture based on positive values. The fifth strategy is developing a printed copy of school's security and disaster-response plan (Sprague and Walker, 2022). While organisations dealing with school safety have proposed strategies for promoting safety in schools, the reviewed reports have not shown whether those strategies would be effective in developing countries like Kenya. Most of the identified strategies were designed for developed countries such as the OECD nations. This research aimed at finding out the strategies that can be used effectively in Kenya. Sprague and Walker's strategies provide a holistic and actionable framework that directly correlates with the objectives of the study in Machakos County. By adopting and adapting these strategies, the study aimed at contributing to the development of effective and context-specific school safety improvement programs in the specific educational landscape of Machakos County.

2.6 Challenges facing Adherence to School Safety Standards

Ensuring the safety of students and staff within educational institutions is a fundamental priority for school administrators and policymakers alike. However, the effective implementation of school safety standards is often impeded by various challenges. One significant barrier is the issue of limited funding, which has been extensively explored in the literature. Sigei (2022) conducted a study examining the

challenges faced by schools in implementing safety measures in Nakuru County. Through surveys and interviews with school administrators, the researcher found that inadequate budget allocations hindered schools' ability to invest in school safety measures, such as emergency equipment and infrastructure maintenance. The study underscored the importance of increased funding to address safety gaps and promote a secure learning environment for students.

In addition to financial limitations, inadequate training and awareness among staff pose another significant challenge to adherence to safety standards. Musyoka (2023) investigated this issue in a study that investigated the preparedness of schools for the implementation of national health strategic plan in public secondary schools in Machakos County. The study revealed gaps in staff training, with many teachers and administrators lacking the necessary knowledge and skills to respond effectively to safety threats. This deficiency in training highlighted the need for targeted professional development initiatives to enhance staff preparedness and promote a culture of safety within schools.

Furthermore, staffing shortages present a pervasive obstacle to maintaining safety standards in educational settings. Pope (2022) conducted a study investigating the impact of staffing shortages on school safety practices. Through surveys and focus groups with school leaders, the study identified staffing constraints as a significant barrier to conducting regular safety inspections and monitoring student behavior. The findings underscored the critical role of adequate staffing levels in ensuring effective safety oversight and highlighted the need for strategies to address staffing challenges within schools.

External threats and environmental factors also contribute to the complexity of school safety challenges. Bradshaw and Cohen (2021) explored this issue through a qualitative analysis of school safety incidents and responses to external threats. Their research highlighted the need for comprehensive preparedness measures to address diverse threats, including natural disasters and community violence. By understanding the multifaceted nature of external threats, schools can develop proactive strategies to mitigate risks and enhance safety preparedness. Additionally, regulatory compliance and accountability present ongoing challenges for schools striving to adhere to safety standards. Wiseman (2019) examined the regulatory landscape surrounding school safety and identified compliance issues as a significant barrier to effective safety management. The study emphasized the need for streamlined regulatory processes and increased support for schools to meet compliance requirements. It therefore emerges that, addressing the challenges faced by schools in adhering to safety standards requires a multifaceted approach that encompasses increased funding, targeted training initiatives, staffing support, comprehensive preparedness measures, and streamlined regulatory processes. By addressing these barriers, schools can enhance their capacity to create safe and supportive learning environments for all stakeholders.

2.7 Summary of Literature Review

In this section, an examination of the studies related to the research objectives has been presented. The review has focused on the status of safety in schools, the effects of institutional safety on teaching/learning process, and the perceptions of school safety and academic performance. The reviewed literature has shown that learners in schools all over the world are often at risk of disasters, both natural and manmade.

Literature has revealed that in developed countries such as the USA, safety concerns include school shootings, bullying and gang violence (Snyder *et al.*, 2019)' while in South Africa the main concerns are assault, rape, violence related to drugs, and weapons (Simpson, 2021). The reviewed studies have shown that school safety affects the teaching/learning process in schools as evidenced by Salahudeen (2022). The study by Salahudeen (2022) was carried out using a sample of teachers and did not involve students. Similarly, the research by Kibriya and Jones (2021) focused on perceptions of school principals regarding school safety, while in the proposed study the researcher will collect data from students, teachers and principals. Other researchers such as Duszka (2015) have reported inconclusive findings regarding effect of institutional safety on the performance of learners. The present research hoped to address these research gaps by finding out the effect of institutional safety on KCSE performance in secondary schools of Machakos County, Kenya. Table 2.1 provides a summary of the literature and research gaps to be filled.

Table 2.1: Summary of Literature and Gaps

Author	Title	Gaps identified	Gaps to be filled
Kibriya, Zhou, Zhang and Fatema (2018)	Effects of school safety on academic achievement	Oral reading fluency in English was used as indicator of academic performance. Study was done in Rwanda, Tanzania and Zambia	In the current study, performance was measured using KCSE performance. The study was done in Machakos County, Kenya.
Karr (2019).	Psychological impact of disasters on children.	The study was based on desk review of secondary literature. It was limited to safety issues related to natural disasters	The current study was based on primary data of school safety in terms of school safety, school climate and student behaviour
Udali (2020)	Learners and staffs awareness on safety in schools in Trans-Nzoia County.	The study only focused on awareness of safety measures, and did not relate this with academic performance	This study established effects of school safety on academic performance. The study was done in Machakos County
Gautham, Gururaj, Nadig, Roy and Nair (2020)	Safety status of school in Kolar and Bengarulu regions of India.	The study was conducted in India, and did not show the effects of safety on academic performance	The current study was conducted in Machakos County, Kenya. It focused on how safety affects academic performance
Wanderi (2018).	Effects of safety on quality of learning in schools in Nyeri and Nairobi Counties.	The study was conducted in Nairobi and Nyeri Counties	This study was conducted in Machakos County.
Salahudeen (2022)	School safety and student achievement in schools of Lagos State, Nigeria.	The study relied only on the views of teachers and did not involve students.	The study focused on students to get their views on school safety and academic performance in Machakos County.

Author	Title	Gaps identified	Gaps to be filled
Duszka (2015)	The effects of school safety on school performance.	The study gave inconclusive findings on the relationship between school safety and academic achievement. The study was done in USA	This study was done in Machakos County, seeking to reconcile the inconclusive outcomes on school safety and academic performance
Kibriya and Jones (2021)	The impact of a safe schools on learning outcomes: evidence from Tanzania	The study focused on perceptions of school principals regarding school safety, meaning the voice of students regarding this variable were not captured	The study included students in the sample, in order to understand their views regarding school safety and how it affects academic performance
Williams, Schneider, Wornell and Langhinrichsen-Rohling (2018),	Students' perceptions of school safety	The study was done in USA, and did not show how school safety affects academic performance	This study was done in Machakos County, and focused on the effects of school safety on academic performance.
Barnhardt (2020)	Student perceptions of school safety and security.	The study used a qualitative research design, using interview guides, focus-group discussions to collect data	This study used a quantitative research design, using questionnaires to collect data.
Hochfeld, Schmid, Errington and Omar (2022)	Learners' perspectives on school safety in Johannesburg	The study was conducted in South Africa	The study was conducted in Machakos County, Kenya.
Atugi and Njeru (2018)	Safety status in Kenya's learning institutions.	The study relied on secondary data sources focusing on teachers	This study used primary data sources and included students in the sample.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this section, the research methodology employed for conducting the study is outlined. The chapter delves into various aspects, including the research design, the intended population, the sample size and selection methods, the instruments utilized for data collection, the techniques employed for data collection, the reliability and validity considerations, as well as the approach to data analysis.

3.2 Research Design

The study employed a descriptive survey research design to gather the necessary data. Descriptive research designs are utilized to address questions related to who, what, when, where, and how concerning a specific research problem. As Given (2007) notes, descriptive research aims to acquire information about the current state of a phenomenon and to describe the existing variables or conditions in a given situation. This design was chosen for the study as it allowed the researcher to explore the prevailing conditions in the field without directly manipulating the variables under investigation. It was thus well-suited to collect data on the safety status of secondary schools within Machakos County and to examine the influence of school safety on the educational process and student achievement.

3.2.1 Variables

The independent variable of this study was school safety, whose indicators included physical safety, school climate and student behaviour. The dependent variable in this research is academic performance as measured using the schools' KCSE

performance. Intervening factors that were considered include enrollment and locality of schools.

3.3 Research Methodology

The research utilized a mixed-methods approach to explore the impact of school safety on the academic performance of high school students in Machakos County, Kenya. The quantitative component involved distributing structured questionnaires to a representative sample of both high school students and teachers across the county. The questionnaires included sections to measure perceptions of school safety, academic achievement, and relevant socio-demographic variables. Additionally, academic performance records were obtained for objective data on student achievement. The qualitative phase consisted of in-depth interviews with selected participants to gain deeper insights into their experiences and perspectives regarding school safety and its impact on academic outcomes. This mixed-methods approach aimed to triangulate findings, providing a more comprehensive understanding of the association of school safety and academic achievement in the specific context of Machakos County.

3.4 Location of the Study

The location of the study was Machakos County in Kenya. Machakos County is one of the 47 counties in Kenya and is situated in lower the Eastern part of Kenya. The County comprises of 8 sub-Counties. The main economic activities that the County is known for are harvest and sale of sand and processing of cement. Researchers such as Makau (2016) and Mutiso (2019) have found educational institutions in the region were yet to fully implement the MoE safety directives. There have also been concerns about the poor performance posted by secondary schools in Machakos

County as compared to other regions in Kenya (Mutuku, Kanyili and Arasa, 2021; Mulinge, Mulwa and Kanyili, 2021). This made Machakos County ideal for the study on the effects of school safety on the performance of learners.

3.5 Target Population

This research targeted all learners, the teaching staff and principals in all the 332 public secondary schools in Machakos County. These schools were comprised of two National schools, 30 extra-County schools, 93 County schools, and 207 sub-County schools. Table 3.1 shows the distribution of the schools that were targeted.

Table 3.1: Distribution of public secondary schools in Machakos County

School type	Number of schools
National	2
Extra County	30
County	93
Sub-County	207
Total	332

Table 3.2 indicates the overall population of potential participants for the research. The study targeted all the 84,800 students, 2,954 teachers, and 332 principals in the 332 public secondary schools in the County (CDE, Machakos County, 2023).

Table 3.2: Distribution of targeted respondents

Target respondents	Population
Students	84,800
Teachers	2,954
Principals	332
Total	88,086

3.6 Sampling Techniques and Sample Size

3.6.1 Sampling Techniques

This research employed a multi-phase sample selection approach that combined both probability and non-probability sampling methods. Stratified sampling was utilized to sample institutions, dividing the sampling frame into distinct and non-overlapping segments based on factors such as location, age grouping, and sex. This stratification process aimed to enhance precision by ensuring that individuals within the same strata are the same in terms of the features of interest. Consequently, stratification was based on the 8 sub-Counties in Machakos. Thereafter, stratification of schools was done based on school-type by gender. Out of every so-selected stratum per subcounty, one institution was randomly sampled, to give the required number of schools to be included in the study.

3.6.2 Sample Size

To get a representative sample from the target population of 84,800, the researcher used the formula below (Krejcie & Morgan, 1970).

$$s = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

Where:

$$X^2 = 3.84$$

N = Target population

$$P = 0.5$$

d – degree of accuracy (0.05)

By using this formula, we obtained 382 (0.5% of all the students) as the sample of learners needed from the targeted 84,800 students. In order to increase response rate, however, 400 learners were sampled. The 400 students were selected from 20 public secondary schools in Machakos County, with each school contributing 20 students.

Stratified random sampling was utilized to select ten schools from those that perform well in KCSE and ten from those that perform poorly in KSCE. This allowed for comparisons to be made on the safety status of schools that post good results and those that post poor results. The researcher employed a random sampling technique to select 20 students from Form 2 and Form 3 classes in each of the sampled schools. Additionally, purposive sampling was utilized to select two teachers and the principal from each of the sampled schools. The final sample was therefore comprised of 400 students, 40 teachers and 20 principals, as shown in Table 3.3.

Table 3.3: Sample size distribution

Respondent	Population	Sample size	Percentage
Students	84,800	400	0.5%
Teachers	2,954	40	1.5%
Principals	332	20	6.0%
Total	88,086	460	0.5%

3.7 Research Instruments

The study employed questionnaires for both students and teachers, as well as interview schedules for principals to gather data. The questionnaires were specifically designed to collect information from teachers and students regarding the impact of school safety on achievement in academics. The questionnaire was considered ideal as it helps in obtaining data that can be compared. A questionnaire is free from the bias of the investigator, and the responses given to a structured questionnaire can be summarized in numbers to enable computation of inferential statistics to effectively answer research questions. The questionnaires were comprised of these sub-sections: Part one collected sociodemographic information of the teachers and learners, like gender, class, and the types of schools. Part two focused on students' views on the safety status of their schools. The third section had items to assess how school safety affects teaching and learning in the schools and the KCSE performance of the schools. Part four was on students' perception of institutional safety. The interview schedule was designed to help the interviewer in conducting face-to-face interviews with the school principals, focusing on the status of safety in the schools, the impact of safety on teaching/learning process, and strategies that could be employed to improve school safety in Machakos County.

3.8 Pilot Study

Before collecting information for main research, piloting process was done in five schools from the neighbouring Nairobi County. The pilot study respondents were 40 students who were purposively selected from four schools. The main goal for piloting was to gather information that is needed for use in confirming that the tools are valid and reliable.

3.8.1 Reliability

Reliability is characterized as the degree to which the instrument produces consistent data or results when subjected to repeated testing (Mugenda and Mugenda, 2013). To assess whether the tools are reliable enough, the investigator employed the test and retest strategy, whereby the tool was issued to piloting sample two times with a break of about 14 days. This was then followed by establishing the correlation index of the two sets of administered tools. Subsequent analysis resulted in a correlation coefficient of 0.781, which indicated that the questionnaire was reliable.

3.8.2 Validity

Validity means the accuracy, or correctness of any deduction made out of statistics obtained in a research (Gall, Gall & Borg, 2007). Put in other terms, validity means the measure of how much the outcome of an investigation is indicative of the variable that is studied. An instrument is said to have content validity when the tool has all the information related to the area of study that the tool has been designed to assess. The researcher used expert judgement, whereby the investigator designed the questionnaires using close guidance of content-area specialists, who were tutors in the School of Education. Advice from these specialists was considered while developing the instruments, thus improving content validity.

Construct validation entails the process of ensuring that the tool has a high degree of internal uniformity as relates to the theoretical basis for the variable being evaluated. This implies that, when a questionnaire possesses construct validity, the score obtained in separate questionnaire statements ought to have a high correlation with the overall scores, which provides confirmation that such a tool is assessing one unified construct. Additionally, piloting tool was inspected to spot those questions that could have ambiguities or confusion for the participants and such questions were revised in order to enhance validity.

3.9 Data Collection Techniques

A preliminary note was acquired from Kenyatta University to allow for issuance of research authorization (permit) by NACOSTI. After this, the investigator visited the office of the Education Director, Machakos, to get a go ahead to carry out the study. This was followed by booking of appointments with administrators of the sampled institutions. Afterwards, the investigator personally visited every chosen school and distribute the data collection instruments. The pertinent instructions were read to the chosen participants, and this was followed by allowing them sufficient time fill in the questions.

3.10 Data Analysis

The investigator ensured that all the returned instruments were fully responded to, after which all information was fed in the computer spreadsheets to be analysed. The study produced information that necessitated to be analysed both quantitatively and qualitatively. Quantitative data was analysed using descriptive statistics, including calculating frequencies, percentages, and standard deviations. Additionally, statistical analysis was done through the application of the Pearson Product-Moment

correlation coefficient, with a significance level set at 0.05. To enhance the precision of quantitative computations, the researcher utilized the Statistical Package for Social Sciences (SPSS) Version 20 for data analysis. Table 3.4 shows the processes that was employed in analysing data associated with each research objective.

Table 3.4: Data Analysis procedures

Research objective	Independent variable	Dependent variable	Data analysis procedure
1. To establish the safety status of public secondary schools within Machakos County, Kenya.	Schools' safety status	Academic performance	Frequencies, percentages, mean and standard deviations,
2. To examine how school safety affects teaching and learning in public secondary schools in Machakos County.	School safety	Teaching and learning process	Frequencies, percentages, mean and standard deviations,
3. To establish whether secondary school students' perception of safety in school correlates with their academic performance.	Students' perception of school safety	Academic performance	Correlation analysis, Frequencies, percentages, mean and standard deviations,
4. To find out the strategies being employed to improve safety in secondary schools in Machakos County.	School safety	Strategies employed in schools	Frequencies, percentages, mean and standard deviations,
5. To determine the challenges to adherence to school safety standards in Machakos County.	School safety	Challenges faced by schools	Frequencies, percentages, mean and standard deviations,

Regarding data of qualitative nature, the approach of content examination was utilized, in which case the qualitative data gathered from open-ended questions and interviews were organized and classified. This facilitated the process of classifying,

summarizing, and tabulating the data in a way that attributes meaning to the data. The investigator allocated codes to identified themes, after which the themes were arranged into a range of categorizations of associated topical issues emanating from the opinions and views raised by respondents. Finally, the data were tabulated for ease of reporting and interpretation.

3.11 Logistical and Ethical Considerations

The investigator obtained consent to conduct the study from NACOSTI. Thereafter, the investigator obtained clearance to collect data from the County Director of Education Machakos County. An appointment was then booked with the administrators of schools to visit the institutions and collect data. The researcher personally collected data from students and teachers, and interviewed the principals in order to get in-depth information. All participants were assured of confidentiality. The information gathered for purposes of this study was kept safely and well secured.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This section provides an overview of the study's findings and a thorough discussion of the results. The study aimed to examine the impact of school safety on the academic achievement of secondary school students in Machakos County, Kenya. The chapter outlines findings concerning the current state of school safety, the correlation between students' perception of safety and academic performance, strategies implemented to enhance school safety, and challenges faced by school administrators in adhering to safety standards.

4.2 Demographic Data

The data for this study was collected from 20 secondary schools in Machakos County. The study targeted 400 students, out of which 396 students returned questionnaires that were fully filled. This represents a students' questionnaire return rate of 99%. Among the students were 208 (52.5%) boys and 188 (47.5%) girls. Table 4.1 shows the distribution of the students by category of schools.

Table 4.1: Student distribution by category of schools

Category of school	Gender		
	Boys	Girls	Total
Boys boarding	36	0	36
Girls boarding	0	58	58
Mixed day and boarding	44	40	84
Mixed day	128	90	218
Total	208	188	396

Table 4.1 indicates that there were four categories of schools included in the analysis: boys boarding, girls boarding, mixed day and boarding, and mixed day

schools. There were 36 boys from boys boarding schools and 58 girls from girls boarding schools. In mixed day and boarding schools, there were 44 boys and 40 girls, totaling 84 students. Finally, in mixed day schools, there were 128 boys and 90 girls, totaling 218 students. Overall, when considering all categories of schools together, there were 208 boys and 188 girls, with a total of 396 students.

The above distribution of students by gender across various categories of schools is well balanced, thus providing representative data for the study. Firstly, each category of school includes both boys and girls, ensuring that both genders are adequately represented in the sample. The balanced distribution ensures that the study captures perspectives and experiences from both male and female students across different types of schools, contributing to the richness and diversity of the dataset. Consequently, the findings derived from such a representative sample are likely to be more generalizable and applicable to a wider population of students, thus enhancing the credibility and validity of the study's conclusions.

Figure 4.1 presents the age distribution of the learners who took part in the study. From the Figure, it emerges that there were 187 (47.2%) students aged 16 years, 169 (42.7%) were 17 years old, 32 (8.1%) were 18 years old while 8 (2.0%) were 19 years old. The age distribution of the students, as indicated in Figure 1, informs the study on the effects of school safety on academic performance in several ways. First, it highlights the diversity within the student population, with the majority falling within the 16 and 17-year-old age brackets. This underscores the importance of considering developmental stages and associated safety needs, particularly during adolescence, when students may face unique challenges and vulnerabilities.

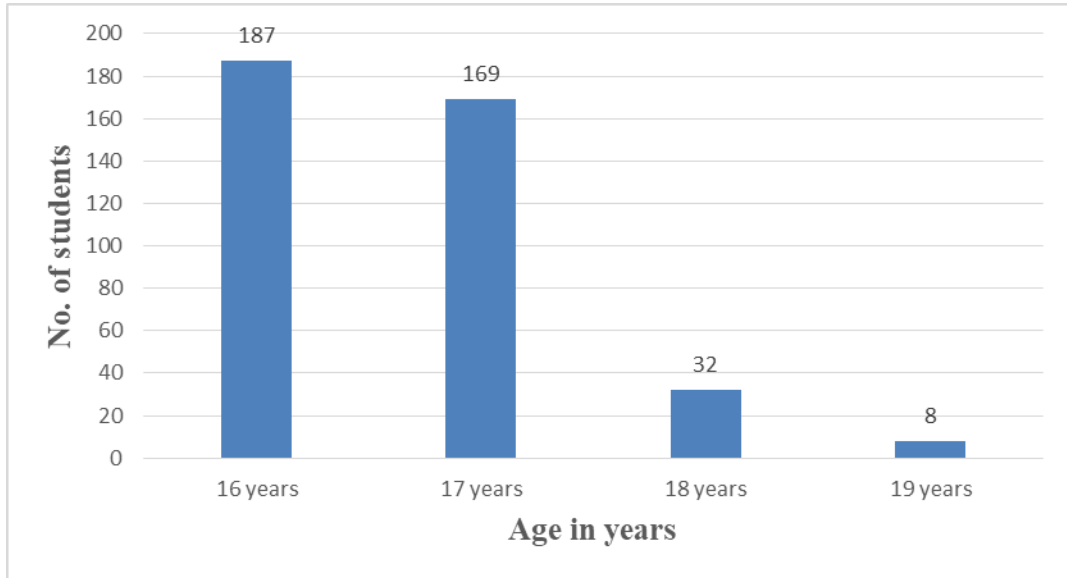


Figure 4.1: Age distribution of the students

Understanding the prevalence of different age groups allows for the customization of safety interventions to address the specific needs and concerns of students at various stages of their development. Additionally, the distribution emphasizes the critical role of schools in supporting the well-being and safety of adolescents, who may be navigating complex social, emotional, and academic transitions during this period. By tailoring safety programs to meet the needs of students within the adolescent age bracket, schools can foster environments that promote not only academic success but also holistic development and well-being.

4.3 Status of School Safety

The first objective of this research was establishing the safety status of secondary schools within Machakos County, Kenya. The data for safety status of the schools was collected from the students using 24 items, covering classroom safety, dormitory safety, dining hall safety, toilets and playgrounds safety, and school social environment safety.

4.3.1 Students' perceptions of school safety

The students were instructed to provide their responses using a 5-point Likert scale, where they could indicate their level of agreement or disagreement with statements presented. This scale ranged from 1, representing "Strongly Disagree," to 5, representing "Strongly Agree." Table 8 shows the means and standard deviations obtained by students on the status of school safety. From the table, it emerges that in terms of classroom safety, students generally feel that their classrooms are overcrowded, with a mean score of 3.70, indicating a moderate level of agreement. The ventilation in classrooms is perceived to be inadequate, with a mean score of 2.49, suggesting disagreement among students. Most students agree that windows in their classrooms have grills (mean = 3.27) and doors/windows open towards the outside (mean = 3.46), indicating some level of safety precautions. However, the adequacy of desks, lockers, and tables is perceived to be lower, with a mean score of 3.11, indicating some dissatisfaction.

Table 4.2: Students' perception of status of school safety

Classroom Safety	f	Mean	Std. Dev.
We are more than 45 students in my classroom	396	3.70	.83
Our classroom has good ventilation that allows good air flow	396	2.49	1.1
Every window in our classroom has grills	396	3.27	1.02
Door/windows to our classroom opens towards the outside	396	3.46	.90
Our classroom has suitable desks, lockers and tables	396	3.11	1.12
Beds in our dormitory are well arranged to create adequate spaces for passage	146	3.61	.79
Our dormitory has good ventilation for effective air circulation	146	3.48	.87
Our dormitory has two doors and additional exit for emergencies	146	3.72	.72
Dormitory doors open outwards	146	3.56	.84
Our dormitory has a fire extinguisher placed within reach.	146	3.53	.82
The dining hall in my school has enough space for all the students with comfort	396	2.69	.99
The school has well maintained and clean dining hall	396	3.94	.70
There is adequate space in the school kitchen to allow smooth working of the staff	396	3.24	.93
Toilets are adequate (1:7- one toilet for 7 students)	396	2.46	1.07
The washrooms are regularly maintained and cleaned	396	3.08	1.01
The grass on the playground is maintained at a short length	396	3.86	.81
Any hazardous objects are eliminated from the playground	396	3.05	1.02
The school is well fenced and does not allow easy access	396	3.17	.98
Students are enlightened about drug & alcohol abuse	396	2.95	1.02
Students engage in discussions and propose strategies to foster a drug-free school environment.	396	2.57	1.09
Learners receive education on methods of resisting negative peer influence effectively.	396	3.13	1.01
The school is located in an area without nearby shops so learners cannot get alcohol, cigarettes or drugs.	396	3.05	1.07
We have a guidance & counselling teacher who deals with bullying and drug abuse cases	396	3.86	.74
Students are given adequate pastoral care	396	3.18	1.00

In terms of dormitory safety, students perceived dormitory arrangements positively, with well-arranged beds (mean = 3.61) and good ventilation (mean = 3.48). The students agreed that dormitories have adequate emergency exits (mean = 3.72) and fire extinguishers placed within reach (mean = 3.53). It should be noted that the proportion of learners who replied to the items on dormitory safety was 146 out of 396, as these were the students from boarding schools. Regarding dining hall safety, the dining hall's capacity is perceived to be adequate by students (mean = 2.69), although not overwhelmingly positive. However, the dining halls are perceived to be clean and well-maintained (mean = 3.94), suggesting a high level of satisfaction.

Concerning toilets and playground safety, students expressed dissatisfaction with the adequacy of toilets, with a mean score of 2.46, indicating disagreement. However, they agree that washrooms are regularly maintained and cleaned (mean = 3.08) and that the playground grass is well-maintained (mean = 3.86). Students also perceive the school as adequately fenced (mean = 3.17) and free from hazardous objects on the playground (mean = 3.05).

Regarding school social environment safety, students generally expressed dissatisfaction with education on drug and alcohol abuse (mean = 2.95) and strategies for fostering a drug-free environment (mean = 2.57). However, they agree that learners receive education on resisting negative peer influence during teaching (mean = 3.13) and that the school is located in an area with limited access to alcohol, cigarettes, or drugs (mean = 3.05). The presence of a guidance and counseling teacher dealing with bullying and drug abuse cases is perceived positively (mean = 3.86), as is the provision of adequate pastoral care (mean = 3.18).

Figure 4.2 shows the overall scores obtained by students in relation to perceptions of school safety. The scale assessing safety status of the schools had 24 items ranging from strongly agree with a score of 5 and strongly disagree with a score of 1. The highest possible score was 120 (denoting strong agreement with all items) while the lowest possible score was 24 (indicating strong disagreement with all items). The midpoint of the scale was 72, with scores above 72 indicating that a student agreed with most of the items regarding status of school safety, while a score below 72 denoted that the student disagreed with most of the items.

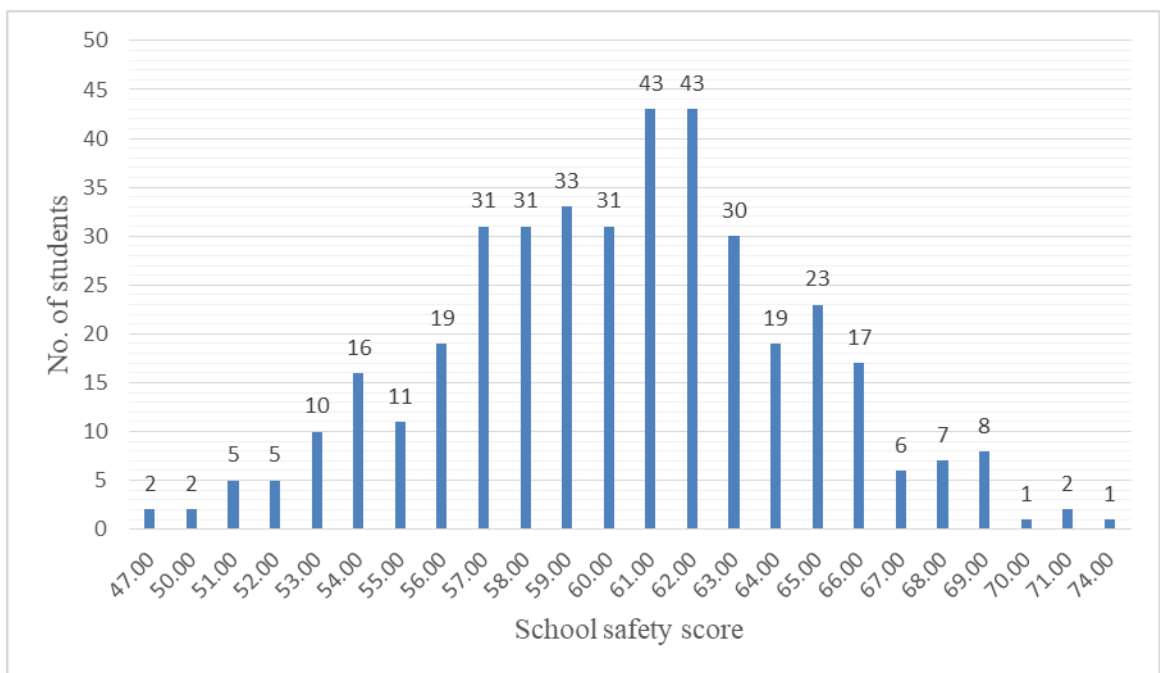


Figure 4.2: Students’ scores on school safety

The data in Figure 4.2 show that scores range from 47 to 74, with the most frequent scores clustering around the mid-range of the scale. The majority of students scored within the range of 57 to 63, indicating a moderate to strong agreement with the items related to school safety. This suggests that a significant portion of students perceived their schools to be relatively safe. However, there were also notable

proportions of students who scored below the midpoint of the scale, indicating varying degrees of disagreement with the safety-related items.

The findings presented above highlight both strengths and areas for improvement in the implementation of safety measures. For instance, while students generally perceive their dormitory arrangements positively and agree that dormitories have adequate emergency exits and fire extinguishers, there are concerns about overcrowded classrooms and inadequate ventilation, which are consistent with findings from previous studies. This suggests a recurring issue that needs attention not only in Machakos County but potentially in other regions as well.

The study findings also show the importance of maintaining cleanliness and hygiene in school facilities, such as dining halls and toilets, which aligns with recommendations from previous studies emphasizing the role of sanitation in promoting overall safety and well-being in schools (Vally, McMichael & Doherty, 2019). The study sheds light on the need for comprehensive safety education and measures to address issues such as drug and alcohol abuse, bullying, and peer influence, which have been identified as significant concerns in various studies on school safety globally (Kibriya, Zhou, Zhang and Fatema, 2018; OECD, 2020). The presence of a guidance and counseling teacher dealing with such issues is perceived positively, indicating the importance of support services in promoting a safe and conducive learning environment. These results underscore the complex nature of school safety and the importance of addressing various factors, including infrastructure, hygiene, and social dynamics, to ensure the well-being of students and staff.

4.3.2 Teachers' perception of school safety

The 40 teachers who took part in the study were asked to indicate their perceptions of school safety, using a 5-point Likert scale ranging from Strongly Disagree with a score of 1 to strongly agree with a score of 5. Table 4.2 shows the means and standard deviations obtained by teachers on their perception of school safety. The results show that the teachers generally perceived classrooms to have adequate space, ventilation, and infrastructure, although there is variability in responses regarding ventilation and suitability of desks.

Dormitory safety was rated positively by teachers, particularly in terms of ventilation and emergency preparedness, aligning with students' responses as reported in Table 4.3. While teachers indicated some concerns about the spaciousness of the dining hall, they rated cleanliness highly, similar to students' views. However, the teachers expressed more reservations about toilet adequacy compared to students. Nonetheless, perceptions of playground safety are similar between teachers and students. Regarding school perimeter wall security, teachers generally agreed on the presence of a protected and well-monitored school gate, similar to students' perceptions.

In terms of the social environment, teachers indicated lower levels of enlightenment about alcohol and drugs among students compared to students' perceptions. However, they do recognize the presence of guidance and counseling services and pastoral care. In general, while there are some discrepancies in perceptions between teachers and students, there are also notable similarities, highlighting the importance of considering multiple perspectives when assessing school safety. The discrepancies between teachers and students' responses can be attributed to the fact

that these two groups may have different levels of awareness or understanding regarding certain aspects of school safety. For example, students may not fully grasp the safety protocols in place or may overlook certain safety measures that teachers are more attuned to.

Table 4.3: Teachers' perceptions of school safety

Statement	N	Mean	Std. Dev.
The classrooms have more than 45 students	40	3.75	.899
Each classroom has good ventilation allowing good air flow	40	2.43	.91
Every window in the classroom has grills	40	3.40	.87
classroom door/windows to the opens outwards	40	3.37	1.01
Each classroom has suitable desks, lockers and tables	40	3.17	.814
Beds are well arranged to create adequate spaces for passage	16	3.50	.821
Each dormitory has good ventilation	16	3.37	.99
Each dormitory has two doors and an emergency exit	16	3.69	.704
Dormitory doors open outwards	16	3.62	.80
Each dormitory has a fire extinguisher placed within reach.	16	3.69	.64
The dining hall has enough space for all the students	40	2.90	.97
The school has well maintained and clean dining hall	40	4.05	.68
There is adequate space in the school kitchen to allow smooth working of the staff	40	3.20	.911
Toilets are adequate (1:7 students)	40	2.48	1.04
The washrooms are regularly maintained and cleaned	40	3.25	.95
The grass on the playground is maintained at a short length	40	3.75	.87
Any hazardous objects are eliminated from the playground	40	3.17	.97
The school has a protected and well-monitored school gate	40	3.18	1.01
Students are enlightened about alcohol and drugs	40	2.83	.88
Students engage in discussions and propose strategies to foster a drug-free school environment.	40	2.80	.79
Learners receive education on methods of resisting negative peer influence effectively.	40	2.80	.96
The school is located in an area without nearby shops so learners cannot get alcohol, cigarettes or drugs.	40	3.13	.92
We have a guidance & counselling teacher who deals with bullying and drug abuse cases	40	3.87	.84
Students are given adequate pastoral care	40	3.20	.99

In addition to the data collected from students and teachers, interviews were held with twenty school principals aimed to assess the safety status of public secondary schools within Machakos County. On classroom safety, the principals indicated that classrooms are generally safe and appropriate for learning. However, there were concerns raised about the need for repairs in some classrooms. One principal remarked, “Our classrooms provide a conducive environment for learning, but we need to address issues like floor tiles, painting walls, and proper roofing in some classrooms to ensure optimal safety and comfort for students.” The principals also highlighted challenges related to dining hall adequacy, noting that inadequate space leads to students serving lunch in shifts, resulting in time wastage. This issue not only affects the efficiency of meal times but also raises concerns about overcrowding and potential safety hazards during meal service.

While the principals mentioned that toilet facilities were adequate in terms of quantity, there were concerns about the need for repairs. Addressing maintenance issues is crucial to ensuring that toilets remain functional, hygienic, and safe for students to use. The principals also emphasized the importance of implementing more programs to equip learners with essential life skills beyond academic education. These programs play a significant role in promoting safety by empowering students with knowledge and skills to navigate various challenges they may encounter both within and outside the school environment.

4.4 Influence of School Safety on Teaching and Learning

The second aim of the research was to investigate the impact of school safety on the teaching and learning dynamics within public secondary schools in Machakos County. To assess this objective, data was gathered using a set of ten items, each

rated on a five-point Likert scale. Respondents were asked to indicate their level of agreement, with options ranging from 1, indicating "Strongly Disagree," to 5, indicating "Strongly Agree."

4.4.1 Students' views on school safety and the teaching/learning process

Table 4.4 presents the data from the students on their views regarding the effect of school safety on teaching and learning.

Table 4.4: Students' perceptions of school safety and teaching-learning process

Statement	N	Mean	Std. Dev.
My school provides clear and comprehensive safety guidelines that positively impact my learning experience.	396	2.86	.918
I feel safe and secure in my classrooms, which enhances my concentration during lessons.	396	3.64	.930
The presence of safety measures, such as emergency exit plans and fire extinguishers, contributes to a conducive learning environment in my school.	396	3.39	.963
The awareness of safety protocols in my school helps me focus better on my studies.	396	3.51	.910
I believe that a safer school environment positively influences the effectiveness of teaching by my teachers.	396	3.12	1.052
The implementation of safety measures in my school contributes to a more organized and disciplined learning atmosphere.	396	2.26	.860
I am confident that safety initiatives undertaken by the school have a direct impact on the quality of teaching I receive.	396	2.44	1.036
The feeling of safety in my school encourages open communication between teachers and students, fostering a positive learning environment.	396	3.41	.897
The presence of safety measures improves my overall satisfaction with the teaching/learning process in my school.	396	3.61	.831
I believe that addressing safety concerns in my school positively influences the overall academic performance of students.	396	3.39	1.001

The results in Table 4.4 show that the students had mixed perceptions regarding the relationship between school safety and the teaching/learning process. Students generally acknowledged the importance of safety measures in contributing to a conducive learning environment. They agreed that safety guidelines positively impact their learning experience (mean = 2.86) and that the presence of safety measures, such as emergency exit plans and fire extinguishers, enhances the learning atmosphere (mean = 3.39). Moreover, students believed that safety protocols in their schools help them focus better on their studies (mean = 3.51) and that a safer school environment positively influences the effectiveness of teaching (mean = 3.12). Additionally, students perceive that safety measures contribute to fostering open communication between teachers and students, thereby fostering a positive learning environment (mean = 3.41).

However, there were also areas of concern highlighted by the data. Students expressed lower confidence in the direct impact of safety initiatives on the quality of teaching they receive (mean = 2.44) and the overall organization and discipline in the learning atmosphere (mean = 2.26). Furthermore, while students indicated that the presence of safety measures improves their overall satisfaction with the teaching/learning process (mean = 3.61), there was less certainty regarding the direct influence of addressing safety concerns on the overall academic performance of students (mean = 3.39).

4.4.2 Teachers' views on school safety and the teaching/learning process

Data was also collected from 40 teachers in relation to their perceptions of the influence of school safety on teaching and learning. Their responses are as summarized in Table 4.5.

Table 4.5: Teachers' perceptions of school safety and teaching-learning process

Statement	N	Mean	Std. Dev.
I am confident that the clear and comprehensive safety guidelines in our school positively impact the learning experiences of students.	40	2.93	0.923
I believe that students feel safe in their classrooms, which enhances their concentration during lessons.	40	3.83	.813
The presence of safety measures contributes to a conducive learning environment in our school.	40	3.28	.891
The awareness of safety protocols in our school helps students focus better on their studies.	40	3.52	.877
I believe that a safer school environment positively influences the effectiveness of my teaching.	40	3.28	.987
The implementation of safety measures contributes to a more organized and disciplined learning atmosphere.	40	2.30	.823
I am confident that safety initiatives undertaken by the school have a direct impact on the quality of teaching that I provide.	40	2.30	.966
The feeling of safety in our school encourages open communication between teachers and students, fostering a positive learning environment.	40	3.33	.859
I believe that addressing safety concerns in our school positively influences the overall satisfaction of students with the teaching/learning process.	40	3.70	.723
I am confident that the presence of safety measures in our school improves the overall academic performance of students.	40	3.40	1.008

The data presented in Table 4.5 show that the teachers expressed moderate confidence in the impact of clear safety guidelines on students' learning experiences. However, they overwhelmingly believe that students feel safe and secure in their classrooms, which enhances their concentration during lessons. Teachers also acknowledged the contribution of safety measures such as emergency exit plans and fire extinguishers to a conducive learning environment. They also perceived a

positive influence of a safer school environment on their teaching effectiveness and believe that addressing safety concerns positively influences students' overall satisfaction with the teaching/learning process and academic performance. While teachers generally agreed on the importance of safety measures for an organized and disciplined learning atmosphere, their ratings are slightly lower compared to students' responses, indicating potential differences in perception. Overall, the data from teachers' responses aligns well with students' perceptions, emphasizing the importance of a safe and secure school environment for promoting effective teaching and learning.

Interviews were held with school principals aimed at explore the effects of school safety on the KCSE performance by secondary schools in Machakos County. The participating principals unanimously agreed that school safety plays a crucial role in shaping students' academic performance. One principal remarked, "When students feel safe and secure in their learning environment, they are more likely to focus on their studies and perform better academically." The principals highlighted that a safe and secure school environment enhances students' concentration and learning outcomes. They emphasized the importance of minimizing distractions and disruptions caused by safety concerns to optimize students' academic engagement. "Safety concerns, such as inadequate security measures or unsafe facilities, can negatively affect students' ability to concentrate in class and hinder their learning progress," noted one principal.

Some of the principals emphasized the relationship between students' emotional well-being and academic success. They highlighted that feelings of safety and security contribute to a positive emotional environment conducive to learning.

Further, the principals acknowledged that school safety influences the effectiveness of teaching and learning processes. They noted that teachers' ability to deliver quality instruction is closely linked to the overall safety and orderliness of the school environment. "Teachers can only effectively impart knowledge and skills when students are attentive, engaged, and feel safe in the school compound", shared a principal. They highlighted the importance of proactive safety initiatives in promoting academic success. They emphasized the need for comprehensive safety measures, including security protocols, emergency preparedness plans, and physical infrastructure improvements, to create an environment conducive to learning and academic achievement.

The results presented above resonate with existing literature, which suggests that a safe and secure school environment is crucial for fostering effective teaching and learning experiences. The data indicates that students recognize the importance of safety guidelines and protocols in enhancing their learning experiences. Researchers such as Bradshaw and Cohen (2021) have emphasized the significance of clear safety policies and procedures in promoting a sense of security among students, which in turn positively impacts their engagement and academic performance. The findings also suggest that safety measures contribute to creating a conducive learning environment by fostering open communication between teachers and students. This aligns with research by Kuzu, Kuvvetli and Kuvvetli (2023), which found that a positive school climate, characterized by effective communication and trust between students and teachers, is closely linked to improved academic outcomes and overall student well-being.

The results also highlight areas of concern, particularly regarding students' confidence in the direct impact of safety initiatives on teaching quality and organizational atmosphere. This discrepancy in perceptions may reflect the need for further efforts to integrate safety measures more effectively into the teaching and learning process. Studies such as that by OECD (2014) emphasize the importance of comprehensive approaches to school safety that go beyond physical security measures to address broader issues such as discipline management and social-emotional support for students. Furthermore, while students perceive that addressing safety concerns improves their overall satisfaction with the teaching/learning process, there is less certainty regarding the direct influence on academic performance. This underscores the complex nature of the relationship between safety and academic outcomes, which is influenced by various factors such as school culture, community dynamics, and individual student experiences. Research by Mubita, Inonge and Kalimaposo (2023) highlights the interconnectedness of school safety with other aspects of the educational environment, emphasizing the need for holistic approaches to improving student outcomes.

4.5 Relationship between School Safety and Academic Performance

The third aim of the research was establishing whether secondary school students' perception of safety in school correlates with their academic performance. To address this objective, the scores obtained by students on school safety were correlated with the schools' KCSE performance using Pearson Product Moment Correlation coefficient, at the 0.05 level of significance. The results of this analysis are as shown in Table 4.6

Table 4.6: Students' perception of school safety and KCSE performance

Variable	Mean	Std dev.	N
School safety score	60.283	4.274	396
KCSE mean score	4.463	1.501	396
Correlation statistics		School safety	KCSE mean
		Sig. (2-tailed)	0.001
School safety	1		0.136*
KCSE mean score	0.136*		1

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

The correlation analysis results shown in Table 4.6 reveal a statistically significant positive correlation ($r = 0.136$, $p < 0.05$) between students' perception of school safety and their KCSE scores. This positive correlation suggests that students who perceive their school environment as safer tend to achieve higher KCSE. This finding is consistent with previous research indicating that a safe and supportive school environment can positively influence student academic outcomes (Bradshaw & Cohen, 2021). When students feel secure and comfortable in their learning environment, they are more likely to engage actively in their studies, leading to improved academic performance (Amerstorfer & von Münster-Kistner, 2021). The correlation coefficient of 0.136, although modest, indicates a meaningful association between school safety perception and academic performance. While other factors certainly contribute to academic success, such as teaching quality, student motivation, and socioeconomic background, the statistically significant correlation suggests that school safety plays a notable role in shaping student achievement.

Table 4.7 below shows the Pearson Product Moment Correlation analysis results for teachers' perception of safety in their schools and school KCSE mean score.

Table 4.7: Teachers' perception of school safety and KCSE performance

Variable	Mean	Std dev.	N
School safety score	60.73	4.274	40
KCSE mean score	4.469	1.501	40
Correlation statistics	School safety		KCSE mean
	Sig. (2-tailed)		0.628
School safety	1		-0.079
KCSE mean score	-0.79		1

The correlation analysis between teachers' perception of safety and KCSE performance shows a Pearson correlation coefficient of -0.079, with a p-value of 0.628, indicating a non-significant negative correlation between the variables. This suggests that there was no statistically significant relationship between teachers' perception of safety in schools and students' KCSE performance. This result contrasts with the findings from the correlation analysis conducted on students' data, which revealed a positive but weak correlation between students' perception of school safety and their academic performance. While students' perception of safety showed a slight positive association with academic performance, teachers' perception of safety did not exhibit a significant relationship with KCSE scores. One possible interpretation of this disparity could be attributed to the differing perspectives and roles of teachers and students within the school environment. Teachers may focus more on administrative and physical safety measures, such as security protocols and infrastructure, while students may perceive safety in a broader context encompassing social interactions, peer relationships, and emotional well-being, which could have a greater impact on academic performance.

4.6 Strategies for Enhancing School Safety

The fourth aim of the research was finding out the strategies being employed for the improvement of school safety in in Machakos County and its correlation to school performance. To address this objective, the students and teachers were requested to propose strategies that could be used to enhance safety in their schools. The responses of the students are as summarized in Table 4.8.

Table 4.8: Students' suggested strategies to enhance safety

Suggestion	f	%
Ensure toilets and cleaned regularly	298	75.2
Ensure there is adequate water in the school	261	65.9
Construct more classroom to accommodate all students comfortably	201	50.8
Provide fire extinguishers in the dormitories and dining hall	199	50.2
Installation of security cameras	179	45.2
Improve on condition of latrines for proper sanitation	178	44.9
Increase number of toilets	163	41.2
Construct a perimeter wall for enhanced security	156	39.4
Proper disposal of waste and broken furniture to avoid injuries	126	31.8
Planting of trees in school compound to create good environment for learning	68	17.2
Repair of dormitories	47	11.9
Monitoring at the gate to ensure all visitors are checked	39	9.8
Employ more watchmen	31	7.8
More group discussions on safety and welfare of students	19	4.8

Table 4.8 above shows that the most commonly suggested strategies include ensuring toilets are cleaned regularly (75.2%) and ensuring there is adequate water in the school (65.9%). These suggestions highlight the importance of basic hygiene and sanitation facilities in promoting a safe and healthy school environment. Other popular suggestions include constructing more classrooms to accommodate all students comfortably (50.8%), providing fire extinguishers in dormitories and dining halls (50.2%), and installing security cameras (45.2%), indicating the significance of infrastructure and security measures in enhancing safety. Additionally, students emphasized the need to improve the condition of latrines for proper sanitation (44.9%) and increase the number of toilets (41.2%) to address hygiene concerns. Suggestions such as constructing a perimeter wall for enhanced security (39.4%) and proper disposal of waste and broken furniture to avoid injuries (31.8%) reflect students' awareness of physical safety measures. The less frequently mentioned strategies included planting trees in the school compound (17.2%), repairing dormitories (11.9%), monitoring at the gate to ensure all visitors are checked (9.8%), and employing more watchmen (7.8%). These findings underscore the diverse perspectives of students regarding safety enhancement strategies, emphasizing the need for comprehensive approaches that address various aspects of safety and well-being in schools.

The 40 teachers who took part in the study were also asked to suggest measures or practices that could be implemented to enhance safety in their schools. Their responses are as summarized in Table 4.9. From the results presented in the Table, it can be seen that the most commonly suggested strategy is the installation of CCTV cameras for surveillance, with 67.5% of teachers endorsing this measure. This

indicates a strong emphasis on implementing technological solutions to monitor and ensure safety within the school premises. Following closely is the installation of fire extinguishers, with 57.5% of teachers recommending this measure, highlighting the importance of fire safety preparedness. Sensitizing students on safety issues is another popular suggestion, with 47.5% of teachers advocating for this approach, underscoring the significance of educating students about safety protocols and practices.

Table 4.9: Teachers’ suggested strategies to enhance safety

Suggestion	f	%
Install CCTV cameras for surveillance	27	67.5
Installation of fire extinguishers	23	57.5
Sensitize students on safety issues	19	47.5
Construct a perimeter wall	14	35.0
Increase security personnel	11	27.5
Monitor what students enter the school with to control trafficking of drugs	9	22.5
Liaise with security agencies to enhance security	7	17.5
Conduct regular fire drills	6	15.0

Constructing a perimeter wall was suggested by 35.0% of teachers, reflecting a focus on physical security measures to control access to the school premises. Increasing security personnel is endorsed by 27.5% of teachers, indicating a recognition of the need for additional human resources to enhance security surveillance and response. Monitoring what students enter the school with to control

trafficking of drugs is suggested by 22.5% of teachers, highlighting concerns about substance abuse and the need for proactive measures to address this issue.

The less frequently mentioned suggestions included liaising with security agencies to enhance security, endorsed by 17.5% of teachers, and conducting regular fire drills, suggested by 15.0% of teachers. These findings suggest a varied perspective among teachers regarding safety enhancement strategies, with a mix of technological, educational, and physical security measures being proposed. Overall, the data reflects a comprehensive approach to addressing safety concerns in schools, encompassing both preventive and responsive measures to ensure a safe learning environment for students and staff.

4.7 Challenges to Adherence to School Safety Standards

The fifth goal of this research was determining the challenges of adherence to school safety standards by secondary school administrators in Machakos County and its correlation to school performance. To address this objective, the teachers were required to indicate which hindrances affected their schools in implementing safety standards, to which they responded as shown in Table 4.10.

Table 4.10: Challenges affecting implementation of safety standards

Challenges	f	%
Limited funding for safety standards	34	85.0
Insufficient training for staff on safety protocols and emergency procedures	27	67.5
Inadequate manpower to assist in safety issues	21	52.5
External threats e.g. when it is too hot or during heavy rains	18	45.0
Lack of political goodwill from politicians e.g. in CDF projects	16	40.0
Poor community involvement in safety issues at school	11	27.5
Negligence by students	6	15.0
Lack of accountability for noncompliance	4	10.0

The results summarized in Table 4.10 show that majority of the teachers (85.0%) identified limited funding as a significant obstacle, highlighting the critical need for sufficient financial resources to invest in safety measures. Additionally, a considerable portion of teachers (67.5%) expressed concerns about the lack of adequate training for staff on safety protocols and emergency procedures, emphasizing the importance of ongoing professional development in ensuring effective safety management. Further, more than half of the teachers (52.5%) cited inadequate manpower as a challenge, underscoring the necessity of sufficient personnel to address safety issues promptly. External threats, such as extreme weather conditions, were identified by 45.0% of teachers as a barrier to implementing safety standards, indicating the need for effective adaptation to mitigate environmental risks. This issue was also highlighted by students (see Table 14) who noted the need to plant trees as an adaptation measure. The lack of political goodwill, poor community involvement, student negligence, and the absence of accountability for noncompliance were also highlighted as significant challenges,

emphasizing the diverse nature of the obstacles that schools face in promoting safety. Addressing these challenges requires collaborative efforts and strategic interventions from various stakeholders to ensure the safety and well-being of all individuals within the school environment.

The interviews conducted with principals revealed several challenges hindering the promotion of school safety in their schools. The principals expressed concerns about limited financial resources allocated to school safety initiatives. Budgetary constraints often hinder schools from implementing necessary safety measures, such as installing security systems, conducting maintenance on facilities, and procuring safety equipment. This challenge underscores the need for increased funding and resource allocation to prioritize safety in school budgets. The lack of adequate personnel to monitor school safety emerged as a significant challenge. Insufficient staffing levels can impede schools' ability to effectively supervise students, enforce safety protocols, and respond promptly to safety concerns or emergencies.

The principals further noted a lack of safety awareness among both teachers and students as a barrier to promoting school safety. Without proper education and training on safety protocols and procedures, individuals within the school community may not fully understand their roles and responsibilities in maintaining a safe environment. Enhancing safety awareness through training programs and regular drills is essential to foster a culture of safety. Another challenge raised by the principals was inadequate resources for waste disposal. Three principals highlighted challenges related to waste disposal facilities and practices within schools. Inadequate resources for waste management, such as proper bins, recycling facilities, and waste collection services, can lead to environmental hazards and

health risks. Addressing this challenge requires investments in infrastructure and sustainable waste management practices.

There were six principals who identified limited parental involvement as a factor affecting school safety promotion. Engaging parents and caregivers in safety initiatives enhances collaboration between the school and the community, strengthens supervision efforts, and fosters a sense of collective responsibility for student well-being. Encouraging parental involvement through outreach programs and communication channels can help address this challenge. The other challenge cited by a few principals was physical infrastructure deficiencies. Three principals reported facing challenges related to inadequate or deteriorating physical infrastructure, including poorly maintained buildings, outdated facilities, and insufficient space for activities. Such deficiencies pose safety hazards and increase the risk of accidents or injuries among students and staff. Addressing infrastructure needs through renovation projects and facility upgrades is essential for ensuring a safe learning environment. Lastly, the interviewed principals highlighted the need for ongoing training and support for school staff in safety management and emergency response. Without proper training, staff may lack the knowledge and skills required to identify safety hazards, implement preventive measures, and respond effectively to emergencies. Investing in professional development programs and providing access to resources can empower staff to contribute to school safety efforts.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section provides a concise overview of the primary findings of the study and offers a conclusion based on these findings. Additionally, it presents recommendations drawn from the study outcomes and proposes areas for future research.

5.2 Summary of the Findings

The study examined the safety status of public secondary schools within Machakos County, Kenya, as the first research objective. Analysis of student responses on a 24-item scale revealed areas where respondents showed the highest and lowest levels of agreement. Students demonstrated the highest levels of agreement with items related to the presence of suitable desks, lockers, and tables in classrooms, the cleanliness and maintenance of dining halls, and the provision of adequate pastoral care. Conversely, respondents expressed lower levels of agreement with items concerning the adequacy of toilets, the regular maintenance of washrooms, and the elimination of hazardous objects from playgrounds. Based on these findings, it emerges that while students generally perceive certain aspects of school safety positively, there are notable areas of concern that warrant further attention and intervention to enhance overall safety and well-being in secondary schools.

The second research objective focused on examining how school safety influences the educational process within public secondary institutions in Machakos County. Analysis of the responses show that the respondents demonstrated the highest levels of agreement with items related to the positive impact of safety guidelines on

students' learning experiences, the perceived influence of safety measures on a conducive learning environment, and the belief in the positive effects of safety initiatives on teaching quality. Conversely, the respondents expressed lower levels of agreement with items concerning the perceived influence of safety measures on the effectiveness of teaching, the contribution of safety initiatives to an organized learning atmosphere, and the encouragement of open communication between teachers and students. Based on these findings, it emerges that while teachers and students generally recognize the importance of safety measures in enhancing the teaching and learning process, there are areas where perceptions may vary, suggesting the need for interventions to optimize school safety efforts.

The third goal of this research was to establish whether secondary school students' perception of safety in school correlates with their academic performance. Correlating the two variables demonstrated a notable positive correlation ($r = 0.136$, $p < 0.05$) between students' views regarding school safety and their KCSE scores, indicating that students who perceive their school environment as safer tend to achieve higher academic performance in the KCSE exams. However, a similar analysis conducted with teachers did not yield a significant correlation between their perception of school safety and students' KCSE scores.

The fourth research objective aimed at exploring the strategies employed for the improvement of school safety. The study identified several key strategies as reported by both students and teachers to enhance safety within the school environment. Students suggested initiatives such as ensuring regular cleaning of toilets, ensuring an adequate supply of water in the school, constructing more classrooms to accommodate all students comfortably, and providing fire extinguishers in

dormitories and dining halls. On the other hand, teachers emphasized the importance of installing CCTV cameras for surveillance, providing fire extinguishers, sensitizing students on safety issues, and constructing perimeter walls for enhanced security.

The fifth research objective focused on the challenges hindering adherence to school safety standards. Through interviews with principals and the responses from teachers, several obstacles were identified. These included limited funding for safety standards, insufficient training for staff on safety protocols and emergency procedures, inadequate manpower to assist in safety issues, external threats such as extreme weather conditions, and lack of political goodwill from stakeholders. Additionally, poor community involvement in safety issues, negligence by students, and lack of accountability for noncompliance were highlighted as significant challenges.

5.3 Conclusion

This study investigated various aspects of school safety in public secondary schools in Machakos County, Kenya. Through an analysis of students' and teachers' perceptions, as well as interviews with school principals, several key findings emerged. Firstly, the safety status of the schools revealed mixed perceptions among students and teachers, with some areas of agreement regarding safety measures and others indicating areas needing improvement. Secondly, the study found a significant correlation between students' perception of school safety and their academic performance, highlighting the importance of a safe learning environment. Thirdly, strategies employed for improving school safety included measures such as enhancing security infrastructure, promoting safety awareness among students, and

involving the community in safety initiatives. However, challenges hindering adherence to safety standards, such as limited funding, inadequate training, and external threats, were identified, emphasizing the need for concerted efforts to address these barriers. Overall, the findings underscore the importance of prioritizing school safety to ensure optimal learning outcomes and well-being for students, educators, and the broader school community. Efforts to enhance school safety should involve collaborative approaches, adequate resource allocation, and continuous monitoring and evaluation to create safer and more conducive learning environments.

5.4 Recommendations

Based on the study findings, the following recommendations are made for the main stakeholders involved in ensuring school safety:

- i. School principals should develop and implement comprehensive safety guidelines tailored to the specific needs of each school, addressing areas identified as lacking in the status of school safety.
- ii. There is need for the government to allocate sufficient resources towards the maintenance and improvement of school infrastructure, including classrooms, dormitories, dining halls, and sanitation facilities.
- iii. Stakeholders including the Ministry of Education, the TSC and school administrators should prioritize safety training and awareness programs for both staff and students to ensure a better understanding of safety protocols and emergency procedures.

- iv. Schools should foster partnerships with local authorities, parents, and community members to enhance school security measures and promote a culture of safety within the school environment.
- v. Teachers should incorporate safety education into the curriculum to empower students with the knowledge and skills needed to identify and mitigate safety risks.
- vi. There is need for further research comparing the effectiveness of different safety interventions and strategies implemented in schools across various regions or countries.
- vii. Research investigating the impact of emerging technological solutions, such as AI mobile safety applications, on enhancing school safety. Such a study could assess the effectiveness, feasibility, and ethical implications of integrating technology into safety protocols within educational settings.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR STUDENTS

Introduction

This survey aims to collect data on learners' wellbeing in schools and their performance in academics. Please provide your responses by ticking the appropriate options or providing the necessary information to the questions asked. Your answers and reactions to the questions asked in the survey shall remain strictly confidential and will solely be used for purposes of this research. Therefore, refrain from including your name or your index number in the questionnaires. Kindly provide honest responses to all the questions to the best of your ability.

Part One: Bio data

Respond to these questions by placing a Tick on the box that corresponds to your answer.

1. Indicate your age:..... years
2. What gender are you?
 Male Female
3. Indicate your Class
 Form 2 Form 3
4. What school type are you in?
 Boys boarding Girls boarding
 Mixed school

Part 2: Safety Status of the School

This section requires you to give your views with regard to the physical and social environment safety in your school. Please tick (✓) against your response in each of the statements in the tables that follow. Utilise the key below while responding;

SA- Strongly Agree; **A-** Agree; **U-** Undecided; **D-** Disagree; **SD-** Strongly Disagree;

No.	Classroom Safety	SA	A	U	D	SD
1.	We are more than 45 students in my classroom					
2.	Our classroom has good ventilation that allows good air flow					
3.	Every window in our classroom has grills					
4.	Door/windows to our classroom opens towards the outside					
5.	Our classroom has suitable desks, lockers and tables					
No.	Dormitory safety					
6.	Beds in our dormitory are well arranged to create adequate spaces for passage					
7.	Our dormitory has good ventilation allowing effective circulation of air					
8.	Our dormitory has two doors and additional exit for emergencies					
9.	Dormitory doors open outwards					
10.	Our dormitory has a fire extinguisher placed within reach.					
No.	Dining Hall Safety					
11.	The dining hall in my school is spacious to accommodate students comfortably					
12.	Dining halls are clean and well maintained					
13.	School kitchen is large enough for the staff to work comfortably					
No.	Toilets and Playgrounds Safety					
14.	Toilets are adequate (1:7- one toilet for 7 students)					
15.	The washrooms are regularly maintained and cleaned					
16.	The grass on the playground is maintained at a short length					
17.	Any hazardous objects are eliminated from the playground					
18.	The school is well fenced and does not allow easy access to the school					
No.	School social environment safety	SA	A	U	D	SD
19.	Students are enlightened about Alcohol, drug and Substance Abuse (ADA) during teaching					
20.	Students engage in discussions and propose strategies to foster a drug-free school environment.					
21.	Learners receive education on methods of resisting negative peer influence effectively.					
22.	The school is located in an area without nearby shops so learners cannot get alcohol, cigarettes or drugs.					
23.	We have a guidance & counselling teacher who deals with bullying and drug abuse cases					
24.	Students are given adequate pastoral care					

Part 3: School Safety and the Teaching/Learning Process

No.	School safety and learning environment	SA	A	U	D	SD
1.	My school provides clear and comprehensive safety guidelines that positively impact my learning experience.					
2.	I feel safe and secure in my classrooms, which enhances my concentration during lessons.					
3.	The presence of safety measures, such as emergency exit plans and fire extinguishers, contributes to a conducive learning environment in my school.					
4.	The awareness of safety protocols in my school helps me focus better on my studies.					
5.	I believe that a safer school environment positively influences the effectiveness of teaching by my teachers.					
6.	The implementation of safety measures in my school contributes to a more organized and disciplined learning atmosphere.					
7.	I am confident that safety initiatives undertaken by the school have a direct impact on the quality of teaching I receive.					
8.	The feeling of safety in my school encourages open communication between teachers and students, fostering a positive learning environment.					
9.	The presence of safety measures improves my overall satisfaction with the teaching/learning process in my school.					
10.	I believe that addressing safety concerns in my school positively influences the overall academic performance of students.					

Part 4: Influences of school safety on academic performance

This section requires you to give your views on how school safety affects academic performance of students in your school. Please tick (√) against your response in each of the statements in the table below, indicating the degree to which each of the provided safety component affects your academic performance.

No.	To what level do these factors affect your performance in examinations	To a great extent	To some extent	Neutral	To a small extent	Not at all
1.	Classroom safety					
2.	Dormitory safety					
3.	Dining hall safety					
4.	Toilets and Playgrounds Safety					
5.	School social environment safety					

Part 5: Strategies for Improvement of school Safety

Suggest the measures or practices could be implemented to enhance safety in your school.....

.....
.....
.....

Thanks a lot for participating

APPENDIX II: QUESTIONNAIRE FOR TEACHERS

Introduction

This survey aims to collect data on learners' wellbeing in schools and their performance in academics. Please provide your responses by ticking the appropriate options or providing the necessary information to the questions asked. Your answers and reactions to the questions asked in the survey shall remain strictly confidential and will solely be used for purposes of this research. Therefore, refrain from including your name in the questionnaires. Kindly provide honest responses to all the questions to the best of your ability.

Part 1: Bio Data

Respond to these questions by placing a Tick on the box that corresponds to your answer.

1. What is your gender?

Male

Female

2. Indicate your age in years

Below 30 years

Between 31-35 years

Between 36-40 years

Between 41-50 years

Above 50 years

3. How many years of work experience do you have?

5 years or more

2-5 years

1 year or less

4. Indicate your academic qualification

Degree

Diploma

EACE

Others (specify).....

Part 2: Safety Status of the School

This section requires you to give your views with regard to the school's physical and social environment safety. Please tick (✓) against your response in each of the statements in the tables that follow. Use the key provided below for your responses:

SA- Strongly Agree; **A-** Agree; **U-** Undecided; **D-** Disagree; **SD-** Strongly Disagree;

No.	Classroom Safety	SA	A	U	D	SD
1.	The classrooms have more than 45 students					
2.	Each classroom has good ventilation that allows good flow of air					
3.	Every window in the classroom has grills					
4.	The door/windows to the classroom opens towards the outside					
5.	Each classroom has suitable desks, lockers and tables					
No.	Dormitory safety					
6.	Beds in each dormitory are well arranged to create adequate spaces for passage					
7.	Each dormitory has good ventilation allowing effective circulation of air					
8.	Each dormitory has two doors and additional exit for emergencies					
9.	Dormitory doors open outwards					
10.	Each dormitory has a fire extinguisher that is placed within reach.					
No.	Dining Hall Safety					
11.	The dining hall in the school is spacious to accommodate students comfortably					
12.	Dining halls are clean and well maintained					
13.	School kitchen is large enough for the staff to work comfortably					
No.	Toilets and Playgrounds Safety					
14.	Toilets are adequate for students (1:7- one toilet for seven students)					
15.	The washrooms are regularly maintained and cleaned					
16.	The grass on the playground is maintained at a short length					
17.	Any hazardous objects are eliminated from the playground					
18.	The school has a protected and well-monitored school gate					
No.	School social environment safety	SA	A	U	D	SD
19.	Students are enlightened about Alcohol, drug and Substance Abuse (ADA) during teaching					
20.	Students engage in discussions and propose strategies to foster a drug-free school environment.					
21.	Learners receive education on methods of resisting negative peer influence effectively.					
22.	The school is located in an area without nearby shops so learners cannot get alcohol, cigarettes or drugs.					
23.	We have a guidance & counselling teacher who deals with bullying and drug abuse cases					
24.	Students are given adequate pastoral care					

Part 3: School Safety and the Teaching/Learning Process

No.	School safety and learning environment	SA	A	U	D	SD
1.	I am confident that the clear and comprehensive safety guidelines in our school positively impact the learning experiences of students.					
2.	I believe that students feel safe and secure in their classrooms, which enhances their concentration during lessons.					
3.	The presence of safety measures, such as emergency exit plans and fire extinguishers, contributes to a conducive learning environment in our school.					
4.	The awareness of safety protocols in our school helps students focus better on their studies.					
5.	I believe that a safer school environment positively influences the effectiveness of my teaching.					
6.	The implementation of safety measures in our school contributes to a more organized and disciplined learning atmosphere.					
7.	I am confident that safety initiatives undertaken by the school have a direct impact on the quality of teaching that I provide.					
8.	The feeling of safety in our school encourages open communication between teachers and students, fostering a positive learning environment.					
9.	I believe that addressing safety concerns in our school positively influences the overall satisfaction of students with the teaching/learning process.					
10.	I am confident that the presence of safety measures in our school improves the overall academic performance of students.					

Part 4: Influences of school safety on academic performance

This section requires you to give your views on how school safety affects academic performance of students in your school. Please tick (√) against your response in each of the statements in the table below, indicating the extent to which each of the provided safety component affects academic performance.

No.	To what level do these factors affect performance of your students in exams?	To a great extent	To some extent	Neutral	To a small extent	Not at all
1.	Classroom safety					
2.	Dormitory safety					
3.	Dining hall safety					
4.	Toilets and Playgrounds Safety					
5.	School social environment safety					

Suggest the measures or practices could be implemented to enhance safety in your school.....

.....

.....

.....

What are the main challenges affecting the implementation of safety standards in your school?

Thank you for your cooperation

APPENDIX III: INTERVIEW SCHEDULE FOR PRINCIPALS

1. How would you describe the safety status of your school in relation to:
 - a. Classroom safety
 - b. Safety in the dormitories
 - c. Dining hall safety
 - d. Toilets and Playgrounds Safety
 - e. School social environment safety

2. In which ways does each of the following components of school safety influence academic performance of students in your school?
 - a. Classroom safety
 - b. Safety in the dormitories
 - c. Dining hall safety
 - d. Toilets and Playgrounds Safety
 - e. School social environment safety

3. What challenges does your school face in promoting safety?

APPENDIX IV: RESEARCH PERMIT

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 591970	Date of Issue: 03/July/2024
RESEARCH LICENSE	
	
This is to Certify that Miss.. MERCY MWONGELI WAMBUA of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Machakos on the topic: ADHERENCE TO SCHOOL SAFETY AND ITS RELATIONSHIP TO STUDENTS PERFORMANCE IN MACHAKOS COUNTY, KENYA for the period ending : 03/July/2025.	
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