LOCUS OF CONTROL AND SELF-EFFICACY AS PREDICTORS OF ACADEMIC ACHIEVEMENT AMONG FORM FOUR STUDENTS IN SELECTED SECONDARY SCHOOLS IN MERU COUNTY, KENYA

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DECLARATION

I declare that this research report is my original work and has not been presented in any other university/institution for consideration of any certification. This 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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DEDICATION

This research project is dedicated to my dear father Fredrick and my dear late mother Angela, for their love, support, guidance and the educational foundation ingrained in me. I also dedicate it to my daughter Avril and sister Lilian for their support through constant prayers and encouragement during the period of study.

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TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

KCSE	Kenya Certificate of Secondary Education
LOC	Locus of Control
MoE	Ministry of Education
NACOSTI	National Commission for Science, Technology and Innovation
NAEP	National Assessment of Educational Progress
SE	Self-Efficacy
USA	United States of America

ABSTRACT

Academic achievement among Kenyan secondary school students is emphasized because it impacts students' personal and national development. However, low academic achievement has been an issue of concern. Despite the efforts made, this problem has continued to persist.This research aimed at exploring how psychological constructs, namely: Locus of Control (LOC) and Self Efficacy (SE), predict academic achievement among Form Four students in selected secondary schools in Meru County. The study objectives were: a) to ascertain whether there is a relationship between LOC and academic achievement of form four students in Meru County; b) to establish if there is a correlation between SE and students' academic achievement; c) to determine the interaction effect of LOC and SE on predicting students' academic achievement. The study was guided by the social learning theory by Bandura and the correlational research design was employed. The target population was 1435 Form Four students in 36 secondary schools. Stratified random sampling technique was used to select four secondary schools in Buuri Sub-County of Meru County. A total of 459 Form Four students were chosen through simple random sampling. Data were collected using SE scale developed by Chen et al. (2001) and LOC scale developed by Craig et al. (1984). A pilot study was conducted among 39 students to establish the validity and reliability of the research instruments. The instrument yielded a Cronbach's Alpha reliability coefficient of .86 for LOC scale and .82 for SE scale. Scores on academic achievement were obtained through document analysis by computing mean scores from three consecutive end-of-term examination grades for the year 2022. Quantitative data was analysed via descriptive statistics and inferential statistics through Pearson product moment correlation coefficient and multiple regression to establish relationships between variables at .05 alpha levels. Analyses were done using Statistical Package for Social Sciences (SPSS) version 29. The study revealed that there exists a weak, positive and significant correlation between students' external LOC and their academic achievement, r (397) = .38, $p < .05$. There is a strong, positive and significant correlation between students' internal LOC and their academic achievement, r (43) = .68, $p < .05$. Hence the results indicate that students' academic achievement increases as both internal LOC and external locus of control increases. Further, there was a moderate positive and significant relationship between students' SE and their academic achievement , r (440) = .47, $p < .05$. Thus, students with high levels of self-efficacy were found to perform better academically as compared to students with low levels self-efficacy. The findings further showed that jointly, LOC and SE positively and significantly predicted students' academic achievement, F (3, 436) = 114.83, $p < .05$. The study concludes that psychological constructs; LOC and SE should be enhanced by setting clear, achievable academic goals to enable students to take charge of their educational journeys. The study recommends that teachers and parents should reinforce learners to enhance their LOC and SE to enhance their academic success. Further recommendation is for policymakers and curriculum developers to establish frameworks that promote LOC and supportive environments, empowering students to enhance their SE for better academic achievement.

CHAPTER ONE

INTRODUCTION AND CONTEXTUALIZATION OF THE STUDY

1.1 Introduction

This chapter provides an overview of the study's background, research problem, significance and purpose of the study. It also highlights the objectives and research hypotheses that guided the study, limitations, delimitations and assumptions of the study. It concludes by presenting the theoretical framework, conceptual framework, and operational definitions of terms.

1.2 Background to the Study

Learners get equipped with unique skills through education, making it possible for them to become more effective while performing their tasks. Education is considered to contribute to an individuals' well-being and financial growth, resulting in a better life (UNESCO, 2023). One of the major factors in gauging a learner's performance in an educational setting is academic achievement which is mostly measured through academic scores. Academic achievement is defined as the degree to which a learner has managed to accomplish educational objectives (Okoli & Okigbo, 2021) as well as the measure of a student's success across various academic areas (Woji & Charles-Ogan, 2022). It is not solely determined by external factors but also student factors like locus of control and self-efficacy.

Studies in educational psychology have demonstrated that locus of control and self-efficacy significantly impact educational success of learners. Recent studies show that

LOC and SE strongly influence learners' academic achievement by fostering motivation, resilience, and effective learning strategies (Ismail et al., 2023; Luo et al., 2023). Given the limited research in Kenya, exploring LOC and SE can inform targeted interventions to reduce educational disparities and improve outcomes among diverse students (Jeniffer et al., 2022; Kamau & Mawang, 2023). Exploring these psychological constructs as predictors of academic achievement among high school learners is grounded in understanding how they affect students' academic achievement, and in turn provide insights into how to design interventions that would improve their educational outcomes and bridge achievement gaps**.**

Ajaude and Mgboro (2024) defined LOC as the belief individuals hold concerning the extent to which they have control over any desirable or undesirable occurrence during their life. The researcher further argues that LOC is an element of personality which defines an individual's traits and people generally exhibit either external or internal control. Learners with internal LOC view success as a result of their hard work; while, those with external LOC believe that external factors influence their performance. Students with strong internal beliefs are characterized by resourcefulness, dominance, self-confidence, and focus on success, translating to academic excellence. Those with external LOC fall victim to external pressure and therefore tend to be careless, less self-assured, and have been found to exhibit unsteady performance in school (Chinedu & Nwizuzu, 2021).

Kader (2022) argued that some individuals think that factors within them make them control their everyday activities while others think that their daily happenings result from

external causes, for example, fate. Bahl et al. (2024) asserted that their academic achievement improves when a student's internal LOC is developed. Moreover, LOC impacts a learner's life since his or her decisions and choices concerning academic achievement, human relationships, class mannerisms, health, and development in his or her career; depends on their perception of control (Arsini et al, 2022**).** According to Arsini et al., an individual's perception of where control falls can affect their interaction with the environment.

Additionally, academic achievement is also predicted by SE, a concept which was initially introduced by Bandura in his Social Cognitive Theory (Bandura, 1977, 1997, 2012). Dogan (2015) purported that SE is the belief that one has on their ability to achieve a goal. SE affects one's behavior choice by determining how committed, how much effort he or she will make, and their persistence in encountering obstacles (Flores et al., 2023; Yıldırım & Uzunboylu, 2022; Salmela-Aro et al., 2022). SE is associated with a range of basics of learning and scholarly success (Zheng et al., 2023).

Studies done have revealed that high SE learners display better abilities in emotional and social stability, persistence, solving challenging tasks, ambition, and taking initiatives. Studies that have been carried out to determine how the educational system in the United States ranks compared to other developed economies have raised concerns amongst scholars. The National Assessment of Educational Progress (NAEP) report – 2016 of USA; centering on an assessment done in 2015 on 12^{th}-grade learners from 740 schools, revealed that the country's high performers are excelling more in reading whereas the low achievers are presenting poorer and poorer exam results. The report established this

as a problem because the students were struggling to maintain LOC and self-efficacy, which are considered influencing factors in pursuing goals and overcoming challenging tasks.

The academic achievement and motivation among eighteen 10^{th} grade students in the South- eastern state of Arkansas, USA, was greatly reliant on the learners' perceived SE (The United States Department of Education, 2016). The outcomes from a study done on diverse cultural groups at University of Southern Adventist, USA, revealed that SE was not affected by one's ethnic group, academic discipline, or age. The only factor that was found to correlate with the individual's SE positively was academic achievement (Stennis, 2016).

In Egypt, research was done by Yıldırım and Kocatepe (2021) among nursing students working with school and community health. It was established that these students possessed the skills necessary for increasing cognitive, social, and personal skills in individuals. The study concluded that for an individual to have quality of care improvement and pursue in academics, they should have internal LOC. In a recent study done in Nigeria by Oluseyi Akintunde and Olusegun Olujide (2018), it was found that academic achievement is heavily reliant on the student's internal LOC rather than the external LOC, which leads to poor performance.

Dlamini et al. (2022) found that SE was key in predicting online academic success of university students in South Africa. It was demonstrated that students with confidence in their ability navigate online learning environments with greater adaptability and achieve higher levels of performance.

In the current Kenyan secondary school system, high stakes are placed on academic achievement, mainly in the Kenya Certificate of Secondary Education (KCSE) exams. LOC and SE play a significant role in determining how the students cope with this exam pressure in order to attain academic excellence. A study was carried out by Kariuki and Kimani (2021) on Kenyan high school students to investigate whether LOC and SE were significant in high-stakes environments like the KCSE. The research findings presented internal LOC and SE as significant indicators of educational success. Moreover, it showed that socio-economic disparities triggered external LOC among students from disadvantaged background and resulted to low academic achievement.

Additionally, a study done by Kamau and Lucy (2023) in Nyandarua County, Kenya, to explore academic SE and LOC as predictors of pupils' mathematics performance in public primary schools showed that LOC and academic SE can be used to significantly predict mathematics performance among pupils. Further study was done on graduate students and showed that the learners with external LOC have a low level of stress management, which affects their academic achievement adversely, whereas those with internal LOC can concentrate and be successful in their tasks since they can manage stress (Okello et al., (2022). Many education systems from all over the world experience various challenges which interact and influence learners in their pursuit of knowledge. As outlined in the study's background, behavioural constructs are crucial factors in students' academic success. Most of the reviewed studies from various regions indicate that LOC and SE significantly predict students' academic achievement.

In Kenya, the tendency of some students performing better than others has been observed in many schools. It has been observed that a few students perform very well in the KCSE examination; while on the other hand, the majority attain average and others extremely low marks leading to poor mean score. The findings in appendices G, H, I, and F reveal a pattern of academic under-performance among schools in Buuri sub-county, Meru County, as shown by KCSE examination results from 2019 to 2022. Hence, it was crucial to investigate whether LOC and SE contributed to this low academic achievement. Furthermore, there is limited research in Buuri Sub-County investigating LOC and SE as predictors of academic achievement. This study prompted the need for the current research to fill the identified gaps by exploring SE and LOC as predictors of academic achievement among Form Four students in Buuri Sub-County, Meru County.

1.3 Statement of the Problem

Academic success is vital for personal growth, career prospects, and societal contributions, while poor performance limits opportunities and can negatively affect both personal well-being and social relationships. The key determinant of academic success in Kenyan secondary schools is the students' achievement in the KCSE. This educational output is measured by computing the academic mean score of the students. It was concerning that KCSE results over the years indicate low academic achievement among Form Four students in Buuri Sub-County, Meru County.

An analysis of KCSE results from 2019 to 2022 (Appendices G, H, I and J) indicates that schools in Buuri sub-county have consistently recorded lower mean scores compared to other sub counties in Meru County. Between 2019-2022 there was no secondary school

in this sub county that was ranked top ten in Meru County, highlighting the persistent under-performance in the region. The best performing school in the sub county has been recording a mean score of less than 6.7 points for the three years which is not impressive. This persistent low academic achievement necessitated the need to conduct this study to investigate the potential contribution factors, particularly locus of control and self-efficacy.

Research on academic achievement underscores the role of psychological factors like LOC and SE in shaping student's perception of their ability to influence academic outcomes. These factors shape how students perceive their ability to impact outcomes. This study focuses on high school students, a stage of development where cognitive, emotional, and social changes influence LOC and SE, which in turn affects academic achievement. Negative beliefs about their abilities and control over academic outcomes can lead to reduced effort and the avoidance of challenging tasks, ultimately resulting in poor academic performance. The research thus aimed to determine whether a link existed among the behavioural constructs, SE and LOC, and the academic performance of form four students in Buuri Sub-County, Meru County.

Existing studies in Kenya have not provided conclusive evidence on the relationship between SE and LOC as predictors of academic achievement among high school learners. Moreover, these studies left a gap since they focused on other parts of Kenya other than Buuri Sub-County. Although studies have been conducted in Buuri sub-county, none have specifically examined the influence of SE and LOC on academic achievement. Therefore, these identified gaps prompted the need to conduct research that

would investigate whether LOC and self-efficacy impacted academic achievement among high school learners in Buuri sub-county, Meru County.

1.4 Purpose of the Study

The research purposed to examine LOC and SE as predictors of academic achievement among chosen high school students in Meru County. The results gave recommendations on changing the general outlook of LOC and self-efficacy to promote academic achievement.

1.5 Objectives of the Study

The study was guided by the following objectives:

i. To examine the relationship between locus of control and academic achievement of Form Four students in Buuri Sub-County, Meru County.
ii. To establish the relationship between self efficacy and academic achievement of Form Four students in Buuri Sub-County, Meru County.
iii. To determine the interaction effect of locus of control and self efficacy in predicting academic achievement of Form Four students in Buuri Sub-County, Meru County.

1.6 Research Hypotheses

The study formulated the following hypotheses:

i. **H_{01}**: There is no significant relationship between locus of control and academic achievement of Form Four students in Buuri Sub-County, Meru County.

ii. **H_{02}**: There is no significant relationship between self-efficacy and academic achievement of Form Four students in Buuri Sub-County, Meru County.

iii. **H_{03}**: There is no interaction effect of locus of control and self-efficacy in predicting academic achievement of Form Four students in Buuri Sub-County, Meru County.

1.7 Significance of the Study

The findings of this study may help learners become aware of behavioral constructs like LOC and SE, as well as their effect on academic outcomes. This awareness may inspire students to adopt self-regulated learning strategies, helping them take control of their educational progress by setting clear, achievable goals and regularly monitoring their development. Teachers may benefit from strategies to create environments that foster responsibility, boost student confidence, and improve academic outcomes through positive reinforcement, addressing mindsets, and modeling problem-solving techniques.

Additionally, the results may provide valuable insights for policymakers and curriculum developers in Kenya. They may guide them in the development of curricula that enhance academic achievement while fostering personal traits like LOC and SE. To cultivate these attributes, targeted interventions might be introduced into the curriculum. This may encourage student engagement, and offer opportunities for success in increasingly challenging tasks which would help build confidence in their academic abilities. Lastly, this study adds value to future research and paves way for more academic research in this area of study.

1.8 Limitations and Delimitations

1.8.1 Limitations

The study used questionnaires to collect data from the sampled students. This technique of data collection may have introduced an aspect of bias and ambiguity in respondents' answers. To overcome this limitation, the participants were guaranteed the privacy of the data collected and sensitized on the need to be honest. Moreover, the researcher noted that the data collected may not be comparable to other regions since it may give different results when carried out in different areas. To overcome this limitation, the researcher randomly selected the sample to enhance external validity of the results.

1.8.2 Delimitations

This study was delimited to Buuri sub-county in Meru County and the respondents were drawn from only one class. This study only focused on two variables: LOC and SE among the many factors that predict academic achievement among high school students.

1.9 Assumptions of the Study

The study was conducted with the following assumptions:

i. The sampled participants would respond objectively to questions in the questionnaire.
ii. The adapted scales for collecting data would be suitable for secondary school students.
iii. The empirical findings would adequately address the research questions.

1.10 Theoretical and Conceptual Framework

1.10.1 Theoretical Framework

This research was grounded in Bandura's social learning theory (Bandura, 1986). It emphasizes on the behaviour patterns of individuals as influenced by mutual interactions between environmental, cognitive and behavioral factors. This theory proposes that students' views of their capabilities are crucial indicators of their likelihood of academic success or failure. It provides theoretical basis that explains how SE and LOC shape students' approach to learning, goal-setting, and persistence in problem-solving, all of which influence academic success. LOC reflects whether students attribute success to their own efforts, internal, or external factors. SE pertains to a learner's confidence in their ability to achieve specific outcomes through their actions.

Based on Bandura (1986), people tend to be comfortable while doing activities that they believe they can accomplish successfully as opposed to those that they believe exceed their capacities. Successful completion of these internally driven tasks is very strong since they make the individual apply more effort to complete internal satisfaction as opposed to external rewards, such as grades, gifts, and so on. Believe in one's self-efficacy makes a student be more willing to get fully accomplished in their quest for knowledge. Lack of the ability to succeed is not the only reason why students record poor performance on tasks; lack of self-confidence in their competence belief plays a key role in this failure.

According to this theory, students set their goals upon their past successes and failure (Bandura, 1977). Students with internal LOC and those who are intrinsically driven, for

instance, set targets that help them gauge how they perform. Bandura's theory is grounded in the idea that a key factor in academic success or failure is students' attitudes towards themselves, their abilities, and how they perceive their capabilities. According to Bandura, learners who have a negative attitude, lack belief in themselves and their abilities are likely to fail in their academics, but those who have faith in their capacity to finish a task successfully end up as victors (Ogunmakin & Akomolafe, 2016). Students who attribute academic outcomes to their actions have internal LOC. However, the ones with external LOC tend to attribute their success or failure to external factors such as exams or the teachers.

This theory was relevant to this study because it asserts that individual's behaviour, cognitive factors, and environment are interrelated. In this regard, factors like one's self-efficacy and LOC determine the effort they are willing to apply in order to achieve set academic goals. Based on previous research done using social learning theory, the findings on students from thirty universities across USA offering doctoral degrees in Educational Psychology showed that those with higher self-efficacy and internal LOC felt that they could execute various tasks well, especially completion of dissertation. On the contrary, the externals and the ones with low SE would consider it as fate, or because of other forces beyond their control (Dumitrescu & Gabriela, 2016).

Similarly, the theory has been effectively used to research on students' academic achievement in Kenya. Kipngetich (2021) explored how self-efficacy and academic motivation predict performance among form three learners in Kitui County and the results revealed significant correlations. Therefore, this theory was deemed suitable for

the study because it explains self-efficacy and LOC strategies that can help improve students' academic achievement. This research highlights the value of applying Bandura's theory to understand how LOC and self-efficacy predict academic success, and guides educational interventions that empower students to take charge of their learning and succeed.

1.10.2 Conceptual Framework

Fig. 1.1

Conceptual Framework

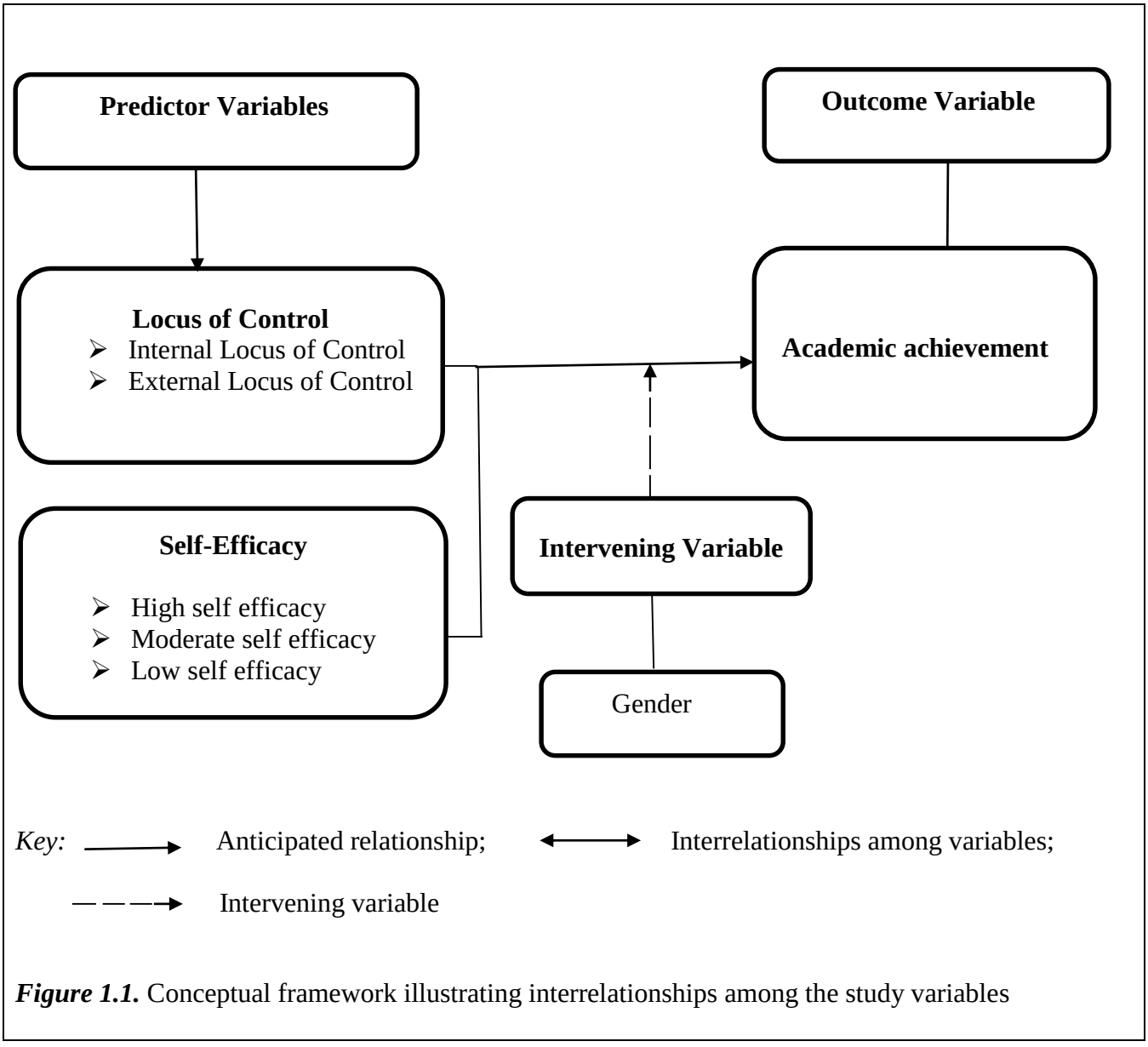


Figure 1.1. Conceptual framework illustrating interrelationships among the study variables

This model shows the relationship between predictor variables, intervening variable, and outcome variable. The predictor variables were LOC and SE, with academic achievement as the outcome variable. Gender was the intervening variable. Students' LOC comprised

internal LOC and external LOC. On the other hand, SE comprised of high self-efficacy, moderate and low self-efficacy. The predictor and outcome variables were assessed on an interval scale, whereas gender was measured at nominal scale. The study hypothesized that both LOC and SE predict academic achievement.

1.11 Operational Definition of Terms

Academic achievement: Degree of academic performance indicated by the extent to which skills and knowledge have been effectively acquired, demonstrated by the marks scored. It was measured by computing mean scores from three consecutive end-of-term examination results.

Locus of control: The level to which learners feel that they are accountable for their academic success and failures as measured by LOC of behaviour scale through assessing the individual's level of internal versus external LOC. High scores indicate internal LOC, while low scores suggest external LOC.

Self-efficacy: The self-assurance that one has on their capacity to effectively realize a particular academic goal. The measure is the New General Self-Efficacy Scale which evaluates individuals' confidence in realizing their goals, despite difficulties; higher scores signify high SE levels.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This section presents literature review according to the study objectives. Its organized as follows; relationship between locus of control and academic achievement, relationship between self efficacy and academic achievement, interaction effect of locus of control and self efficacy in predicting academic achievement. It ends with summary of literature review and gaps identification.

2.2 Relationship Between LOC and Students' Academic Achievement

According to Raamefar (2017), who terms LOC as the concept of people believing that controlling events occurring in one's life is either external or internal, students with internal LOC own up to the possible effects of their actions. High school students' academic achievement may be affected by how they handle challenging situations beyond their control, as shaped by their behaviors, interests, and the pressures they occasionally face.

A research done by Khezri et al. (2022) examined 402 undergraduate and M.A. students at Islamic Azad University, Yazd, and found that internal LOC positively predicted GPA and academic satisfaction, using the Nowicki-Strickland I-E Scale. The study investigated the correlation between LOC and academic performance by investigating the purpose of having quality and satisfactory life', used simple random sampling to pick

402 learners to participate in the study which was measured using Nowicki-Strickland Internal-External Scales. The conclusion revealed a significant link between LOC and academic achievement. This study focused on university students, who are at different developmental stage from the high school learners who were being explored in the current research.

On contrary findings, Jameson and Baker (2023) conducted research in a supplemental instruction program at Abilene Christian University, Texas, USA, to determine whether a relationship existed among LOC, social learning, and academic achievement. The outcomes presented LOC an insignificant variable in determining students' academic achievement. A gap exists since the study employed only the Internal-External Locus of Control Scale to measure students' overall academic confidence. The present study aimed to bridge the gap by further exploring students' academic achievement through the LOC of Behaviour Scale.

Villa and Sebastian (2021) studied 258 college students in the Philippines to examine the relationship between mathematics achievement and factors such as achievement motivation, study habits, and LOC. Descriptive correlational research design was utilized. The study found that most students exhibited an internal LOC, leading to better performance in mathematics. However, this research focused on college students, who are at a more advanced developmental stage as opposed to the secondary school learners examined in this research.

Even in recent research, students with a more internal locus of control demonstrate stronger academic adjustment and outcomes, as seen in a 2023 study of 228 Indonesian

college students, where internal LOC significantly predicted better academic adjustment (Auliya et al., 2023). The study found that even if a student has LOC, which usually has a positive effect on abilities, their performance might fall, especially when the student diverts their abilities from studies and focuses them on other non-academic things. In this case, just like Jameson and Baker (2023, he found an insignificant relationship between LOC and academic achievement. The gap on location exists since the study was done in Malaysia which is an upper middle-income country. The results may vary due to the advantage on technological advancement of the country as compared to Kenya which is a developing country. This study sought to seal this gap.

A study involving two hundred Masters of Business Administration students in India examined how self-esteem and locus of control influence academic achievement at graduation, considering various demographic factors (Suraj, Lohi, & Patil, 2023). The research found significant correlations between LOC, self-esteem, and academic success. However, the study presented a gap since it was limited to university students. The current research focused on high school learners.

A study of 380 secondary school learners from Puducherry region in India was conducted by Kumaravelu (2018) to explore the link between LOC and achievement in Math, Science, and English subjects. Data was collected using Levenson (1973) scale of LOC. Findings showed negative correlation between students with external LOC and subject performance and significant positive link among those with internal LOC. The study reviewed used Levenson (1973) scale of LOC presenting a gap of scale which this research aimed to address by using the LOC of Behaviour Scale.

Chinedu and Nwizuzu (2021) conducted a study to determine whether LOC impacted academic achievement among high school students in Abia State. The research which was carried out among male students revealed a notable positive link between LOC and academic achievement. This study presented gender limitation, as it only included male students, whereas the current research examined both male and female students.

A quantitative study by Iheka et al. (2022) among secondary school students in Imo State, Nigeria, found a moderate positive relationship between internal LOC and academic achievement. As the participants were at a less advanced developmental stage compared to university students, the findings are more applicable to the current research on Form Four learners in Buuri Sub-County, helping to bridge the age-gap limitation. Angelova (2016) had similar findings. The study on university students who are at a more advanced developmental stage creates an age gap. Hence, the findings cannot be broadly applied to the present research which centered on form four high school learners in Buuri Sub-County to address the gap.

In Nigeria, Okoye and Ogbonna (2022) found that adolescents with an internal locus of control showed higher motivation and academic engagement. Through a descriptive survey design, the study revealed that LOC is associated with how people interpret events that happen in their lives, such as, the outcome of the individual's attitudes, fate, and opportunity. Adolescents, who believe that they have the ability to influence an outcome through their actions, are likely to maintain motivation to attain success as opposed to those who do not believe that they can influence results. The descriptive survey design

may not fully capture the degree of association of the variables, thus, the current study employed correlational research design to address the methodological gap.

According to Auliya et al. (2023), counselors and teachers should take it upon themselves to training learners on how to accept responsibility of what they do; since locus of control influences individuals' psychological characteristics, for example, anxiety, psychological health, stress, self- esteem, and determination to achieve a goal. The correct orientation of internal LOC in an individual brings out positive results in terms of academic achievement and psychological health.

A study by Raamefar (2017), who did research on the connection between SE, LO and academic achievement on learners, both boys and girls in Nigeria's Secondary School City, showed that students who have internal LOC score better results than those with external LOC. The research which was based on social learning theory, creates a gap of location in that the study was done in Nigeria and hence the findings can not be generalized to the current research of the students in Buuri Sub-County.

A study by Merkine et al. (2019) involving 313 students from Woloita University in Ethiopia investigated the correlation between LOC and academic achievement. The study used a correlational design, , with data analyzed through t-tests, ANOVA, and Pearson’s product moment correlation coefficient. The outcomes revealed a substantial negative link between external LOC and academic success, while a positive link was found for students with internal LOC. However, this study had a limitation as it focused on university learners, who may have distinct educational experiences contrary to the secondary school learners examined in the current research.

A research explored the relationship between LOC, teacher-pupil interactions, and their effects on academic achievement in public primary schools in Kesses Sub County, Uasin Gishu County, Kenya (Jeniffer, Gitau, & Githae, 2022). It involved 351 participants, including teachers and grades 6 to 8 pupils. Data were gathered through questionnaires for learners and interviews with educators. The findings indicated a significant link between LOC and both teacher-pupil relationships and pupils' academic success. However, the study identified a gap by focusing exclusively on primary school students, highlighting the need for the current research, which specifically targeted high school students.

A study done in Vihiga Sub County, Kenya on the influence of internal LOC on Mathematics achievement among high school students showed that the internal LOC positively predicts success in Mathematics (Atetwe et al., 2024). This survey adopted Sequential Explanatory Design and the Mixed Methods approach. This study presents a gap since it only focused on Mathematics which is one of the many subject areas. The current study investigated the effect that LOC has on the general academic performance.

This study identified a major gap created by inconsistency in research findings due to the different conclusions in the literature. Moreover, many researchers have done studies on the impact that LOC has on academic achievement in different regions worldwide, but none has yet been done to find out how LOC impacts the academic achievement of form four learners in Buuri Sub-County, Kenya. This reseach, thus, intended to fill these gaps.

2.3 Relationship Between Students' SE and Academic Achievement

SE is one's conviction in their capability to make it in a particular situation or complete a specific undertaking (Bandura, 1997, 2012). An individual may either have low or high SE. Students with high efficacy are intrinsically motivated since they are able to put effort towards achieving their goals. Ultimately, these students are likely to achieve their set goals.

Zheng et al. (2023) defined SE as self-belief in the capacity to succeed in an assignment. An individual's SE is said to be low when he or she lacks the belief that they are capable of realizing the desired goal. Several issues characterize it, for instance, some are likely to exert effort owing to the realization that society would judge their performance.

According to Sheridan (2016), learners who have low SE get exposed to difficulty in carrying out tasks because of low self-confidence, which causes decreased academic achievement.

In experimental research carried out on the influence of SE on academic achievement via a systematic review by integrating research studies done on university students for 12 consecutive years, it showed that most of the findings positively correlated with self-efficacy and academic achievement (Huang et al., 2022). They further analysed 53 studies, from all levels of education. Just six -11.3%, of these studies did not demonstrate a correlation between SE and academic achievement. In other studies, it was reported that regulating the students' efforts and focusing on goal realization has moderated the

link between SE and academic achievement (Huang et al., 2022). In the present study, correlational research, was applied to fill the methodological gap.

A study exploring the mediating role of learning engagement between SE and academic achievement among Chinese college students found a positive correlation among academic SE, academic achievement, and learning engagement (Luo, Chen, Yu, & Zhang, 2023). Data was collected from 1,158 students using academic SE, academic achievement and learning engagement scale. The study noted a limitation related to its setting in a developed country, which may benefit from more resources and an advanced education system. In contrast, the current research addressed this gap by being conducted in a developing country.

According to research by Talsma (2018), on 197 first year Psychology undergraduate students from a regional Australian university, it was established that academic achievement is enhanced by high self-efficacy. The findings revealed that deficiency in SE resulted in students giving up on education and indulging in other deceitful methods of improving their academic achievement, such as exam cheating**.** The research used a sample size of 197 students which may be insufficient for making broad conclusions about the population. In contrast, the present research included a larger sample size of 459 students to address this gap.

Research conducted in Nigeria among by Asanre et al. (2023) on the link between SE and academic scores, a strong positive tie was exhibited. A methodological gap existed since the research applied a descriptive survey design which cannot determine cause-

and-effect relationship. Hence the current study intended to seal the gap by exploring the correlational research approach.

Yıldırım and Uzunboylu (2022) asserted that individuals could acquire self-efficiency and self-dependence through training, which can have a positive impact on their academic achievement. High SE on student's performance means that they are able to learn subjects easily, which might be difficult for other students. Individuals with low self-efficacy tend to evaluate and credit themselves according to the perception of how they are expected to be by other people (Yıldırım & Uzunboylu, 2022).

Research carried out on 300 orphaned secondary school learners and 11 principals from Bondo Sub County, Kenya, on the correlation between SE and academic achievement exhibited a noteworthy weak positive association between SE and academic achievement (Oyuga, Raburu & Aloka, 2019). The mixed method and concurrent triangulation research approaches were employed in this research but the current research applied the correlational research design to fill the research approach gap.

Kaburi (2019) conducted a study in Nyamira County to investigate the connection between students' SE and their performance in Mathematics and English. The survey involved 240 form 4 students from 24 public secondary schools, with data gathered through document analysis and self-efficacy questionnaire. The findings revealed that high SE was associated with better scores in both subjects. However, the study was limited to Mathematics and English, leaving a gap, which was countered by the current research by examining overall academic performance.

A study conducted among students from 12 public secondary school in Nairobi County, Kenya, examined the link between academic SE and academic achievement (Mwaura et.al., 2019). Guided by the social cognitive theory, the study sampled 397 form four students and data was analyzed quantitatively and qualitatively. The findings indicated that SE and academic achievement were positively correlated.The study reviewed presented the gap of location since the study focused on students in Nairobi whereas the current study investigated those in Buuri subcounty, Meru.

In the literature reviewed, the researcher noted that among all the studies that were done, none of them was carried out to explore whether SE impacts academic achievement among form four students in Buuri sub- county, Meru County, and so this research purposed to seal that gap.

2.4 Relationship Among Students' LOC, SE and Academic Achievement

LOC and SE have been found to influence goal attainments by influencing effort, persistence, and perseverance. This enables the students to have more focus on their endeavour to better their academic achievement.

Sagone and Indiana (2021) conducted a study with 185 psychology and pedagogy students at the University of Catania, finding that decision-making styles and internal locus of control significantly predicted students' average exam grades. The results linked locus of control and academic self-efficacy to better academic performance.The outcome showed that those who managed to individually take charge of their daily actions, had a more positive self-judgment, were able to express a positive self-concept and eventually

were able to perceive themselves as academically efficient. The reviewed study focused on university students who are at a different developmental stage with the form four students investigated in the current study. This study aimed to address this gap.

Abraham and Rajalakshmi (2021) studied 260 Grade 11–12 students in Kottayam district, Kerala, and found no significant correlation between general self-efficacy and locus of control. The interaction effect between SE and LOC analysed through the three-way ANOVA showed no significant link between the two independent variables and academic achievement. The survey was done in India and therefore the differing geographical locations may restrict the applicability of its findings to Buuri sub county. The present research aimed to address this limitation.

The findings by Ismail et.el (2023) who conducted a study on the impact of SE and LOC on student achievement in economics subject revealed a significant joint influence between SE, LOC and student success. The study targeted 12^{th} grade accounting class at senior high school. A gap was presented since the study was specific to economics. In contrast, the current research explores how general academic achievement is affected by SE and LOC.

Ajaude et.al (2024) conducted a research to examine if SE, LOC predict academic achievement in Mathematics among 811 Senior Secondary School students in Ebonyi State, Nigeria. The research established that SE and LOC had a notable positive relationship with students' success in Mathematics. The reviewed research was delimited to only one subject area whereas the current study focused on general academic performance.

Findings of a study conducted to explore academic SE as a predictor of LOC among secondary school students in Kenya showed a significant positive link between the students' SE and their internal LOC (Mutweleli & Muthui, 2020). This translated to higher mean score in terms of academic performance. This study sampled 291 respondents picked from 10 schools. The reviewed research utilized Ex-post-facto research design that presented a gap of design that the current study sought to fill by employing correlational research design.

Kariuki and Kimani (2021) conducted a study on Kenyan high school students to examine the significance of LOC and SE in high-stakes environments like the KCSE. Their findings indicated that internal LOC and SE were positive predictors of academic success, while students with external LOC tended to achieve lower academic results. The reviewed study generalized its findings to the broader Kenyan population, while the current research specifically focused on high school students in Buuri Sub-County, Meru.

A study by Kamau and Mawang (2023) among 320 pupils from eight public primary schools in Nyandarua County, Kenya, examined the academic self-efficacy and LOC as collates of mathematics performance and established a significant positive correlation among LOC, SE and success in mathematics. Using a correlational research design with purposive, simple random, and stratified sampling, the study highlighted a gap by concentrating solely on mathematics performance. In contrast, the current study explores how self-efficacy and locus of control predict overall academic performance.

2.5 Summary of Reviewed Literature and Gap Identification

The preceding section reviewed literature on how LOC and SE relate to students' academic achievement in Kenya and beyond. Studies on connection between internal LOC and academic achievement have presented these students as self- confident and are able to perform better in academics, unlike in external LOC where academic results are impacted negatively. Studies on SE revealed that the students with SE that is high are determined as well as use strategy when studying, which is a factor that impacts students' academic achievement positively.

However, the reviewed literature demonstrates the need for further research on the link that exists between behavioral constructs (SE and LOC) and academic achievement. This is because contradictory findings were presented where some studies established positive correlation between LOC and academic achievement, as well as between SE and academic achievement, while others revealed no significant relationship. The current study sought to conduct further research so that it could fill the gaps in the relationship between SE, LOC and academic achievement.

In some studies samples of university students were used, so the results may not be applicable to high school learners in Buuri sub county. The present research purposed to address this gap. Other studies used the descriptive statistical analysis which does not give the degree of interrelationship between the variables. Moreover, other studies used differing theories such as the attribution theory while the present study used the social leaning theory.

In addition to that, some of the reviewed studies were carried out in developed countries which are more technologically advanced than the current area of study, which is Buuri Sub-County, Kenya. This research aimed to seal this gap. Moreover, most of the research was conducted in other countries, and those in Kenya were done in different regions and hence cannot be generalized to students in Buuri Sub-County. The researcher, therefore, addressed this gap by exploring how LOC and SE relate to academic achievement with a focus on form four learners from chosen high schools in Buuri sub county.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter outlines the research design, study variables, study location, target population, sampling methods, and sample size determination. Furthermore, it covers the research instruments, pilot study, data collection techniques, data analysis, along with logistical and ethical considerations.

3.2 Research Design

The research employed a correlational research design to examine the relationships among LOC, self-efficacy, and academic achievement. According to Kothari (2019), correlational research design is a non-experimental research methodology that facilitates the prediction and explanation of variable relationships. This design was appropriate as it enabled the researcher to investigate the relationship between LOC and academic achievement, self-efficacy and academic achievement and the predictive relationship between LOC, self-efficacy and academic achievement. These relationships were examined using Pearson correlation and regression analysis. The aforesaid design was appropriate since it was not possible to manipulate students' locus of control and self-efficacy due to ethical issues. Furthermore, a study by Kamau and Mawang (2023) in Nyandarua County, Kenya, used a correlational research design to examine how self-efficacy and locus of control relate to students' mathematics performance. This justifies the use of a correlational design in the current study, as it effectively reveals relationships

among variables like LOC, self-efficacy, and academic achievement without manipulating them.

3.3 Research Variables

The research variables were categorized into three groups namely; predictor variables, intervening variable and outcome variable. LOC and SE were the predictor variables. LOC comprised internal and external LOC while self efficacy was categorized into low, moderate and high self efficacy. The outcome variable was academic achievement, assessed using the mean score of the end-of-term examination results. The study also had intervening variable which was the gender of the students. SE and LOC as predictors were measured at interval measurement level, while gender, as an intervening variable was measured at nominal level. The outcome variable is student's academic achievement and was measured at the interval level.

3.4 Location of the Study

The research was undertaken in Buuri Sub-county, Meru County, Kenya. This area was selected due to the underperformance of schools in the KCSE exams as shown in Appendices G, H, I and J. When compared to other Sub-Counties within Meru County, schools in Buuri Sub-County have consistently achieved lower mean scores. Over a four-year period (2019–2022), none of the high schools in Buuri Sub-County ranked among the top ten in Meru County, highlighting the region's academic challenges. This low academic attainment highlighted the necessity for the study to examine the factors contributing to the sub-county's low academic achievement. Several studies have identified factors related to low academic performance, including negative attitudes,

ineffective teaching strategies, teacher shortages, lack of resources, and inadequate facilities (Cherry, 2016; Ogolla, Aloka & Raburu, 2017; Choudhury & Boroah, 2017). SE and LOC could possibly be linked to the issue, although there is limited understanding of these psychological factors in this context. Therefore, this research aimed to explore the link between LOC and SE, aiming to offer valuable insights for stakeholders on how to improve academic achievement. The current study therefore investigated LOC and SE as predictors of academic achievement in selected high schools in Buuri sub county, Meru County.

3.5 Target Population

Buuri Sub-County has 36 secondary schools with 1435 Form Four students. This population was targeted because they were deemed to have acquired a considerable level of secondary school experience (Pulfrey et al., 2018). moreover, pubertal status has been associated to variations in SE and LOC, which are some of the psychological constructs affecting academic achievement (Schaffhuser, 2017).

3.6 Sampling Techniques and Sample Size Determination

3.6.1 Sampling Techniques

Stratified random sampling method, was employed to select schools from different categories, as it was deemed the most suitable approach because there are different categories of schools in the study area. Target population was divided into subcategories that are comparable to each other in order to simplify the survey process (Ünal, 2019). A sample size of 10% or above of the total population is sufficient for study (Mugenda

and Mugenda, 2003). Thus, the sample was drawn from four high schools which is 10% of the total population of 36 schools. The schools were stratified in various subcategories; two extra county schools (boys' boarding and girls' boarding), a co-educational boarding and a co-educational day school. Buuri Sub County has no county schools. The procedure applied in choosing respondents in selected schools was simple random technique.

3.6.2 Sample Size Determination

The total population of Form Four students within Buuri Sub County was 1,435 in the 36 secondary schools. In reference to the table for sample size determination by Gill and Clark (2010) found in Appendix F, total sample size was 306 for a population of up to 1,500. To compensate for non- response, Taherdoost (2017) suggests increasing the sample size by up to 50%; thus, the sample size was 459. The formula nh = (Nh / N) x n, was used to compute the size of each strata. Where nh represents the sample size in stratum h, Nh is the population size for stratum h, N is total population size, and n is total sample size (Mukerjee et al., 2018).

Table 3.1 displays the sample distribution across the four high schools.

Table 3.1

Sampling Size

	Target Population			Sample size		
Category of Schools	Total Form four students	Male	Female	Form four students	Male	Female
Extra County Girls school	476	____	476	147	____	147
Extra County Boys school	452	452	____	134	134	____
Coeducational boarding	167	72	95	74	33	41
Coeducational day	340	162	178	104	50	54
Total	1,435 (100%)	686 (48%)	749 (52%)	459 (32%)	217 (47%)	242 (53%)

Note: (%) – percentage of Form Four students in the high schools presented in the table

Source : County Director of Education, Meru County (January 2020)

3.7 Research Instruments

Questionnaires, which are instruments used to get data that allows estimation for or against a particular perspective, are also efficient in gathering a lot of information from a given sample populace within minimal time (Ngei & Kihara, 2017). Notably, a questionnaire was used since it is efficient, cheap and easy to administer (McLeod S. 2018).

Structured closed-ended questions were employed to get quantitative data on the biodata, LOC, and SE of the respondents, as shown in (Appendix B). The demographic data (Section A) included: gender, age bracket, school category, year of study (form), and Academic results for the past one year. The academic achievement was measured using end term academic examination marks for the past three terms. The grades were grouped to indicate high grades (A to A-), good grades (B+ to B-), Average grade (C+ to C-) and low (D+ to D-) and poor grades (E). Grade points were then transformed to T scores to make them comparable. Sections B and C had structured questions specifically relating to variables under study; LOC and SE.

3.7.1 Locus of Control of Behaviour Scale

LOC measured by a 17-item instrument was adapted from the LOC of Behaviour Scale (Craig et al., 1984) to examine the internal and external LOC among high school students. A satisfactory internal consistency reliability of α=.86 was obtained after the scale measured the external and internal LOC among Italian University students (Craig et al., 1984). Response options were presented on a 5-point Likert scale ranging from: 1- Strongly Disagree 2- Disagree 3- Undecided 4- Agree 5- Strongly Agree.

External LOC was represented by scores of 50 and above while those that was score less than 50 was considered to have internal LOC. This scale, which has been found to have a valid measure of test-retest reliability co-efficient of .86 was considered reliable (See Appendix B). The researcher received authorization to use the scale.

3.7.2 New General Self-Efficacy Scale

The 8-item New General SE Scale by Chen et al. (2001) measured SE. Adapted from Sherer's original 17-item SE scale (1982), this version is considered to have higher construct validity than the general SE scale. It had an internal consistency of $\alpha = .86$. It measures an individual's belief that they can be successful despite the challenges they may have. Scores for each respondent were then summed to give a final score. A score between 8 and 16 indicated low self-efficacy, 17 to 24 indicated moderate and a score of 25 and above showed high SE. The scale is freely available for use.

3.8 Piloting

Prior to collecting data using a questionnaire, the instrument's pretesting is necessary (Silverman, 2015). This assesses the questionnaire's validity; the likely reliability of the data collected, and identifies the necessary adjustments required on the process of collecting data and analyzes (Resnick, 2015). Hazzi and Maldao (2015) asserted that a sample for piloting should be 10% to 20% of the main sample size; therefore, in this study, piloting was administered among 39 Form Four learners from randomly selected schools within Buuri Sub County.

3.8.1 Validity of the Research Instruments

This is as an extent that an assessment tests what it's intended to (Taherdoost, 2016). To evaluate the content and face validity of the research instruments, the research tools were submitted to the university supervisor for assessment.

3.8.2 Reliability of the Research Instruments

This is the measure of correctness while repeating a given procedure but still getting similar results (Taherdoost, 2016). The reliability of the questionnaires was evaluated at piloting stage by use of Cronbach alpha (α) coefficient. In educational research, the standard and acceptable alpha coefficient is .70 and above (McNeish, 2018). There was a manual scoring of the questionnaire responses that was made by the respondents involved in the pre-study.

Table 3.2

Reliability Coefficients for the Scales Used

Scale	Items	Authors	Pilot Cronbach's Alpha
LOC	17	0.86	0.86
Self Efficacy	8	0.86	0.82

The degree of consistency in eliciting the same responses was checked by Pearson's Correlation Coefficient. The pilot study Cronbach's alpha for 17 item LOC scale was 0.86 and the one for the 8 item self efficacy scale was 0.82. This was above the recommended Cronbach's alpha of 0.70 which shows that the two research instruments were reliable.

3.9 Data Collection Techniques

Data were gathered through the administration of Locus of Control of Behaviour Scale and New General Self-Efficacy Scale. The researcher administered the questionnaires in person during lunch time preps. She guided the respondents by taking them through the questionnaire and explaining to them what they were required to do. The researcher allowed them some time to ask the questions on anything they wanted to be clarified. The respondents were then allowed to fill the questionnaire in their classroom and submit them within the required timeline. This was the most appropriate method as it allowed the researcher to gather a large amount of data in a brief time frame (Borgobello & Pierella, 2019). Each participants was given about 30 minutes to fill the questionnaire.

3.10 Data Analysis

The data analysis process commenced with data cleaning, where completed questionnaires that followed the instructions were identified and distinctively set aside from those that did not fulfill the specified criteria. The data were then coded according to the variables being examined. Next, the raw data were entered into a codebook prepared in SPSS. Presence of outliers, assumptions and the missing data were checked from the coded data in the computer. Data analysis was conducted using both descriptive and inferential statistics. Inferential statistics was applied to examine the following statistical hypotheses;

Percentages and means were calculated to describe the characteristics of the study variables, while Pearson correlation and multiple regression were used to explore relationships between the predictor and outcome variables.

Null hypotheses that were tested in this research included:

H_{01}: There is no significant correlation between LOC and academic achievement. (Pearson Product Moment Correlation Coefficient)

H_{02}: There is no significant correlation between SE and academic achievement. (Pearson Product Moment Correlation Coefficient)

H_{03}: There is no significant interaction effect between LOC and SE in predicting academic achievement (Multiple regression)

3.11 Logistical and Ethical Considerations

3.11.1 Logistical Considerations

Approval to undertake this study was granted by the Graduate School of Kenyatta University, and permission to conduct the research in Kenya was sought from the National Commission for Science, Technology and Innovation (NACOSTI). Authorization to carry out research in schools across Meru County was obtained from the County Director of Education. Consent to adapt and use instruments was sought from the original authors. The researcher subsequently visited the schools to consult with the principals and inform them about the intention to conduct a study in the selected high schools.

3.11.2 Ethical Considerations

The National Commission for Science, Technology and Innovation (NACOSTI) and Meru County Director of Education were notified. Consent from the schools' principals was sought to ensure that the students' rights were not violated. The researcher used voluntary participation among the respondents and ensured that confidentiality was maintained by concealing their names and having them replaced with numbers (McLeod, 2018). The respondents were debriefed on all issues relating to this research and afterwards given a consent form to sign (Appendix A).

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION, AND DISCUSSION

4.1 Introduction

This chapter details the study findings in accordance with the study objectives. This includes; general and demographic information, relationship between LOC and academic achievement, relationship between se styles and academic achievement, and the interaction effect of LOC and SE in predicting academic achievement.

4.2 General and Demographic Information

This subsection highlights questionnaire return rate, and respondents' demographic information including gender and age.

4.2.1 Questionnaire Return Rate

The sample for the study consisted of 459 students, selected from four categories of schools. The respondents were issued with questionnaires as presented in Table 4.1.

Table 4.1

Return Rate

		QA				QR			
		ECB	ECG	CEB	CED	ECB	ECG	CEB	CED
Respondent's Gender	Male	134	0	33	50	132(99%)	0	33(100%)	49(98%)
	Female	0	147	41	54	0	142(97%)	37(90%)	47(87%)
Sub Total		134	147	74	104	132(99%)	142(97%)	70(95%)	96(92%)
Total		459						440 (96%)	

Note. QA – Questionnaires administered; QR- Questionnaires returned; (%) Return rate; ECBS -Extra County Boys School; ECGS- Extra County Girls school; CED – Coeducation Day; CEB – Coeducation Boarding

Table 4.1 shows that 459 questionnaires were issued, while 440 of them were returned. This translates to an overall return rate of 96%. This return rate was sufficient for data analysis as suggested by Mugenda and Mugenda (2003).

4.2.2 Gender of the Respondents

The respondents were categorized based on gender, as shown in Table 4.2.

Table 4.2

Gender of the Respondents

	Frequency	Percent
Male	214	48.6
Female	226	51.4
Total	440	100.0

Table 4.2 shows that female respondents were the majority at 51.4%, followed by male respondents at 48.6%.

4.2.3 Age of the Respondents

The respondents were categorised into two age groups that included 15-17, and 18 years and above as highlighted in Table 4.3.

Table 4.3

Students' Age

	Frequency	Percent
15 years to 17 years	131	29.8
18 years and over	309	70.2
Total	440	100.0

Table 4.3 indicates that most of the students (70.2%) were 18 years or older, while 29.8% of the participants were between the ages of 15 and 17.

4.2.4 Age and Gender Cross Tabulation

Table 4.4 presents a cross tabulation of respondents' gender and age.

Table 4.4

Age and Gender Cross Tabulation

		Gender		Total
		Male	Female	
Age Bracket	15 years to 17 years	58 (13%)	73(17%)	131(30%)
	18 years and over	156 (35%)	153(35%)	309(70%)
Total		214(49%)	226(51%)	440(100%)

Table 4.4 demonstrates that most of the participants fell within the 18 years and older age category with both male and female constituting 35% each. These were followed by females aged between 15-17 years (17%), and finally males aged between 15-17 years (13%).

4.3 Findings on the Relationship between Locus of Control and Academic achievement

The first aim of this research was to ascertain if there is a connection between LOC and students' academic achievement. The researcher conducted the analyses below to achieve the objective.

4.3.1 Descriptive Statistics of Locus of Control

The researcher obtained descriptive statistics of locus of control comprising the maximum score, the minimum score, the mean, the standard deviation, and the coefficients of kurtosis and skewness. The outcomes of this are illustrated in Table 4.5.

Table 4.5

Descriptive Statistics of Locus of Control

	N	R	Min	Max	M	SD	*Sk*	*Kur*
LOC	440	60.00	16.00	76.00	51.39	8.73	-.22	.55

Note. N - 440; R-Range; Min – Minimum; Max – Maximum; M-Mean; SD – Standard deviation; Sk – Skewness; Kur- Kurtosis

Table 4.5 indicates that the minimum score attained was 16.00 while the maximum score was 76.00. The mean score of LOC was 51.39 (*SD* = 8.73). The values of skewness (-.22) and kurtosis (-.55) showed that the distribution shape was platykurtic suggesting that there were few extreme scores in LOC rating.

The descriptive statistics for LOC were also calculated by gender, as shown in Table 4.6.

Table 4.6

Descriptive Statistics of Locus of Control by Gender

Gender	N	Min	Max	R	M	SD	*Sk*	*Kur*
Male	214	16.00	76.00	60.00	52.17	9.10	-.17	.30
Female	226	16.00	69.00	53.00	50.65	8.32	-.35	.83
Total	440	16.00	76.00	60.00	51.39	8.73	-.22	.55

Note. N=440; Min – Minimum; Max – Maximum; M-Mean; SD – Standard deviation; Sk – Skewness; Kur- Kurtosis

Table 4.6 depicts that male students obtained a higher mean score of 52.17 (*SD*=9.10). They also obtained a minimum score of 16.00, and a maximum of 76.00. Female students scored a mean score of 50.65 (*SD*=8.32). They also obtained a minimum score of 16.00, and a maximum 69.00.

The descriptive statistics of locus of control were determined according school categories as exhibited in Table 4.7.

Table 4.7

Descriptive Statistics of Locus of Control by School Category

School Category	N	Min	Max	R	M	SD	Sk	Kur
Extra County Boys Boarding	132	37.00	76.00	39.00	53.71	8.35	.23	-.66
Extra County Girls Boarding School	142	29.00	69.00	40.00	49.80	7.86	.10	.06
Coeducational Boarding School	70	16.00	68.00	52.00	52.67	10.21	-.96	1.19
Coeducational Day School	96	16.00	67.00	51.00	49.60	8.56	-.59	1.68
Total	440	16.00	76.00	60.00	51.39	8.73	-.22	.55

Note. N = 440, M= Mean, SD = Standard Deviation, Kur = Kurtosis, SK – Skewness, R = Range, Min = Minimum, Max = Maximum, ST = School Type

Table 4.7 shows that the extra county boys' boarding schools achieved the highest average score of 53.71 (*SD* = 8.35). The same schools recorded a minimum score of 37.00 and a maximum score of 76.00 giving a range of 39. The coeducational day schools had the lowest mean score of 49.60 (*SD* = 8.56), with a minimum score of 16 and a maximum score of 67 giving a range of 51. Results indicate that students in extra county boys' boarding schools had the highest locus of control while those from coeducational day schools had the lowest locus of control. The results indicate that there were differences in LOC based on school categories.

The researcher also obtained the descriptive statistics of the type of LOC among the students as shown in Table 4.8.

Table 4.8

Types of Locus of Control among the Students

	Frequency	Percent
Internal Locus of Control	43	9.80
External Locus of Control	397	90.20
Total	440	100.00

Note. N=440

As depicted in Table 4.8, most of the respondents (90.2%) had external locus of control while only 9.80% had internal locus of control.

The descriptive statistics of academic achievement were converted to Tscores to make them comparable and the outcomes are listed in Table 4.9.

Table 4.9

Descriptive Statistics of Academic achievement in T scores

	N	R	Min	Max	M	SD	*Sk*	*Kur*
Achievement score	440	59.40	28.60	88.00	50.00	10.00	1.14	1.3
	440							

Note. N = 440, M = Mean, SD = Standard Deviation, Kur = Kurtosis, Sk = Skewness,

R = Range, Min = Minimum, Max = Maximum, ST = School Type

Table 4.9 shows that the minimum score attained was 28.60, while the maximum was 88.00. The mean score for academic achievement was 50.00 (*SD* = 3.65). The values of skewness coefficient (1.14) shows that there were few extreme scores and kurtosis coefficient (1.3) showed that the distribution shape was platykurtic, within normal distribution.

Additionally, the researcher obtained the descriptive statistics for academic achievement by gender as presented in Table 4.10.

Table 4.10

Descriptive Statistics of Academic achievement by Gender

Gender	N	Min	Max	Range	*M*	*SD*	*Sk*	*Kur*
Male	214	28.60	88.00	59.40	50.56	10.85	1.02	.96
Female	226	38.32	85.84	47.52	49.47	9.12	1.26	1.69
Total	440	28.60	88.00	59.40	50.00	10.00	1.14	1.34

Note. N=440; Min – Minimum; Max – Maximum; SD – Standard deviation; SK – Skewness; Kur- Kurtosis

Table 4.10 shows that male students got a higher mean of 50.56 (*SD*=10.85). They also obtained a minimum score of 28.60, and a maximum 88.00, giving a range of 59.40. Female students attained a mean of 49.47 (*SD*=9.12). They also obtained a minimum score of 38.32, and a maximum 85.84, giving a range of 47.52.

Independent samples t-test was executed to assess potential significant gender differences in academic achievement, as indicated in Table 4.11.

Table 4.11

Independent Samples t test for Academic Achievement

		t	df	Sig. (2-tailed)
Achievement score	Equal variances assumed	1.15	44	.25
	Equal variances not assumed	1.14	416.76	.25

From Table 4.11, the results on academic achievement reveal that the mean differences between male and female students were not statistically significant, t (2, 44), p = .25. The findings indicate that there was no significant gender differences among students' academic achievement.

The descriptive statistics of academic achievement by school category were obtained as depicted in Table 4.12.

Table 4.12

Descriptive Statistics of Academic achievement by School Category

School Category	N	Min	Max	Range	*M*	*SD*	*Sk*	*Kur*
Extra County Boys Boarding	132	28.60	88.00	59.40	50.43	9.82	.84	.90
Extra County Girls Boarding School	142	38.32	85.84	47.52	53.64	8.32	1.58	3.59
Coeducational Boarding School	70	28.60	84.76	56.16	49.65	11.60	.48	-.07
Coeducational Day School	96	38.32	85.84	47.52	48.03	10.61	1.50	1.97
Total	440	28.60	88.00	59.40	50.00	10.00	1.14	1.34

Note. N = 341, M= Mean, SD = Standard Deviation, Kur = Kurtosis, SK – Skewness, R = Range, Min = Minimum, Max = Maximum, ST = School Type

Table 4.12 shows that the extra county girls' boarding schools had the highest average score of 53.64 (SD = 8.32). The same schools scored a minimum score of 38.32 and a maximum score of 85.84 resulting in a range of 47.52. The coeducational day schools had the lowest mean score of 48.03 (SD = 10.61). The same schools scored a minimum score of 38.32 and a supreme score of 85.84 producing a range of 47.52. The findings suggest that students in extra county girls' boarding schools had the highest academic achievement while those from mixed day schools had the lowest academic achievement. This indicates that academic achievement varied across different school categories.

The descriptive statistics of the type of LOC and students' academic achievement were also obtained as displayed in Table 4.13.

Table 4.13

LOC Type	N	Mean	Std. Deviation
Internal Locus of Control	43	50.36	5.76
External Locus of Control	397	46.71	10.30
Total	440	50.00	10.00

Type of locus of Control and Academic Achievement Mean Score

Note. N=440

As shown in Table 4.13, students with internal LOC scored a higher mean of 50.36 (*SD*=5.76) while those who had external locus of control scored a mean of 46.71 (*SD*=10.30). This suggests that students with internal LOC achieved higher scores academically than those with external LOC.

4.3.2 Hypothesis Testing

The first aim of this research was to investigate the link between LOC and students' academic achievement in Buuri Sub-County, Meru County. The researcher established this link by carrying out Pearson Product Moment Correlation test on the hypothesis outlined below:

H_{01}: There is no significant link between LOC and students' academic achievement.

The test findings are shown in Table 4.14.

Table 4.14

Correlation between Locus of Control and Academic Achievement

		Academic achievement
External LOC	Pearson Correlation	.38*
	Sig. (2-tailed)	.00
	N	397
Internal LOC	Pearson Correlation	.68*
	Sig. (2-tailed)	.00
	N	43
LOC total Score	Pearson Correlation	.41*

	Sig. (2-tailed)	.00
	N	440

From Table 4.14, the external LOC sub domain showed a weak, positive, and significant correlation with academic achievement, r (397) = .38, p < .05. This suggests that as external LOC increases among Form Four students, their academic achievement improves, and vice versa. Similarly, results revealed that the internal locus of control subdomain had a strong, positive, and significant relationship with academic achievement, r (43) = .68, p < .05. This indicates that higher internal locus of control among Form Four students is associated with better academic performance and vice versa. On the overall combined score, results showed a moderate, positive, and significant correlation between LOC and students' academic achievement, r (440) = .41, p < .05. These findings imply that as students' LOC increases, so does their academic achievement and vice versa. Thus, learners with higher levels of LOC tend to achieve better academically than those with lower levels.

4.3.3 Discussion of the Results

The first objective of this study was to investigate the connection between LOC and students' academic achievement in Buuri Sub-County, Meru County. The Pearson's Product Moment Correlation results revealed a weak, positive, and significant relationship between students' external LOC and their academic achievement. The results also showed a strong, positive and significant correlation between students' internal LOC and their academic achievement. Overall, the findings showed a moderate, positive, and significant correlation between students' total LOC score and their academic

achievement. The results indicate that as both internal LOC and external LOC increases, the students' academic achievement increases and vice versa.

The strong and significant relationship revealed between the internal LOC and academic achievement agree with Bandura's Theory of Social Learning (1986). According to the theory, people tend to be comfortable while doing activities that they believe they can accomplish successfully as opposed to those that they believe exceed their capacities. The theory posits that students with internal LOC and those who are intrinsically driven are able to set targets that help them gauge how they perform.

The basis for Bandura's theory was that a primary factor in academic success or failure is students' attitude on themselves and their ability and interpretations about their capabilities. Accordingly, students who have faith in their capacity to finish a task successfully end up as victors in academics. These results are consistent with results obtained by past studies. For instance, Raamefar (2017) revealed that the academic achievement of high school students is affected by how they direct difficult situations on a certain control beyond them because of their behaviors and interests and the pressures they at times find themselves in. Similarly, Khezri et al. (2022) investigated the correlation between LOC and academic achievement of university students from Iran. The results showed a significant link between LOC and academic achievement.

The current study findings also agree with those of Atibuni et al. (2017), Angelova (2016), and and Okoye and Ogbonna (2022). For the case of Atibuni et al. (2017), the study sampled 203 students from a Nigerian university to investigate the correlation between LOC and academic achievement. The results showed a strong link between LOC

and academic achievement. Similarly, Angelova (2016) carried a study among university students and revealed a strong relationship between LOC and academic achievement. The findings showed a significant connection between LOC and academic achievement.

The current study results also agree with those of past studies. Okoye and Ogbonna (2022) investigated the connection between LOC and academic achievement of adolescent learners from Nigeria. The study found an association between LOC and the adolescent students' academic achievement. Similarly, Raamefar (2017) investigated the link between LOC and academic achievement of students from secondary schools in Nigeria. The results showed that students who had internal LOC scored better academically than those with external LOC.

Several studies have been carried out in Kenya to examine the relationship between LOC and students' academic achievement. A study was conducted by Atetwe et al. (2024) on the influence of internal LOC on Mathematics achievement among high school learners. The study results showed that internal LOC positively predicts success in Mathematics. The study results agree with those of the present reseach.

The current research results, however, differed with some of the literature reviewed which include Jameson and Baker (2023), and Auliya et al. (2023). For instance, Jameson and Baker (2023 investigated the relationship between LOC and academic achievement among students of a Christian university in Texas, USA. The results indicated no significant connection between LOC and academic achievement. This may be attributed to differences associated with a foreign locale in a developed country, and the target group studied, which was university students, compared to the Kenyan high school

students. Similarly, Auliya et al.(2023) investigated the correlation between LOC and students' academic achievement among Indonesian students. The study results revealed no significant relationship between students' LOC and their academic achievement. As with Jameson and Baker (2023, the contrary results may be attributable to the difference in locale and the target group studied.

4.4 Findings on the Relationship between Self Efficacy and Academic Achievement

The second aim was to examine if there is a correlation between SE and academic achievement of form four students.The following analysis was undertaken to achieve the objective.

4.4.1 Descriptive Statistics of Self Efficacy

The researcher obtained descriptive statistics of Self Efficacy scores to determine the minimum score, the maximum score, the mean, the standard deviation and the coefficients of skewness and kurtosis. Table 4.15 shows the results.

Table 4.15

Descriptive Statistics of Self Efficacy scores

	N	Range	Min	Max	*M*	*SD*	*Sk*	*Kur*
SE	440	32.00	8.00	40.00	28.68	5.73	-.38	-.08

Note. N=440; Min – Minimum; Max – Maximum; R – Range; SD – Standard deviation; Sk – Skewness; Kur- Kurtosis

Table 4.15 indicates that the minimum score attained was 8.00, whereas the maximum score was 40.00, giving a range of 32.00. The mean score was 28.68 (*SD*= 5.73). The values of skewness coefficient was -.38 indicating that the data was near normal distribution. The coefficient of kurtosis was -.08 indicating that the distribution shape was platykurtic, within normal distribution.

The descriptive statistics of self efficacy scores were also gathered according to gender, as shown in Table 4.16.

Table 4.16

Descriptive Statistics of Self Efficacy by Gender

Gender	N	Min	Max	R	M	SD	Sk	Kur
Male	214	8.00	40.00	32.00	29.12	5.92	-.38	-.23
Female	226	8.00	39.00	31.00	28.26	5.52	-.42	.12
Total	440	8.00	40.00	32.00	28.68	5.73	-.38	-.08

Note. N=440; Min – Minimum; Max – Maximum; R – Range; SD – Standard deviation; Sk – Skewness; Kur- Kurtosis

From Table 4.16, the male students scored a higher mean of 29.12 (*SD* = 5.92) than their female counterparts who had a mean score of 28.26 (*SD* = 5.52). The males had a minimum score 8.00, and a maximum of 40.00, giving a range of 32.00. The female students had a lowest score of 8.00 and a highest score of 39.00, giving a range of 31.

The descriptive statistics of SE scores were also obtained based on school category to determine if there exist mean differences among the various school groupings. The outcomes are illustrated in Table 4.17.

Table 4.17

Descriptive Statistics of Self Efficacy by School Category

School Category	N	Min	Max	Range	*M*	*SD*	*Sk*	*Kur*
Extra County Boys Boarding	132	17.00	40.00	23.00	29.95	5.40	-.24	-.75
Extra County Girls Boarding School	142	14.00	39.00	25.00	29.60	5.26	-.10	-.37
Coeducational Boarding School	70	8.00	38.00	30.00	27.66	6.70	-.92	.38
Coeducational Day School	96	8.00	40.00	32.00	27.75	5.70	-.49	.73
Total	440	8.00	40.00	32.00	28.68	5.73	-.38	-.08

Note. N=440; Min – Minimum; Max – Maximum; R – Range; SD – Standard deviation; Sk – Skewness; Kur- Kurtosis

Table 4.17 shows that the extra county boys boarding schools obtained the highest mean score of 29.95 (*SD* = 5.40). The same schools scored a minimum score of 17.00 and a maximum score of 40.00 giving a range of 23.00. Coeducation boarding schools had the lowest mean score of 27.66 (*SD* = 6.70). The same schools scored a minimum score of 8.00 and a maximum score of 38.00 giving a range of 30. These results indicate that

students in extra county boys' boarding schools had the highest self-efficacy whereas those from coeducational boarding schools had the lowest SE.

The descriptive statistics of levels of self-efficacy were also obtained as depicted in Table 4.18.

Table 4.18

Descriptive Statistics on Levels of SE

	Frequency	Percent
Low Self Efficacy	176	40.00
Moderate Self efficacy	110	25.00
High self efficacy	154	35.00
Total	440	100.00

Note. N = 440

As indicated in Table 4.18, most of the respondents (40.00%) had low self-efficacy, 35.00% had high self-efficacy, while 25.00% had moderate self-efficacy.

4.4.2 Hypothesis Testing

The second aim of this research was to assess if there is a correlation between SE and academic achievement of Form Four students in Buuri subcounty, Meru County. The researcher examined this link by carrying out Pearson product moment correlation test on the hypothesis presented below:

H_{02} There is no significant relationship between SE and academic achievement.

The test outcomes are shown in Table 4.19.

Table 4.19

Correlation between Self-Efficacy and Academic Achievement

		Academic achievement
SE	Pearson Correlation	.47**
	Sig. (2-tailed)	.00
	N	440

From Table 4.19, SE had a moderate positive and significant relationship with academic achievement, r (440) = .47, $p < .05$. The results indicate that as students' SE increases, so does their academic achievement, and vice versa.. Thus, learners with greater SE tend to achieve better academic results than those with lower self-efficacy.

4.4.3 Discussion of the Results

The study's second objective was to examine if there is a correlation between SE and academic achievement of Form Four learners in Buuri sub county, Meru County. The Pearson's correlation coefficient results showed a moderate, positive, and significant correlation between learners' self-efficacy and their academic achievement. The results indicate that as students' self-efficacy increases, so does their academic achievement, and vice versa. Thus, students with higher SE tend to achieve better academically than those with lower SE. The study results agree with Bandura, (1997, 2012) that SE is one's conviction in their capability to make it in a particular situation or complete a specific

undertaking whereby an individual may either have low or high SE. Students with high SE are intrinsically motivated since they are able to put effort towards achieving their goals. Ultimately, these students are likely to achieve their set goals.

The study findings agrees with those of Zheng et al. (2023), Sheridan (2016), and Huang et al. (2022). For instance, Zheng et al. (2023) observed that self-efficacy concerns self-belief in the capacity to succeed in an assignment. An individual's self efficacy is said to be low when he or she lacks the belief that they are capable of realizing the desired goal. Similarly, Sheridan (2016) observes that learners who have low self efficacy get exposed to difficulty in carrying out tasks because of low self-confidence, which causes decreased academic achievement. Huang et al. (2022) also conducted a research on the influence of SE and academic achievement via a systematic review by integrating research studies done on university students. The study findings showed a positive correlation between SE and academic achievement. The findings of the present study align with those of Talsma (2018), and Asanre et al. (2023).

Talsma (2018), conducted a study which sampled 197 first year psychology undergraduate students from a regional Australian university to investigate the influence of SE on academic achievement. The study results established that high self-efficacy enhances students' academic achievement. The findings revealed that deficiency in self efficacy resulted in students giving up on education and indulging in other deceitful methods of improving their academic achievement, such as exam cheating**.** On the other hand, Asanre et al. (2023) conducted a research in Nigeria to explore the link between

SE and academic achievement. The findings indicated a positive correlation between SE and academic achievement.

In another research, Yıldırım and Uzunboylu (2022) observed that individuals could acquire self-efficiency and self-dependence through training, which can have a positive effect on their academic achievement. The research found that learners with high SE are able to grasp subjects more easily compared to those with lower SE, which in turn positively affects their academic success. Conversely, individuals with low SE often have a diminished sense of their capabilities, leading to poorer academic outcomes. These results align with those of the present study. In Kenya, Oyuga et al. (2019) conducted a research to explore the impact of SE and academic achievement. The study, which sampled 300 orphaned secondary school students and 11 principals from Bondo Sub County, found a modest yet positive correlation between SE and academic achievement. These findings also agree with those of the current study.

4.5 Interaction effect of LOC and SE in Predicting Students' Academic achievement

Test for Assumptions

The study's third objective was to analyse the interaction effect of LOC and SE in predicting students' academic achievement. This was achieved by conducting the following tests.

4.5.1 Test for Assumptions of Regression Analysis

The researcher conducted tests for assumption of regression analysis that included test for multi-collinearity and singularity, normality test, and test for heteroscedasticity and homoscedasticity. The test outcomes for each are discussed in Table 4.20, Figure 2.0, and Figure 3.0 below. The researcher conducted multi-collinearity and singularity tests to investigate if the independent variables were highly correlated. The test outcomes are shown in Table 4.20.

Table 4.20

Multi-Collinearity and Singularity Test

Model		Collinearity Statistics	
		Tolerance	VIF
	(Constant)		
	LOC	.13	7.91
	SE	.13	7.91

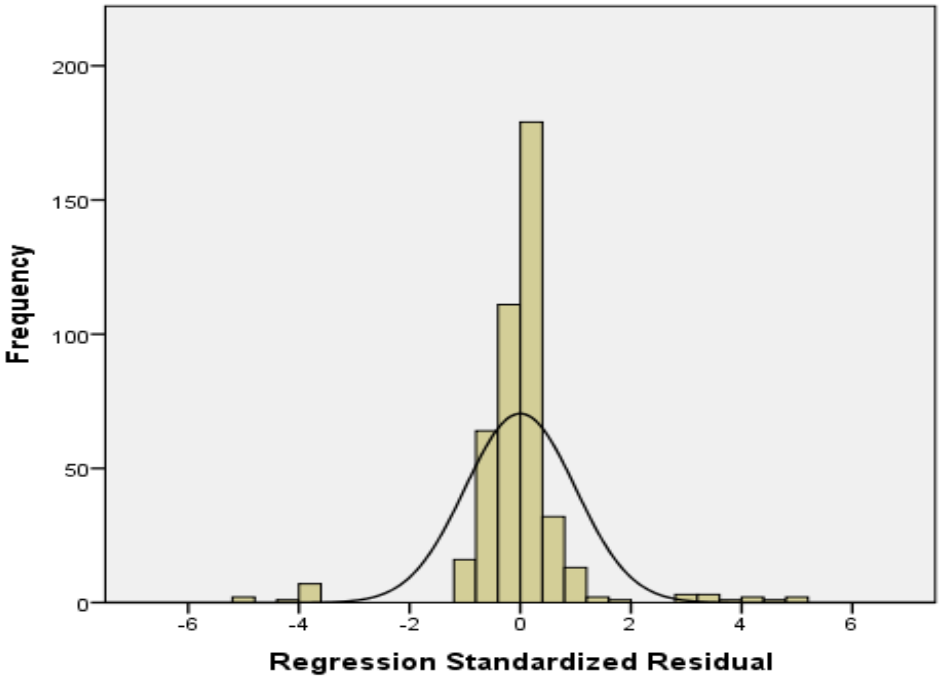
Note. VIF – Variance Inflation Factor

Table 4.20 shows that the tolerance values for LOC and Self efficacy are not less than 0.1, while their VIF values were less than 10, implying that LOC and SE were not highly correlated.

To determine the distribution of data for LOC and self-efficacy, the researcher obtained the results shown in Figure 4.1.

Fig 4.1

Normality Test Results



The results indicate that LOC scores and self-efficacy scores were normally distributed.

The researcher also conducted normal p-p plot of regression standardized residual test to test the assumption of heteroscedasticity and homoscedasticity. The results are shown in Figure 4.2.

Figure 4.2

Normal p-p plot of Regression Standardized Residual

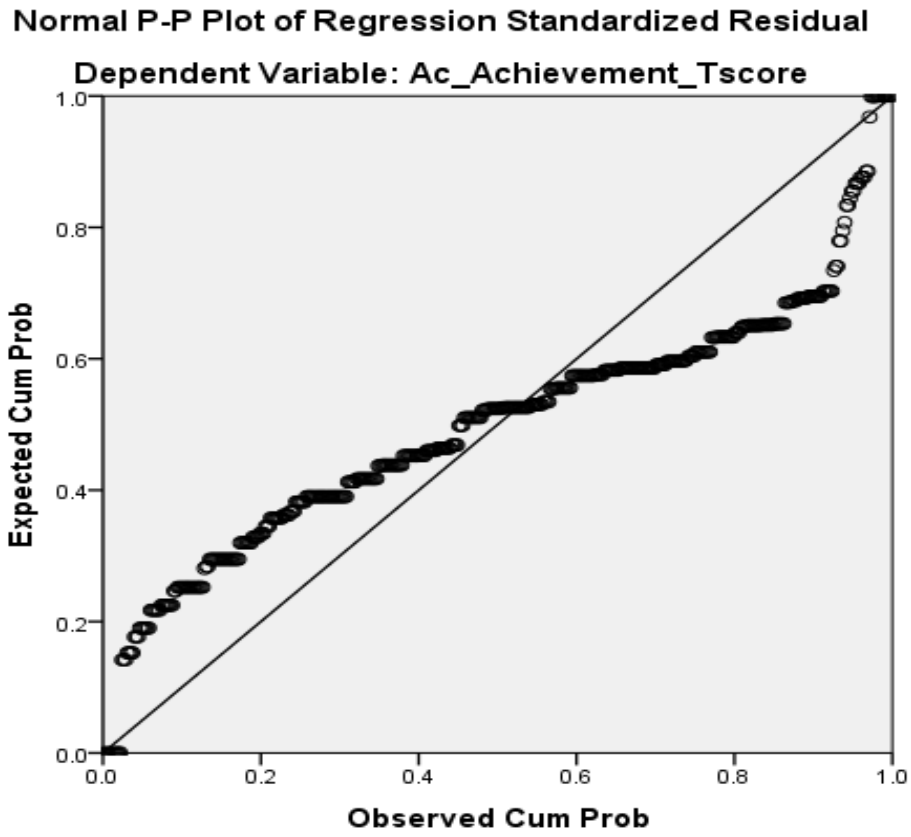


Figure 4.2 shows no violation of homoscedasticity rule since the points are almost equidistant from the line. The predictive values were consequently accurate and reliable.

4.5.2 Hypothesis Testing

The third aim of this study was to investigate the interaction effect of LOC and SE in predicting academic achievement among high school students. The null hypothesis was stated as follows:

H_{03} There is no significant interaction effect of LOC and self-efficacy in predicting academic achievement among Form Four secondary school students in Meru County.

The researcher conducted regression analysis to establish whether LOC and self-efficacy could jointly predict academic achievement. The analysis results appear in Table 4.21, Table 4.22, and Table 4.23.

Table 4.21

Model Summary for the Prediction of academic achievement

Model	R	R^2	Adjusted R^2	SEE	R^2 Change	F Change	df1	df2	Sig. F Change
1	.48[a]	.23	.23	8.79	.23	65.48	2	437	.00
2	.66[b]	.44	.44	7.50	.21	164.53	1	436	.00

As demonstrated in Table 4.21, the R square value for model 1 was .23 indicating that 23% of the variance in academic achievement among form four learners in Buuri subcounty, Meru County, is influenced by LOC and self-efficacy. On the other hand, R square value for model 2 was .44, indicating that 44% of the variance in academic achievement among the students is influenced by LOC, SE and the interaction between

LOC and self-efficacy. The interaction between LOC and SE explained 21% variance in the prediction of academic achievement.

The researcher carried out regression analysis to establish the predictive values for both LOC, self-efficacy and interaction term for LOC and self-efficacy on academic achievement. The results are outlined in Table 4.22.

Table 4.22

Regression Coefficients for prediction of Academic Achievement from LOC and SE

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.66	2.57		11.53	.00
	LOC	.31	.14	.27	-2.27	.02
	SE	1.26	.21	.72	6.11	.00
2	(Constant)	112.77	6.84		16.49	.00
	LOC	1.97	.17	1.72	-11.35	.00
	SE_	1.97	.31	1.13	-6.42	.00
	Interaction term (LOC_SE)	.06	.01	3.28	12.83	.00

Table 4.22 indicates that in the first model, LOC had a positive and significant relationship with academic achievement, $\beta = .31$, $p < .05$. This implies that by holding SE constant, a unit change in LOC results to .31 change in academic achievement. Secondly, SE had a positive and significant connection with academic achievement, $\beta = 1.26$, $p < .05$. This implies that by holding LOC constant, a unit change in SE leads to 1.26 change in academic achievement.

In the second model, LOC showed a positive and significant association with academic achievement, $\beta = .1.97$, $p < .05$. This means that a unit change in LOC leads to 1.97 change in academic achievement. Secondly, SE had a positive and significant correlation with academic achievement, $\beta = 1.97$, $p < .05$. This implies that a unit change in SE results in 1.97 change in academic achievement. Thirdly, the interaction term between LOC and SE in this model also demonstrated a significant relationship with academic achievement, $\beta = .06$, $p < .05$. This implies that a unit change in the interactive term results in .06 change in academic achievement.

The prediction equation for model 1 is as below:

$$\hat{Y} = 29.66 + 0.31X_1 + 1.26X_2 + \acute{\varepsilon}$$

Where $\hat{Y}$ = Predicted academic achievement; X_1 = Locus of Control, X_2 = Self-Efficacy, and $\acute{\varepsilon}$ = standard error.

The prediction equation for model 2 is as below:

$$\hat{Y} = 112.77 + 1.97\ X_1 + 1.97X_2 + 0.06X_3 + \acute{\varepsilon}$$

Where $\hat{Y}$ = Predicted academic achievement; X_1 = Locus of Control, X_2 = Self-Efficacy, X_3 = Interaction Term, and $\acute{\varepsilon}$ = standard error.

4.5.3 Discussion of the Findings

In the third aim of the research, the researcher had hypothesised that there was no interaction effect of LOC and SE in predicting academic achievement among high school learners in Meru County. From the study results, it was established that student's academic achievement was positively and significantly related to LOC. It was also found that SE had a positive and significant predictive relationship with academic achievement. Additional investigation showed that students' academic achievement is jointly influenced by LOC and SE. Consequently, the null hypothesis was rejected implying that LOC and SE significantly predict academic achievement.

These results were consistent with those obtained by Sagone and Indiana (2021) conducted a study with 185 psychology and pedagogy students at the University of Catania, finding that decision-making styles and internal locus of control significantly predicted students' average exam grades. Their results linked locus of control and academic self-efficacy to better academic performance.. Study results revealed that LOC and SE influenced students' goal attainments by influencing effort, persistence, and perseverance. This enabled the students to have more focus on their endeavour to post better academic achievement. The outcomes showed that university learners who were more in control of their daily actions, had a more positive self-judgment, were able to express a positive self-concept and eventually were able to perceive themselves as academically efficient.

However, the study results are contrary with those of Rajalakshmi (2021), who studied the impact of SE and LOC on academic achievement among high school students in India. The researcher investigated the interaction effect between SE and LOC. Three-way ANOVA analysis showed no significant link between the two independent variables and academic achievement. The contrary results may be due to the study having been conducted in a different locale in a foreign country. Locally, results of the current study agree with those obtained by Kamau and Mawang (2023). The survey revealed that the two variables positively correlated with academic success.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter deals with summary of findings, conclusion based on the objectives of this study and recommendations.

5.2 Summary of the Findings

The study utilized a correlational research design to explore how LOC and SE correlate with academic achievement among Form Four students in Buuri Sub-County. It also examined the joint effects of students' LOC and SE on academic achievement. The first objective was to explore the link between LOC and academic achievement. The Pearson's Product Moment Correlation results revealed a weak, positive, and significant link between students' external LOC and their academic achievement. Additionally, a strong, positive, and significant relationship was identified between students' internal LOC and their academic achievement. Overall, the results showed a moderate positive and significant correlation between learners' total LOC score and their academic achievement. The results indicates that as both internal LOC and external LOC increases, the students' academic achievement increases and vice versa. The study's second objective sought to establish whether there is a correlation between students' SE and academic achievement. The study found a moderate positive and significant link between students' self-efficacy and academic achievement. The findings indicate that higher self-

efficacy is associated with higher academic achievement, and vice versa. Thus, students with higher SE tend to perform better academically than those with lower SE.

The third objective sought to assess the interaction effect of LOC and SE on predicting academic achievement. From the study results, it was established that academic achievement of the students was positively and significantly related to LOC. Likewise, SE had a positive and significant correlation with academic achievement. Further analysis showed that the students' academic achievement is jointly influenced by LOC and SE. Consequently, the null hypothesis was rejected implying that LOC and SE significantly interact to predict academic achievement.

5.3 Conclusion

The study's first objective was to investigate the relationship between LOC and students' academic achievement. The results revealed a weak, positive, and significant correlation between external LOC and academic achievement, while a strong, positive, and significant correlation was found between internal LOC and academic achievement. Overall, the research concludes that there is a moderate positive, and significant correlation between students' total LOC score and their academic achievement. The results indicate that students' academic achievement increases as both internal LOC and external LOC increases.

The second objective aimed to establish the correlation between learners' SE and academic achievement. The research found a moderate, positive, and significant connection between self-efficacy and academic achievement indicating that as students'

self-efficacy increases, so does their academic performance, and vice versa. Thus, students with higher SE tend to perform better academically than those with lower SE.

The study's third objective sought to explore the interaction effect of LOC and SE in predicting academic achievement. The study concludes that LOC positively and significantly predicted students' academic achievement, and SE also positively and significantly predicted their academic achievement. Further the study found that LOC and SE jointly predict students' academic achievement.

5.4 Recommendations

5.4.1 Policy Recommendations

i. The research has revealed existence of behavioural constructs such as LOC and SE. Students should establish clear, attainable goals to take control and guide their academic progress. This reinforces their LOC and SE by boosting their confidence in their potential to succeed.

ii. Teachers and parents should motivate students by celebrating effort-based achievements with rewards and positive feedback. They should promote independent problem-solving skills to enhance resilience and confidence, reinforcing the idea that students can influence their academic success through persistence and effort instead of relying on external factors.

iii. Policymakers and curriculum developers should implement strategic reforms to create educational frameworks that enhance students' LOC and SE by; promoting self-regulated learning practices that encourage learners to take responsibility of their learning through setting, monitoring and reflecting on

academic goals and outcomes and, establishing clear guidelines for schools to create environments that bolster students' belief in controlling their academic success.

5.4.2 Recommendations for Further Research

i. Though questionnaires are one of the most affordable ways to collect quantitative data from a large sample, data collected through questionnaires may have some aspects of biasness and ambiguity in responding to questions. It is therefore important that further studies be conducted on the study variables using mixed methods to establish whether similar findings can be found.

ii. Further research should be conducted in different counties to compare the predictive values of LOC and SE on academic achievement among high school learners as results from Meru County may not be generalizable to every county in Kenya.

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APPENDICES

Appendix A

Participant Informed Consent Form

Informed Consent Form for Students

Kenyatta University, Department of Educational Psychology

Researcher: Vivian Kathambi Kinoti

Title of study: Locus of control and Self-efficacy as predictors of form four students 'academic achievement in selected secondary schools in Meru County

I am a Masters student from Kenyatta University in the Department of Educational Psychology conducting a study among high school students as part of the requirement to attain a degree of master of education in educational psychology. Your school is one of the four public secondary schools in Buuri Sub County, Meru County that has been selected to participate in this study through a sampling process. I wish to seek your consent to participate in this research study. Kindly read the given information carefully before signing the consent form. Please feel free to ask any question pertaining to this study.

Purpose of the research: This research is conducted to explore the interrelationships among Locus of control, Self-efficacy, and academic achievement among secondary school students.

Procedure to be followed: This study targets the form four secondary school students, and therefore, you are eligible to participate. A questionnaire will be given to you, after signing the consent form, requiring that you respond to all the questions. The researcher will collect the consent forms and the completed questionnaires.

Time duration of participation: It will take you approximately 30 minutes to complete this questionnaire.

Risks/Discomforts: There are no known risks expected in participating in this research. In case questions arise while completing the questionnaire, kindly request for assistance from the researcher.

Incentives/benefits for participation: Your participation in this study will enable a clear understanding of how personal characteristics, such as Locus of and control and self-efficacy, affect academic achievement among students. You can request to receive a copy of these findings at the end of the study. There will be no compensation for participating in the study.

Statement of Confidentiality: High-level confidentiality shall be maintained, and students' names will not be used. All surveys shall be completely anonymous in that your name and your institution shall not be linked to the research findings. Study results will be shared with my supervisors and lecturers for examination purposes.

Voluntary participation: Participation is voluntary and you are free to opt out at any time.

I understand the content of this consent form and agree to participate in this study:

Participant's signature_____ **Date:** _____

If you do not consent to participate, you do not need to sign this form, instead, please return it to the researcher.

Researcher's signature: _____ **Date:**_____

Appendix B

Student Questionnaire

A. DEMOGRAPHIC INFORMATION

Instruction: Provide the required information or tick the most appropriate response

1. Gender Female [ ] Male [ ]

2. Age bracket

a) 14 years and below [ ] b) 15 years to 17 years [ ] c) 18 years and over [ ]

3. Category of your school

a) Extra County Boys Boarding School [ ] b) Extra County Girls Boarding School [ ]

c) Coeducational Boarding School [ ] d) Coeducational Day School [ ]

4. Academic results for the past one year

Term 1, 2023

A to A- [ ] B+ to B- [ ] C+ to C- [ ] D+ to D- [ ] E [ ]

Term 2, 2023

A to A- [ ] B+ to B- [ ] C+ to C- [ ] D+ to D- [ ] E [ ]

Term 3, 2023

A to A- [ ] B+ to B- [ ] C+ to C- [ ] D+ to D- [ ] E [ ]

B. LOCUS OF CONTROL - Locus of Control of Behaviour Scale (Craig, Franklin & Andrews, 1984)

Instructions: Read each statement carefully. Please **place a checkmark *(√)* in the column that most closely matches the extent of your agreement or disagreement as per** the following scale:

1- Strongly Disagree 2- Disagree 3- Undecided, 4- Agree 5- Strongly Agree

LOCUS OF CONTROL		1	2	3	4	5
1	I can anticipate difficulties in my learning and take action to avoid them					
2	A great deal of what happens to me in school is probably just a matter of chance					
3	Everyone knows that luck in academics or chance determine one's future					
4	I can control my problem(s) in learning only if I have outside support					
5	When I make academic plans, I am almost certain that I can make them work					
6	My problem(s) will dominate me all my academic life					
7	My academic mistakes and problems are my responsibility to deal with					
8	Becoming successful in school is a matter of hard work, luck has little or nothing to do with it					
9	My academic life is controlled by outside actions and events.					
10	Students are victims of circumstance beyond their control.					
12	When I am under academic stress, the tightness in my muscles is due to things outside my control.					
13	I believe a student can really be a master of his fate					

	LOCUS OF CONTROL	1	2	3	4	5
14	It is impossible to control my irregular and fast breathing when I am having academic difficulties					
15	I understand why my academic problem(s) varies so much form one occasion to the next					
16	I am confident of being able to deal successfully with future academic problems					
17	In my case maintaining control over my problem(s) is due mostly to luck					

C. SELF EFFICACY - New General Self-Efficacy Scale (Chen, Gully & Eden, 2001)

Instructions*: In response, please put a tick (√) in the correct box. There are no wrong or right answers.*

1- Strongly Disagree 2- Disagree 3- Undecided, 4- Agree 5- Strongly Agree

	SELF EFFICACY	1	2	3	4	5
11	I will be able to achieve most of the goals that I have set for myself.					
12	When facing difficult tasks, I am certain that I will accomplish them					
13	In general, I think that I can obtain outcomes that are important to me					
14	I believe I can succeed at almost any endeavor to which I set my mind					
	SELF EFFICACY	1	2	3	4	5

15	I will be able to successfully overcome many challenges					
16	I am confident that I can perform effectively on many different tasks					
17	Compared to other people, I can do most tasks very well					
18	Even when things are tough, I can perform quite well					

Appendix C

Research Authorization Letters

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: E55/CE/23985/2013

DATE: 18th January, 2024

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR VIVIAN KATHAMBI KINOTI – REG. NO. E55/CE/23985/2013

I write to introduce Vivian Kathambi Kinoti who is a Postgraduate Student of this University. The student is registered for M.A degree programme in the Department of Educational Psychology.

Vivian intends to conduct research for a M.A Project Proposal entitled, "Locus of Control and Self-Efficacy as Predictors of Form Four Students' Academic Achievement in Selected Secondary Schools in Meru County." *Subject to clearance with the office of the Director, Ethical Committee, Kenyatta University.*

Any assistance given will be highly appreciated.

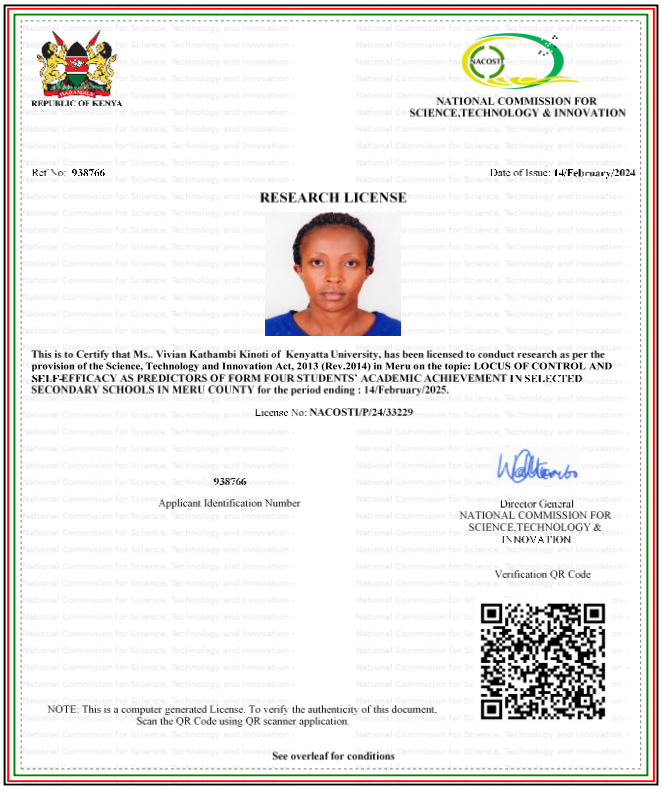
Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

EM/lnn

Appendix D

Research Permit



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 938766

Date of Issue: 14/February/2024

RESEARCH LICENSE

This is to Certify that Ms.. Vivian Kathambi Kinoti of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Meru on the topic: LOCUS OF CONTROL AND SELF-EFFICACY AS PREDICTORS OF FORM FOUR STUDENTS' ACADEMIC ACHIEVEMENT IN SELECTED SECONDARY SCHOOLS IN MERU COUNTY for the period ending : 14/February/2025.

License No: **NACOSTI/P/24/33229**

938766

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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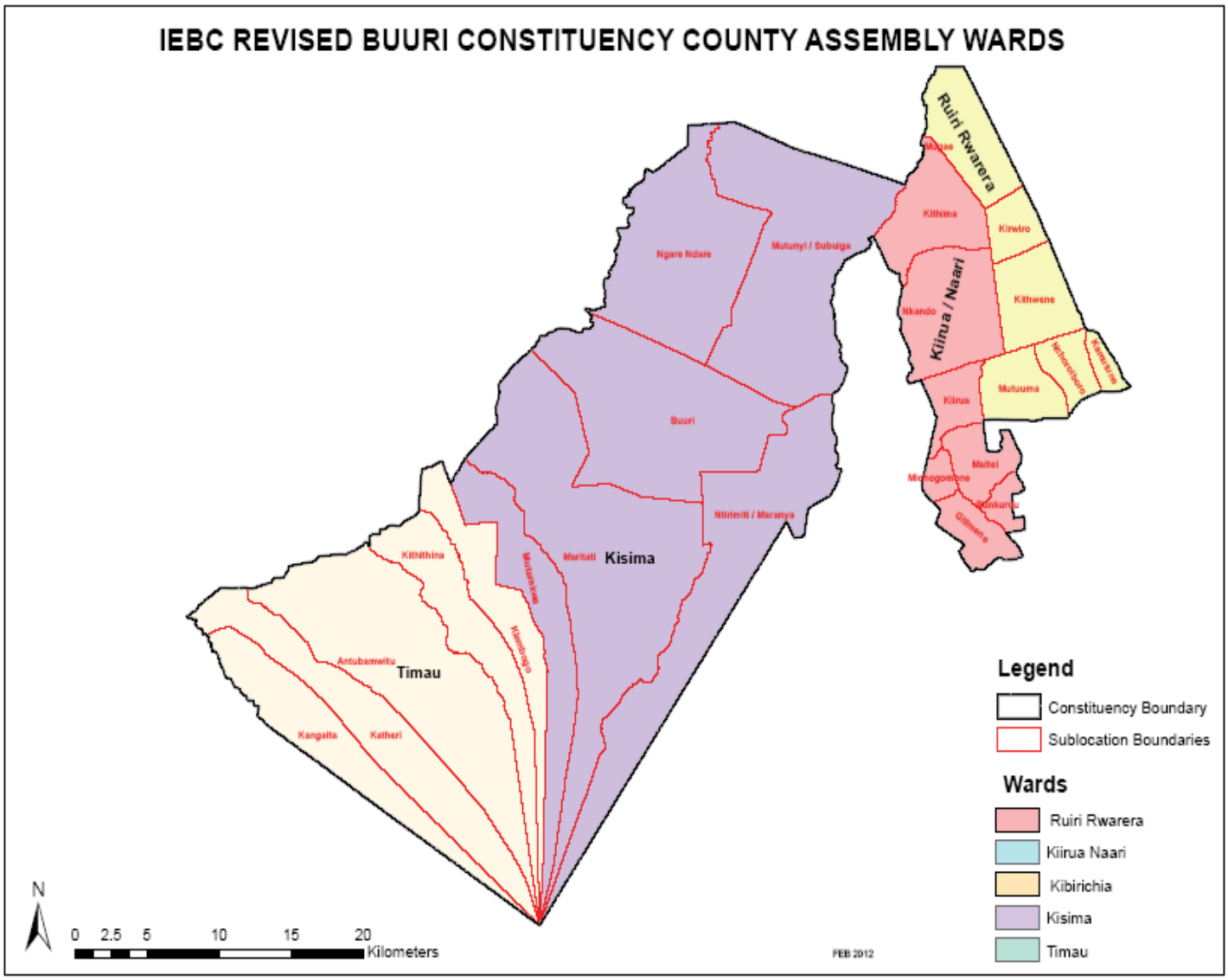
See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

Appendix E

The Map of Buuri Sub-County



Appendix F

Table for Determining Sample Size

Table for Sample Size Determination

	Variance of the population P=50%					
	Confidence level = 95% Margin of error			Confidence level = 99% Margin of error		
Population Size	5	3	1	5	3	1
500	217	340	475	285	393	485
600	234	384	565	314	452	579
700	248	423	652	340	507	672
800	260	457	738	362	557	763
1000	278	516	906	398	647	943
1500	306	624	1297	459	825	1375
2000	322	696	1655	497	957	1784
3000	341	787	2286	541	1138	2539
5000	357	879	3288	583	1342	3838
10000	370	964	4899	620	1550	6228
25000	378	1023	6939	643	1709	9944
50000	381	1045	8057	652	1770	12413
100000	383	1056	8762	656	1802	14172
250000	384	1063	9249	659	1821	15489
500000	384	1065	9423	660	1828	15984
1000000	384	1066	9513	660	1831	16244

Note. Adapted from " *Research Methods for Managers*," by J. Gill, P. Johnson, and M. Clark 2010, SAGE Publi: KNBS. Copyright 2019 by the Kenya National Bureau of Statistics.

Appendix G

KCSE 2019 RANKING FOR MERU COUNTY SCHOOLS

				GRADE DISTRIBUTION												
POS	**SCHOOL**	**SUBCOUNTY**	**ENTRY**	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**D-**	**E**	**2019**
1	Meru School	Imenti North	294	1	42	73	69	36	30	20	17	3	2	0	0	8.682
2	Nkubu School	Imenti South	262	1	15	57	64	56	46	18	4	1	0	0	0	8.500
3	St. Mary's Girls	Imenti South	247	2	30	45	47	35	45	29	12	2	0	0	0	8.350
4	Kaaga Girls	Imenti North	231	1	17	25	40	32	41	48	16	8	3	0	0	7.623
5	Nkuene Girls	Imenti South	136	0	1	5	18	22	30	28	23	9	0	0	0	6.868
6	Igembe Boys	Igembe South	195	0	0	10	26	37	39	37	25	19	1	1	0	6.868
7	Njia Boys Secondary School	Igembe Central	173	0	1	10	30	24	33	29	24	12	8	1	0	6.826
8	Kariene Day	Meru Central	91	0	0	2	10	19	24	11	12	8	4	1	0	6.814
9	Burieruri High School	Igembe Central	147	0	6	11	17	15	20	22	19	16	9	7	2	6.615
10	Akaiga School	Tigania Central	79	0	0	2	7	12	13	17	23	3	2	0	0	6.410
11	Mikinduri Girls	Tigania Central	144	0	0	5	16	14	27	38	22	13	8	1	0	6.392
12	Maara Secondary School	Imenti South	96	0	0	2	1	14	15	30	24	8	1	0	0	6.070
13	Yururu Girls	Imenti South	156	0	0	1	6	21	24	35	44	23	2	0	0	5.949
14	Ontulili Boys	Buuri	142	0	4	2	10	16	20	18	33	22	13	4	0	5.845
15	St. Claire Girls	Tigania West	25	0	0	0	2	1	4	7	8	1	2	0	0	5.840
16	Miathene Boys	Tigania West	262	0	0	12	17	18	41	49	58	40	26	1	0	5.832
17	Imenti North Muslim	Imenti North	34	0	0	0	1	3	5	11	10	3	1	0	0	5.823
18	Murembu Day	Imenti South	23	0	0	0	4	3	2	3	5	1	2	3	0	5.783
19	Gikurune Boys	Imenti South	148	0	2	4	11	12	15	27	38	25	13	1	0	5.777
20	Maua Girls	Igembe South	227	0	1	6	11	25	20	48	57	40	17	2	0	5.718

Note. Adapted from Education news hub, Meru-county-merit-list, 2019, Meru:MoE.Copyright 2019 by Ministry of Education

Appendix H

KCSE 2020 RANKING FOR MERU COUNTY SCHOOLS

Pos.	SCHOOL	SUBCOUNTY	ENTRY	GRADE DISTRIBUTION						2020
				A	A-	B+	B	B-	C+	
1.	Meru School	Imenti North	322	12	51	72	80	46	36	9.035
2.	St. Mary's Girls High School	Imenti South	205	2	20	49	61	35	23	8.844
3.	Nkubu Boys High School	Imenti South	280	5	16	55	73	59	48	8.538
4.	Kaaga Girls High School	Imenti North	227	2	18	47	47	46	30	8.361
5.	Kaaga Boys High School	Imenti North	208	0	3	21	36	38	48	7.476
6.	Nkuene Girls High School	Imenti South	193	0	1	12	31	42	48	7.349
7.	Burieruri Boys High Shool	Igembe Central	165	1	3	18	20	30	41	7.297
8.	Miathene Boys High School	Tigania West	283	0	2	15	27	30	64	6.748
9.	Igembe Boys High School	Igembe South	216	0	0	6	15	36	49	6.698
10.	Kanyakine Boys High School	Imenti South	155	1	0	4	12	31	26	6.626
11.	Kariene Mixed Day School	Meru Central	109	0	1	1	9	14	26	6.607
12.	Ontulili Boys High School	Buuri	125	0	1	4	9	16	31	6.600
13.	Mikinduri Girls High School	Tigania Central	168	0	0	3	10	21	40	6.405
14.	Mariri Secondary School	Ntonyiri	150	0	0	1	14	15	28	6.373
15.	Maua Girls High School	Igembe South	185	0	0	4	14	17	42	6.368
16.	Gikumene Girls High School	Imenti North	136	0	0	1	12	17	23	6.353
17.	Njia Boys High School	Igembe Central	225	1	1	2	18	30	50	6.302
18.	St. Claire Girls High School	Tigania West	18	0	0	0	0	3	6	6.278
19.	Yururu Girls High School	Imenti South	223	0	0	0	8	22	51	6.184
20.	Akaiga Boys Secondary School	Tigania Central	86	0	2	0	2	11	17	6.174

Note. Adapted from Education news hub, Meru-county-merit-list, 2020, Meru:MoE.Copyright 2020 by Ministry of Education

Appendix I

KCSE 2021 RANKING FOR MERU COUNTY SCHOOLS

Pos.	SCHOOL	SUBCOUNTY	MEAN GRADE	MEAN SCORE 2021
1.	Meru School	Imenti North	B	8.972
2.	St Mary's High School – Igoji	Imenti South	B	8.52
3.	Kaaga Girls High School	Imenti South	B-	8.22
4.	Nkubu High School	Imenti North	B-	8.16
5.	Igembe Boys High School	Igembe South	C+	7.417
6.	Nkuene Girls High School	Imenti South	C+	7.163
7.	Burieruri Secondary School	Igembe Central	C+	7.151
8.	Kaaga boys High School	Imenti North	C+	7
9.	Njia Boys High School	Igembe Central	C+	6.814
10.	Imenti North Girls Muslim	Imenti North	C	6.719
11.	Ontulili Boys High School	Buuri	C	6.640
12.	St. Claire Girls Centre	Tigania West	C	6.500
13.	Mulathankari Girls Secondary School	Imenti North	C	6.476
14.	Mikinduri Girl High School	Tigania Central	C	6.454
15.	Maua Girl High School	Igembe South	C	6.357
16.	St. Pius Boys High School	Imenti North	C	6.119
17.	Akaiga Boys Secondary School	Tigania Central	C	6.000
18.	Yururu Girls Secondary School	Imenti South	C	5.995
19.	Kariene Mixed Day Secondary School	Meru Central	C	5.990
20.	Mariri Secondary School	Ntonyiri	C	5.836

Note. Adapted from Education news hub, Meru-county-merit-list, 2021, Meru: MoE.Copyright 2021 by Ministry of Education

Appendix J

KCSE 2022 RANKING FOR MERU COUNTY SCHOOLS

Pos.	SCHOOL	SUBCOUNTY	MEAN GRADE	MEAN SCORE 2022
1.	Meru School	Imenti North	B+	9.498
2.	Mariri Secondary School	Ntonyiri	B	8.332
3.	Igembe Boys High School	Igembe South	B-	8.246
4.	St Mary's High School - Igoji	Imenti South	B-	8.188
5.	Nkubu High School	Imenti North	B-	8.161
6.	Miathene Boys High School	Tigania West	B-	8.092
7.	Kaaga Girls High School	Imenti North	C+	7.673
8.	Kaaga boys High School	Imenti North	C+	7.184
9.	Nkuene Girls High School	Imenti South	C+	7.164
10.	St. Claire Girls Centre	Tigania West	C+	7.125
11.	Imenti North Girls Muslim	Imenti North	C+	7.000
12.	Gikurune Boys Secondary School	Imenti South	C+	6.987
13.	Maua Girl High School	Igembe South	C+	6.954
14.	Mulathankari Girls Secondary School	Imenti North	C	6.769
15.	Kanjaru Girls Secondary School	Tigania West	C	6.663
16.	Njia Boys High School	Igembe Central	C	6.392
17.	Burieruri Secondary School	Igembe Central	C	6.357
18.	St. Pius Boys High School	Imenti North	C	6.272
19.	Kariene Mixed Day Secondary School	Meru Central	C	6.137
20.	Ontulili Boys High School	Buuri	C	6.130

Note. Adapted from Education news hub, Meru-county-merit-list, 2022, Meru: MoE.Copyright 2022 by Ministry of Education