

**PREDICTORS OF ACADEMIC LOCUS OF CONTROL  
AMONG FORM THREE SECONDARY SCHOOL  
STUDENTS IN KITUI COUNTY, KENYA**

**MUTHUI PRISCAH MULIKE**

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## **DECLARATION**

I declare that this research project is my original work and has not been presented in any other university institution for consideration of any certificate. This research project has been complemented by referenced sources duly acknowledged, where text, data, 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 regulation.

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Muthui Priscah Mulike

E55/CE/34260/2016

### **Supervisor**

This research project has been submitted for appraisal with my approval as university supervisor.

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Dr. Samuel M. Mutweleli

Lecturer, Department of Educational Psychology

## **DEDICATION**

I dedicate this research work to my loving husband; Roberto Martin Kimanzi, for his unconditional love and support, my lovely sons; Tonny and Kennedy for their patience and understanding while I worked on this project.

## **ACKNOWLEDGEMENT**

Above all, I thank our Almighty God for his sufficient grace in my life and for enabling me to successfully complete the project. Glory and honor be unto him.

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## **ABBREVIATIONS AND ACRONYMS**

<b>AMS</b>	Academic Motivation Scale
<b>ANOVA</b>	Analysis of Variance
<b>KCSE</b>	Kenya Certificate of Secondary Education
<b>RSES</b>	Rosenberg Self-esteem Scale
<b>SDT</b>	Self Determination Theory
<b>USA</b>	United States of America

## ABSTRACT

Academic locus of control refers to a learner's belief of the cause of his/her academic achievement. It is therefore a learner's conviction that success in academics is either as a consequence of one's effort or external forces like fate and luck. A Learner's academic locus of control is either internally or externally oriented. In a learning environment, a learner with internal locus of control orientation has high likelihood of benefiting more from the teaching and learning processes compared to a learner whose locus of control is externally oriented. The academic locus of control of a learner may enhance or hinder his or her learning processes. Consequently, the poor grades witnessed among secondary school students in Matinyani Sub-County may be attributed to the students' academic locus of control among other factors. Given the importance of this variable in determining the student's learning ability, this study looked at the predictors of academic locus of control among secondary school students. The study has four objectives which aimed at determining how the learners' locus of control relates to their academic self-efficacy, motivation and self-esteem and determining a predictive equation for predicting academic locus of control using the above stated predictors. Rotter's social learning theory (1954), self-determination theory by Deci and Ryan (1985) and Covington (1984) and Beery's (1976) self-worth theories formed the study's theoretical basis. Ex-post -facto research design was used and the target population was 1250 (700 boys and 550 girls) from three students in Matinyani Sub -County in Kitui County. Stratified and purposive sampling was applied in selecting schools where samples were drawn from. The number of respondents per school was determined by proportionate sampling and a sample of 291 students was randomly picked. An adapted questionnaire for students was used to collect data. The pilot study was done to ascertain the validity and internal consistency reliability of the adapted scales. Data analysis was done using Statistical Package for Social Sciences (SPSS) (Version 21). Null hypotheses were tested using Pearson product moment correlation and multiple regression analysis. The results provided a proof that academic self-efficacy, academic motivation and academic self-esteem are significantly related to academic Locus of Control. The evidence provided showed that in terms of academic locus of control orientation, internally oriented respondents had a higher mean score for both academic self-efficacy, motivation and self-esteem compared to their externally oriented counterparts. It was also found out that academic motivation had the highest predictive index followed by academic self-efficacy while academic self-esteem was found to have the least predictive index. It was further found out that the highest correlation in academic motivation was realized between intrinsic motivation towards accomplishment and academic motivation while amotivation was found to have a negative and a significant relationship with academic motivation. An important implication and recommendation of the study was that teachers, parents and all the stakeholders should collaborate to ensure that they provide a conducive learning environment in order to enhance the development and nurturing of the three constructs among the students both at home and in school.

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1 Introduction**

This chapter focused on the background to the study, statement of the problem, purpose of the study, objectives of the study and research questions. The study's assumptions, limitations, delimitations and significance are also presented. The theoretical and conceptual frameworks, together with the operational definitions of the terms are also given.

#### **1.2 Background to the Study**

According to Rotter, (1954) locus of control can be explained as a factor consisting of person's life history which encompasses learning experiences and the environment. There are divergent views on origin of locus of control among people. Some people see it as an inborn quality which forms a proportion of one's personality while others view it as a human characteristic which is shaped by one's experiences in the environment and the interactions that a child has with other people such as parents. Children who grow up in supportive environments whereby their parents encourage them to be independent, have increased interaction which result in development of better locus of control. People are either internally oriented or externally oriented in their locus of control. Rotter (1954) posits that one's orientation is always changeable. It can be changed by altering a person's environment or changing the way a person thinks. In a school setting, a learner can be internally oriented

or externally oriented towards academics. Abbas (2018), defines academic locus of control as the learner's attribution of the cause of his/her academic achievement; that is, whether the learner performs with efforts from within oneself or the learner's performance is attributed and controlled by factors outside the learner which the learner is unable to control. Studies done have found that academic locus of control influences learning in secondary schools and consequently determines how learners achieve in academics (Ahaman, 2016 & Kader, 2014). These findings offered a basis for this study which examined predictors of academic locus of control of learners in Matinyani Sub-County secondary schools where performance in National Examination has been skewed towards lower grade according to 2015, 2016, 2017 and 2018 examination statistics. Academic locus of control relates to various psychological variables including self-efficacy, motivation and self-esteem of the learners.

Academic self-efficacy is a firm belief and self-confidence held by the learner that he/she is able to achieve the set academic goals and can perform specific academic tasks with ease (Vituli, 2016). Learners' self-efficacy can be in three dimensions; some learners have high academic self-efficacy while others have moderate and the last group consists of learners with low academic self-efficacy. Each of the three dimensions has an effect on a learners' academic achievement. Hill, (2016) observed that academic self-efficacy determined learners' performance and success in some university courses. Further, high, moderate and low academic self-efficacy are related to academic locus of

control as proved by evidence from studies done in Pennsylvania, United States of America (USA) and Germany (Vituli, 2016; Almy, 2018 & Schimdt et al., 2018). The findings of these studies reported that respondents' self-efficacy positively and significantly relates to their academic locus of control. In African context, studies conducted in Nigeria and South Africa had similar findings (Ogundokun, 2015 & Walter, 2016). A study done in Nyamira County in Kenya also reported to have established that the two variables are related (Onkundi, 2014).

According to Noyens et al., (2019), academic motivation is the learner's desire and interest towards learning a particular subject or all the subjects in general. A student who is academically motivated wants to learn, enjoys learning related activities and perceives school as important. Research has shown that academic motivation is one of the factors which can significantly predict locus of control of learners (Galvin et al., 2018).

A study done in USA on associations of locus of control and academic motivation established that the two variables are positively related (Karaman & Watson, 2017). These findings have been corroborated by findings from research studies conducted in other regions of the world such as Europe and India (Kamdron, 2015; Labhane et al., 2015). Similarly, a study done in Nigeria by Olaronke and Sunday (2015) found that workers' locus of control positively relates to their work motivation.

Academic self-esteem is student's extent of valuing, approving and



appreciating oneself as worth and able to perform in academics (Okwaraji et al., 2018). Self-esteem is a determinant when one is forming beliefs on academic ability; that is, whether to be able to control academic achievement or whether one's academic achievement will be controlled by external factors. At this point, self-esteem connects to locus of control. Globally, studies done in Iran and Great Britain showed that in order to significantly predict academic locus of control of the learners, among other factors, academic self-esteem should be considered, Hosseini et al., 2016; Furnhum & Cheng, 2016). Similar findings were reported by a study in Nigeria (Okwaraji et al., 2018).

In Kenya, limited research exists on academic locus of control. Available studies were mostly done among participants drawn from developed nations who may have had other experiences that may have influence on their locus of control. For example, parents' level of education and school climate may influence a learner's locus of control. Secondly, most of the studies were done on university students and employees who may have different views on their abilities to succeed as opposed to secondary school students.

Furthermore, with reference to Kitui county, consistent low grades has been noted in the Kenya Certificate of Secondary Education (KCSE) from 2015 to 2018. This has been an area of interest to both the educational stakeholders and the students. As per 2015, 2016, 2017 and 2018 KCSE examination analysis, amongst the total candidates who sat for the examination these years respectively, only 18% who got a mean grade of B- (minus) and above. Secondly, the analysis also indicates that approximately 45% of these

candidates scored D (Plain) and below denying such students an opportunity to join Higher Educational Institutions. Since locus of control has been noted as a determinant of a learner's ability to perform well in academics in studies done in other countries such as Iran, USA and Nigeria, it was important to carry out a study on how different variables predict academic locus of control among learners in a Kenyan setting. Therefore, this study looked at predictors of academic locus of control among form three students in Matinyani Sub - County, Kitui County. The results may be used to guide students on academic locus of control orientations so that they can adopt learning process that enhances academic achievement.

### **1.3 Statement of the Problem**

The reason for the poor grades in academics among most learners in Matinyani Sub-County may be attributed to their locus of control. Studies have been done on how academic locus of control contributes to the below average performance (Hossein et al., 2015; Ahaman, 2016). However, these studies have not investigated what factors predicts academic locus of control, consequently leaving a research gap which necessitated the need for the current study which looked at predictors of academic locus of control. More specifically the study focused on how the three variables predict academic locus of control. These variables were; academic self-efficacy, academic motivation and academic self-esteem. If the study is not done within the Matinyani Sub-County, poor grades would continue to limit the students' opportunities for higher education and also technical training colleges. In

addition, low value for education and poor grades may lead to poor socio-economic development in the Sub-County and the entire county.

#### **1.4 Purpose of the Study**

This study aimed at determining the extent to which academic locus of control among secondary school students was predicted by academic self-efficacy, academic motivation and academic self-esteem.

#### **1.5 Objectives of the Study**

This study had four objectives as follows:

- i. To find out how academic self-efficacy relates to academic locus of control among secondary school students in Matinyani Sub-County.
- ii. To establish the extent of the relationship between academic motivation and academic locus of control among secondary school students in Matinyani Sub-County.
- iii. To determine the relationship between academic self-esteem and academic locus of control among secondary school students in Matinyani Sub-County.
- iv. To determine the predictive equation for predicting academic locus of control using academic self-efficacy, academic motivation and academic self-esteem.

#### **1.6 Research Hypotheses**

This study was guided by the following hypotheses:

H<sub>a1</sub>: There is a significant relationship between students' academic self-

efficacy and their locus of control.

H<sub>a2</sub>: Students' academic motivation significantly relates to their locus of control.

H<sub>a3</sub>: There is a significant relationship between academic self-esteem and students' locus of control.

H<sub>a4</sub>: Students' locus of control can be predicted given their academic self-efficacy, academic Motivation and academic self-esteem.

### **1.7 Assumptions of the Study**

In this study, it was assumed that the targeted secondary school students had fully developed academic locus of control, hence its' predictors which were under study were evident in the students. Secondly, the learners would show cooperation and practice honesty when filling questionnaires. Finally, it was also assumed that the adapted scales for collecting data were suitable for secondary school students.

### **1.8 Limitations and Delimitations of the Study**

#### **1.8.1 Limitations of the Study**

This study focused on public secondary schools in Matinyani Sub-County, Kitui County. Therefore, generalizability of the findings is limited to the few counties with similar characteristics as Kitui County in terms of academic performance. To overcome this, the sample was proportionately and randomly selected to ensure that the characteristics of the targeted population were represented in the sample as much as possible. The second limitation was that

respondents could be subjective and biased when responding to questions in the questionnaires. To overcome this limitation, respondents were sensitized on the need to be honest and that the collected information would be kept confidential. Finally, when using ex-post-facto research design, it is impossible to segregate and control each possible variable.

### **1.8.2 Delimitations of the Study**

This study was delimited to Matinyani Sub- County and the respondents were drawn from only one class, that is, form three students. Among the many variables which relates to academic locus of control, the study focused only on academic self-efficacy, academic motivation and academic self-esteem as predictors of academic of locus of control among secondary school students. Finally, the study was delimited to an ex-post-research design.

### **1.9 Significance of the Study**

Parents may benefit from the study's findings because they may guide them on how to advise and encourage their children so as to benefit from the learning processes. Through the parents' encouragement and advice, the children will be motivated to learn and develop high self-efficacy as well as high self-esteem. This would enable the children to acquire internal locus of control orientation towards academics which would in turn promote their performance in academics.

The results of the study may also help educationists in setting up and supporting guidance and counseling programs for students that are geared

towards helping them discover and positively work on their locus of control. The policy makers and curriculum developers may draw some ideas from the findings and use them in improving the curriculum to suit the students learning activities. Finally, the findings added to the existing literature some knowledge on predictors of academic locus of control among secondary school students.

## **1.10 Theoretical and Conceptual Framework**

### **1.10.1 Theoretical Framework**

Three theories namely; Social learning Theory (Rotter, 1954), Self Determination Theory (Deci & Ryan, 1985) and Self-worth theory (Covington 1984& Beery, 1976) formed the theoretical basis of this study.

#### **a) Social Learning Theory (Rotter, 1954)**

This theory was put forward by Rotter (1954). The theory posits that locus of control is the people's attributions to the causes of their success or failure in an activity. Some people believe that they succeed out of their own efforts and initiatives while other people believe that their success or failure is contributed by external factors which are beyond their control. One major tenet of this theory is that a person's personality is a product of that person's interaction with the immediate environment and that personality and environment are inseparable components.

Locus of control being a personality component comes out through learning experiences and interaction with environment. People have varied locus of control orientation. Some people are internally oriented while others are externally oriented. Internally oriented individuals have internal drives and

always are responsible for their success or failures. They see their success or failure as determined by themselves. Therefore, they always put a lot of effort to ensure that they succeed in their activities. In a school setting, internally oriented learners are committed to their success and take learning initiatives to ensure that they succeed in academics.

Contrary to this, externally oriented individuals attribute their success or failure to external factors which are beyond their control such as luck, powerful others and chance. These factors are the determinants of their success or failure in an activity. Such people take little or no responsibility towards seeking achievement of any task. Learners with this orientation may not work hard in academics.

According to Rotter, locus of control is a changeable trait. Changing a person's thought patterns and altering the environment where an individual is based on automatically changes the person's locus of control. Therefore, a learner's orientation can be changed by the school environment. This theory was relevant in explaining how the students in the area of this study attributed their academic success or failure; whether it was due to internal or external factors. The findings indicated that 81.4% of the respondents were externally oriented. This finding may be attributed to the persistent poor grades of most the secondary school students in Matinyani Sub County.

#### **b) Self-worth Theory (Covington 1984& Beery, 1976)**

Self-Worthy Theory also forms the basis of this study. This theory was

furthered by Covington (1984) & Beery (1976). According to this theory, one's potential to achieve is directly linked to his or her self-esteem. Covington (1984) argues that since children spend most of their lives being tested in school classroom, the theory is the answer to developing and preserving self-esteem. This theory states that psychologically speaking, school achievement is best comprehended by maintaining a positive self-esteem of one's ability especially, when risking failure, as stated by Covington (1984). It is clear from the theory that one's self-esteem depends greatly on one's accomplishment. In the present study for example, a form three student with a potential to achieve may have high self-esteem while those who cannot become successful in their learning activities may have low self-esteem.

**c) Self Determination Theory (Deci & Ryan, 1985)**

This theory aims at explaining different types of motivation which are evident in different situations. This theory explains what energizes pupil's conduct and drives them into action as well as their lives. According to early research that led to Self Determination Theory, source of motivation can be inside the individual or outside the individual; thus motivation can be described as intrinsic or extrinsic. Intrinsically motivated individuals have innate qualities which propel them to pursue activities. Being intrinsically motivated comprises of knowing, accomplishing and experiencing stimulation. People are said to be extrinsically motivated when they are in pursuit of being rewarded with money or other prizes. Such individuals tend to keep away from harmful stimulant or social approval.



Extrinsic motivation can be divided into the following three domains. The first one is External regulations, where may be a student may get involved in academic activities so as to get a reward or to be praised by his/her classmates. The second one is Introjected regulation where an individual has partially internalized an extrinsic motivation. A case where a student performs a particular instructional task in order to please the parent or the teacher displays introjected regulation. The third one is Identified regulation which involves people recognizing personal value and the essentiality of the behavior for themselves thus embracing it as theirs. For instance, students working hard to accomplish a particular assignment because they know its importance. Therefore, learners who have this type of motivation might participate in a particular academic activity because he/she can understand its benefit which could include scoring higher marks.

The other type of motivation is amotivation. According to Deci and Ryan (1985), amotivation refers to people lacking intentionality or motivation at all. People who are amotivated for a certain behavior don't feel competent in doing it. In the present study, students who are amotivated may not have interest at all in the learning processes. In the present study a student who is intrinsically motivated may take part in the learning processes because it interests them while a student who is extrinsically motivated may take part in the learning processes because they are in a pursuit of rewards. On the other hand, a form three student who is a motivated may not have interest at all in the learning processes.

### 1.10.2 Conceptual Framework

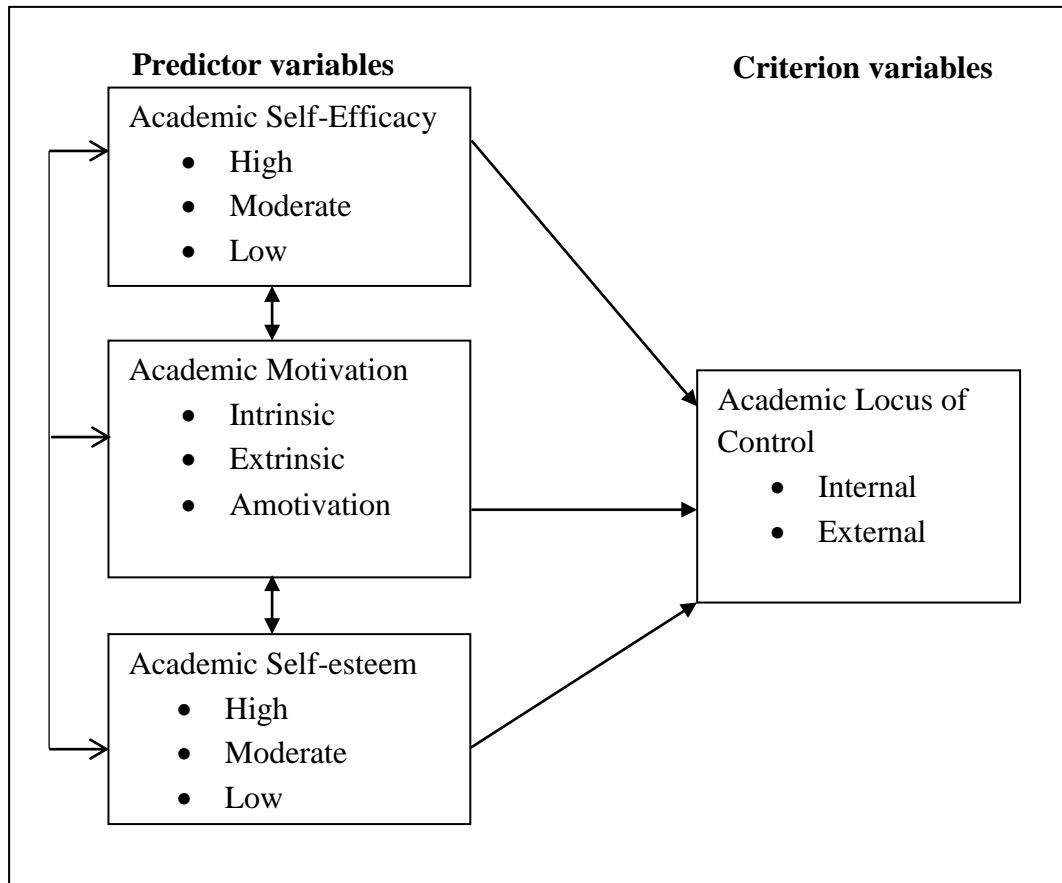


Figure 1.1 Conceptual Framework

Figure 1.1 illustrates interrelations between variables. The conceptual framework shows the three predictor variables and one criterion variable. Also shown are the measurable dimensions of each variable. In addition, the direction of anticipated relationship between the variables is shown diagrammatically. According to the diagram, each predictor variable individually relates to criterion variable and the three predictor variables jointly predict the criterion variable

### **1.11 Operational Definition of Terms**

<b>Academic Locus of control</b>	Degree of control of ones' learning outcomes as indicated by a score in academic locus of control scale.
<b>Academic motivation</b>	Learner's desire to pursue learning tasks as indicated by a score in academic motivation scale.
<b>Academic self-esteem</b>	One's personal view about self in academics as shown by the score in academic self-esteem.
<b>Academic self-efficacy</b>	Belief to succeed in academics as reflected by the rating in the academic self-efficacy scale.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Introduction**

This chapter presents literature review on how academic locus of control relates to learners' self-efficacy, motivation and self-esteem. The chapter also presents literature on how the learners' locus of control is predicted using self-efficacy, motivation and self-esteem. Finally, the literature reviewed was summarized.

#### **2.2 The Relationship between Academic Self-efficacy and Academic Locus of Control**

Maizan et al., (2016) did a study to establish how self-efficacy relates to academic locus of control. The respondents were learners from two public technical universities in Malaysia, Asia. The sample size was 410 first year students but those who completed the questionnaire were 360. Out of the 360 participants, (185 males, 175 female). The researchers used a correlational research design. It was realized that female engineering students have high self-efficacy and extrinsic locus of control while male students pursuing engineering were intrinsically oriented. This study was done in a university setting whereby the results may have been affected by the advanced level of education of the students. The current study was done in a secondary school setting. Further, the study used correlational research design which does not allow manipulation of variables. The present study used ex-post -facto

research design.

Malikeh, (2015) investigated how learners' locus of control related to their beliefs regarding their self-efficacy. The target population was 534 members of staff in Yazd Central University in Iran. The sample size was 220 participants who consisted of 94 men and 126 women. Out of these 220 participants, 186 were married while 34 were single. The participants' ages were as follows: 57 were below 30 years, 97 were between 31 and 40 years and 66 were above 41 years. The education level of the participants ranged from primary school certificate to doctoral level whereby 31 had attained primary school certificate, 21 had attained diploma level, 116 had attained licence level, 42 had attained master's level and 10 had attained doctoral level. Data were collected using an adapted questionnaire. After hypotheses testing, the results indicated that the two variables related positively. This study targeted respondents with different levels of education varying from school primary certificate level to doctoral level. The current study focused on participants with the same level of education.

Onu et al., (2016) studied whether locus of control correlates to self-efficacy. 250 participants who had graduated from a university having pursued agriculture related courses were sampled. These graduates were picked from five states in Nigeria. From each state 50 respondents were purposively sampled. Data collection tools were three self-developed questionnaires. Data was analyzed using F-test and Analysis of variance. This study had some

limitations. Purposive sampling used may introduce bias in the study. In addition, self-developed questionnaires may not be reliable. In the current study, the participants were randomly sampled and already existing standardized tools were adapted for data collection.

Onkundi, (2014) did a study on how students' locus of control and self-efficacy are related. A sample of 150 students from Nyamira County secondary schools was used. The two variables were found to be positively related. The study was guided by Attribution theory to explain locus of control and a correlational research design was used. The present study was guided by the Social Learning Theory by Rotter (1954) to explain locus of control. Therefore, given that the present study was guided by a different theory and a different methodology, a similar study needed to be done to determine whether similar results would be obtained.

### **2.3 The Relationship between Academic Motivation and Academic Locus of Control**

Kader, (2014) did a study on how locus of control orientation links to students' motivation towards academics. This study aimed at determining whether these academic motivation and locus of control influence the students' performance in principles of microeconomics course. The study's participants were 44 students studying at Nevada University in Las Vegas, USA. Survey research design was adopted. The results of the study were that a positive relationship existed between internal locus of control and intrinsic motivation. A major limitation of this study was that the Survey method used is characterized by

inflexibility whereby there is no room for modification of the questionnaire. The current study adapted standardized tools which were modified to suit the target population.

Kamdron, (2015) did a study to examine how motivation towards work relates to the workers' locus of control. Estonian public and private employees were targeted. 767 employees were randomly picked. The composition of the sample was 314 men and 453 women. The age of these respondents varied from 18 years to over 65 years. Data was collected using method to collect the data. One Way ANOVA, Hierarchical multiple regression analysis and factor analysis tests were used in testing hypotheses. It was found that work motivation positively correlated to locus of control. This study targeted participants of various ages ranging from 18 years to over 65 years while the current study targets learners who are in the same class and are likely to have almost the same age.

The study by Sundjoto (2017) explored how internal locus of control, intrinsic motivation and performance at work are related. Participants were drawn from employees working in ceramic companies in East Java. The sample consisted of 160 employees (100 males, 60 females) aged between 28 years to 65 years. The study used survey method to collect the data. The results indicated that intrinsic motivation significantly influences internal locus of control. This study had a limitation of using survey method which is characterized by inflexibility whereby there is no room for the modification of the questionnaire

throughout the process of data collection since it will be treated as a new data. The current study used ex-post-facto research design which allows for the modification of the questionnaire. Secondly, given that the sample was drawn from respondents whose responses to the questions may have been influenced by their working experiences and different educational background, the current study targets respondents who are in the same class.

Fagbola and Popoola (2015) studied whether locus of control can be correlated to motivation towards work. The targeted populations were managers working in aviation parastatals in Nigeria. The sample size was 1238. After administration of the questionnaires, the response rate was 945. Out of 945 respondents, 637 were male while 308 were female. The participants' ages ranged between 35 and 55 years. The participants had working experience which ranged between one year and 30 years. The educational qualifications of the participants varied as follows: 406 had attained bachelor's degree, 386 had attained master's degree and the remaining 157 participants had attained other academic qualifications. Locus of control and work motivation was found to have a positive relationship. In this study, the different years of work and different educational qualifications may have shaped the workers' experiences hence affecting their responses to the questionnaires and their ratings about their beliefs. The present study targeted students who are in the same class.

A study done by Sini et al., (2018) looked at school motivation of school going Kenyan primary school pupils within Malindi and Kilifi counties. The sample



consisted of 449 pupils drawn from classes four to class eight and whose age ranged from 9 to 14 years. The males constituted 49.4% of the sample while the girls constituted 50.6%. Data were collected using questionnaires. The study found out that, learners in classes four and five had lower levels of motivation while learners in classes six, seven and eight reported to have higher levels of motivation and were internally oriented in their locus of control. This study established that internally oriented learners reported to be highly motivated while those learners who reported to have lower levels of motivation were externally oriented. The participants were primary school pupils who may not have developed a full understanding of the concepts of motivation and locus of control hence this was a limitation. The present study was conducted in a secondary school setting in order to address this gap.

#### **2.4 The Relationship between Academic Self-esteem and Academic Locus of Control**

Hosseini, et al., (2016) did a study on prediction of academic achievement. The sample consisted of 300 college students but only 252 (98 males,154 females) signed the consent. The participants were aged between 18 years and 27 years. Cross-sectional research design was used and results showed that locus of control and self-esteem effectively predicted learner's learning ability. The study used a cross-sectional research design whose findings can be flawed if there is a conflict of interest. The present study used ex-post-facto research design.

Maryam et al., (2016) did a study to explore the extent to which academic self-

esteem relates to academic locus of control. The target population consisted of 370 Iranian university students whereby 200 were males and females were 170. The study used interviews to collect data which were analyzed using descriptive method. A significant relationship was found between self-esteem and internal locus of control. The sampled respondents were university students from an urban setting which may limit the generalization of the results. The researcher had recommended for a similar study in a rural setting in Iran so as to compare the findings. The study used interviews to collect data which is vulnerable to biasness while the present study used questionnaires to collect data.

A study by Okwaraji et al., (2018) looked at locus of control as a correlate of self-esteem. The target population was 720 students drawn from two communities which live in a rural setting in Nigeria. The sample size was 80 students whereby there were 40 boys and 40 girls. The selected students were in adolescent stage and their ages ranged between 10 years and 19 years. The study adopted cross sectional design. It was found that the two variables are related and that self-esteem can effectively predict learners' academic locus of control. The sampled students were picked from schools which are in a rural setting and their parents are also based in rural setting. This limits generalization of the findings restricting their applicability to rural areas only. Since the present study was done in a rural area in Kenya, its findings may offer a good base for determining whether learners in a rural setting in Kenya have similar experiences as learners in a rural setting in Nigeria.

Aomo et al., (2018) studied how secondary school students' self-esteem relates to their indulgence in behavior problems. This study targeted 11479 form three students from 95 secondary schools in three sub-counties namely Sameta, Gucha south and Kisii central in Kisii County. The sample consisted of 378 students whereby 60% were boys while 40% were girls. Data were collected using questionnaires and interview schedule. Concurrent triangulation design was applied. Hypotheses testing revealed that self-esteem negatively correlates to indulgence in behavior problems. In this study, those learners with high self-esteem had internal locus of control orientation and rarely engaged in behavior problems. On the other hand, learners who had low self-esteem had external locus of control orientation and in most cases, they engaged in behavior problems. This study used interviews as a method of collecting data and its prone to biasness and subjectivity of the respondents. The present study used questionnaires to collect data.

### **2.5 Prediction of Academic Locus of Control from Academic Self-Efficacy, Academic Motivation and Academic Self-Esteem**

Few studies have addressed how learners' self-efficacy, self-esteem and motivation jointly predict academic locus of control. However, there are studies which look at the predictive power of the either three or two of the variables.

Sagone and Caroli (2016) studied academic self-efficacy and self-esteem as correlates of locus of control among university students in Catania University in Italy. The sample comprised of 267 university students whereby 96 were

males while 171 were males. The participants were aged between 18 years and 26 years. Survey method was adopted. It was found that despite the age and gender differences, academic self-efficacy and self-esteem correlated positively and significantly to internal locus of control. The limitation noted was that the survey method used does not allow modification of the questionnaire. The present study used ex-post-facto research design that allows for the modification of the questionnaire to suit the target population.

Karaman and Watson (2017) explored how self-efficacy, self-esteem and motivation relate to internal locus of control, the target population was 225 undergraduate students in Singapore University. The sample consisted of 115 males and 110 females. Data were collected using self-developed questionnaires. After testing the hypothesis, the findings established that academic self-efficacy, academic self-esteem and academic motivation are significantly related to academic locus of control which in turn influenced the students' performance. This study used self-developed questionnaires which may not be reliable to collect data. The current study used ex-post-research design. While the study by Karaman and Watson (2017) focused on the university students who may have different educational experiences, the current study focused on secondary school form three students who had the same educational experience.

A study by Cetin and Askun (2018) explored the connection between self-efficacy, intrinsic motivation and locus of control. The targeted respondents

were 76 employees in diverse organizations in Turkey. This sample comprised of 60 males and 16 females. The respondents' age ranged between 24 years and 59 years with their mean age being 34.60 years. Data collection was done using questionnaires which were administered on weekly basis for ten consecutive weeks. Data analysis was done using hierarchical linear modeling. This study found that self-efficacy and motivation influence work performance and are good predictors of the employee's locus of control. Given that the sample was obtained from many organizations, the sample size of 76 may be too small to draw generalizations about diverse population from. The present study used standard table by Krejcie and Morgan (1970) for determining appropriate minimum sample size for the targeted population.

A study was done in Nigeria to examine whether self-esteem, motivation and locus of control are related (Olaoye & Olaoye, 2018). The sampled population was 480 female students purposively picked from two colleges in Kwara state. Structured questionnaires were completed by the participants. Results of the research showed that intrinsic motivation and internal locus of control are positively related because there was concurrence of high number of students reporting to be intrinsically motivated and at the same time rating themselves as having internal locus of control. Similarly, students with internal locus of control reported having high self-esteem. Therefore, self-esteem and motivation predict internal locus of control. However, this study had some limitations. First, purposive sampling used is subject to biasness. Secondly, the

sampled population was females only. The current study randomly sampled participants from both genders.

A study done by Amanda and Keita (2017) looked at the psychological factors that predict locus of control in Nigeria. The targeted respondents were 300 (200 boys, 100 girls) upper primary pupils with a mean age of 11.50 years. Interviews were conducted and descriptive method was used to analyze data. Self-efficacy, intrinsic motivation and self-concept were found to be some of the psychological factors that predict internal locus of control among the respondents. The use of descriptive method to analyze the data may affect the research results to a certain level of bias due the absence of the statistical tests. The present study used both descriptive and inferential statistics in order to avoid this bias. The current study also used form three students who may have developed the three constructs due to their stay in school.

## **2.6 Summary of Review of Related Literature**

Most of the studies covered in the review focused on university students, college students and organizational employees. Few studies looked at secondary school students. Studies reviewed that related self-efficacy and locus of control reported that the two variables have a positive correlation which is significant. Literature review on academic motivation and locus of control established that academic motivation significantly relates to learner's academic locus of control. Self-esteem and locus of control were found to be significantly related in the reviewed studies. Finally, studies reviewed on

prediction of locus of control have shown that the three predictor variables may be good predictors of academic locus of control. Therefore, it was important to carry out the present study so as to establish whether the poor grades attained by the students in Matinyani sub-county were attributed to their academic locus of control orientation.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

In this chapter the focus was on the research design, research variables, description of location of the study, sampling techniques and sample size determination. Descriptions of the research instruments, the data collection procedures, logical and ethical considerations and data analysis are also presented.

#### **3.2 Research Design**

An ex-post-facto research design was used. The design is suitable in situations where manipulation of independent variables is impossible (Cohen et al., 2003). This research design is divided into two models; there is the correlational causal model and criterion group model. The correlational causal model was considered appropriate in this study because the study sought to relate variables and establish their predictive role on the criterion variable.

#### **3.3 Research Variables**

This study has four variables. There are three predictor variables and one criterion variable. The predictor variables are academic self-efficacy, academic motivation and academic self-esteem. Criterion variable is the students' academic locus of control. The four variables were measured at interval level.



### 3.4 Location of the Study

This study was done at Matinyani Sub-County, Kitui County. There are 18 public secondary schools in this Sub-County. From 2015 to 2018, Matinyani Sub-County has been consistently posting low KCSE mean score compared to the other Sub- Counties in Kitui County. This necessitated the choice of the locale so as to establish whether academic locus of control which influences academic performance is evident in learners in this Sub-County. This is evident in the Table 3.1

**Table 3.1**

*KCSE Mean Scores from 2015 to 2018*

<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
County Mean	6.22	6.16	5.61	5.53
Matinyani Sub-County mean	5.21	5.65	4.63	4.34

Source: County Director of Education, Kitui County (2018)

### 3.5 Target Population

The target population was 1250 (700 boys and 550 girls) public secondary school students. The targeted group was form three students within Matinyani Sub-County Kitui County in the year 2019. Form three students were preferred for the sample because they have spent almost three quarters of their secondary school life and are likely to be well oriented towards academics. They are supposed to have shown a registered level of academic motivation, academic self-efficacy and academic self-esteem. Form four students were not

considered because of their busy schedule preparing for KCSE and therefore they may not have adequate time to participate in the research.

### **3.6 Sampling Techniques and Sample Size**

#### **3.6.1 Sampling Techniques**

The researcher used stratified sampling to group the schools in the Sub-County into four categories on the basis of gender and whether the school is day or boarding. Purposive sampling was employed in picking ten schools from which respondents were drawn from. The number of participants to be drawn from each school was determined using proportionate sampling. A sample of 291 students was randomly picked from the ten schools.

#### **3.6.2 Sample Size**

The size of the sample was 291 students. This sample constituted of 157 boys and 134 girls. Krejcie and Morgan (1970) table was used in determining the sample size. As per the table, the appropriate sample size for a population of 1250 students should be 291.

Table 3.2 shows sampling distribution and sample size.

**Table 3.2***Sampling Frame*

Type of school	Population			Sample size		
	Schools	Students		Schools	Students	
		Boys	Girls		Boys	Girls
Boys boarding	3	150	-	2	32	-
Girls Boarding	2	-	44	1	-	22
Mixed Boarding	3	205	190	2	50	41
Mixed Day	10	345	316	5	75	71
Sub-total		700	550		157	134
Total	18	1250		10		291
	100%	(100%)		56%		(Appr23%)

Source: Sub- County Director of Education, Matinyani.(2019)

Appr: Approximately

### 3.7 Research Instrument

Four research tools were used in this study.

#### 3.7.1 Questionnaire

Data were collected using a questionnaire which had five sections and labelled A, B, C, D and E. Part A contained instructions and questions on the respondents' personal information while Sections B, C, D and E are the adapted scales. The four scales are briefly described.

#### **a. Academic Self-Efficacy Scale**

This scale was authored by Gafoor and Ashraf (2006). The scale has 40 items which measure various dimensions of academic self-efficacy. The target group for the scale is secondary school students. Items rating is on five-point Likert scale as follows: Exactly true, Nearly true, Neutral, Nearly false and Exactly false. Experts were employed to examine that the scale has content validity. The tested split half reliability of the scale is .90 (N=370). During scoring, positive statements are scored as follows: Exactly true=5, Nearly true=4, Neutral=3, Nearly False=2 and Exactly False=1. Reverse coding is done on all statements which are negative before scoring. The cut off scores for low, moderate and high were 40 to 80, 81 to 159 and 160-200 respectively.

#### **b. Academic Motivation Scale-High School Version**

The developers of this scale are Vallerand, Pelletier, Blais, Briere, Senecal, and Vallieres (1992). This scale has 28- items whose rating is on a seven-point Likert scale. The target population for this scale is secondary school students. Academic motivation scale has established internal consistency reliability of .83. During scoring, the scorer assigns point values ranging from *Totally Disagree=1* to *7 =Totally agree*. Scores could range from 4 to 28. Items 18 and 26 are reverse coded. The scale consists of seven domains which were measured by the items indicated in brackets. Intrinsic motivation to know (2, 9, 16 and 23), intrinsic motivation to experience stimulation (6, 13, 20 and 27), extrinsic motivation identified (3, 10, 17 and 24), intrinsic motivation - toward accomplishment (6, 13, 20 and 27), extrinsic motivation -external regulation (1,

8, 15 and 22), amotivation (5, 12, 19 and 26) and extrinsic motivation – introjected (7, 14, 21 and 28). The respondent's AMS was by calculating the mean of the scores and then the means were inserted into the into the formula;

$2\{(know+acc+stim/3)\} + iden - \{(intro+reg/2) + 2amo\} = \text{Academic Motivation}$

### **Rosenberg Self-esteem Scale**

Rosenberg authored this scale in 1965. This tool measures academic self-esteem of secondary school learners. The number of items in the scale is ten. These items are rated on four-point Likert scale as follows: *0- Strongly disagree, 1- Disagree, 3- Agree and 4-Strongly agree*. The scale's established internal consistency reliability is .92. The developer used known groups to confirm that the scale has concurrent, predictive and construct validity. During scoring, low self-esteem responses are disagree and strongly disagree on items 1, 3, 4, 7, 10 and agree and strongly agree on items 2, 5, 6, 8 and 9. Some items are combined during scoring and counted as a single item. Items number three, seven and nine are scored as one item and any two correct responses constitute a score. Some items are paired and one correct response in the pair amounts to a score. Item number four is paired with number five and item number two is paired with item number six. Items number one, eight and ten are scored individually. The total number of scores of the specific items shows the learner's level of self- esteem. The scores were interpreted as follows; 0-14 – low self-esteem, 15-25 average self-esteem and 26-40 – high self-esteem.

### **c. Academic Locus of Control Scale**

This scale was authored by Trice (1985). The target population of the scale is university students. Therefore, the scale will be adapted and modified to suit secondary school students. The scale has 28 items whose answers are either true or false. This scale requires 20 minutes for administration. The scale's internal consistency reliability was established to be .70. During scoring, true is assigned one point while false is assigned zero points. The student's score ranges between zero and 28. Scores ranging 0-13 indicate presence of internal locus of control whereas scores ranging 14-28 is an indication of presence of external locus of control.

### **3.8 Pilot Study**

One mixed school was purposively selected and 30 form three students were picked for piloting using random sampling. The researcher analyzed the pilot study data to check whether research tools were reliable. The researcher also determined whether the data analysis techniques chosen were appropriate. The researcher then excluded the school in the actual study in order to control on biases.

#### **3.8.1 Validity of the Study Instruments**

The researcher consulted the lecturers to review the instruments and ascertain whether they had content validity. The questionnaires were administered around at the same time and collected immediately for the accuracy. The information from the pilot study was used to make modifications on the tools

so as to suit the respondents' in the current study.

### 3.8.2 Reliability of Study Instruments

The developers of the adapted scales determined the internal consistency reliability of each scale. Academic self-efficacy scale was found to have a reliability of .83, academic motivation scale had reliability of .83 while Rosenberg self-esteem scale had a reliability of .70. Academic locus of control scale had a reliability of .92. However, the researcher used the results of the pilot study to confirm these reliabilities. Therefore, Cronbach alpha helped in determining internal consistency reliability of each adapted scale. Table 3.3 shows the Cronbach's alpha coefficient indicators obtained after the analysis.

**Table 3.3**

*Cronbach alpha reliabilities of the study*

Variable measured	Cronbach's Alpha	No. of items
Academic self-efficacy	.85	40
Academic Motivation	.89	28
Academic self-Esteem	.82	10
Academic Locus of Control	.75	34

**Source: Field data 2019**

The research tools were found to be reliable for the study since the reliabilities obtained were higher than the estimated coefficients.

### **3.9 Data Collection Technique**

Questionnaire administration was done at a time that was locally arranged by the researcher and the head teacher in consultation with the other teachers in each school. The researcher requested the teachers who were within the institutions during the data collection time to help in the administration of the questionnaires. The students were briefed on the research intentions before being requested to sign in the consent forms. Afterwards, the students who consented were given questionnaires to fill. The students were given one hour to fill all the five sections of the questionnaire. Collection of the filled questionnaires was done after the duration of one hour and respondents were thanked for participating in the study.

### **3.10 Data Analysis**

After data collection, coding was done and then the data was keyed into the Statistical Package for Social Science (SPSS) software. Data analysis was done to test the following null hypotheses using the statistical tests indicated.

**H<sub>01</sub>:** There is no significant relationship between academic self-efficacy and academic locus of control. Test: Pearson's product moment correlation.

**H<sub>02</sub>:** There is no significant relationship between academic motivation and academic locus of control. Test: Pearson's product moment correlation.

**H<sub>03</sub>:** There is no significant relationship between academic self-esteem and academic locus of control. Test: Pearson's product moment correlation.

**H<sub>04</sub>:** Academic self-efficacy, academic motivation and academic self-esteem do not significantly predict learners' academic locus of control. Test:



Multiple regression analysis.

These two statistical tests for testing hypotheses were performed using SPSS (Version 21) software.

### **3.11 Logistical and Ethical Considerations**

#### **3.11.1 Logistical Considerations**

Research authorization was obtained from Graduate School of Kenyatta University. Afterward, a permit to conduct research was sought from National Council for Science, Technology and Innovation (NACOSTI). After obtaining the research permit, the researcher notified the Sub-County Director of Education in Matinyani Sub-County of the intention to conduct a research within the Sub-County. Later, the researcher contacted the principals of the sampled schools to get permission to undertake the study at their schools.

#### **3.11.2 Ethical Considerations**

The consent of the respondents was sought by briefing them on the objectives of the research. Volunteering respondents signed consent forms which were issued by the researcher. After signing the consent forms, the researcher promised the respondents confidentiality in handling the provided information and that there would be no harm to the respondents during and after the research. The respondents were also informed that they could unconditionally withdraw from the participation if they decided otherwise. Finally, the researcher promised to share the findings of the study to the respondents after completing the research exercise.

## **CHAPTER FOUR**

### **FINDINGS, INTERPRETATION AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents the findings, interpretation and discussions of the results according to the objectives of the study and the stated hypotheses. Appropriate descriptive statistics for every objective are provided together with the inferential statistics testing each of the null hypotheses. The chapter is ordered into four sections; introduction; general and demographic information, findings, interpretations, discussions and finally the exploratory analysis.

#### **4.2 General and Demographic Information**

The general information on the questionnaires return rate and the respondents' demographic data will be presented in this section.

##### **4.2.1 Return Rate**

The return rate for this study is given in the Table 4.1 on page 38

**Table 4.1***Return Rate*

Type of school	Sample size		Return rate		
	Schools	Students		Students	
		Boys	Girls	Boys	Girls
Boys boarding	3	32	-	32(100)	-
Girls boarding	1	-	22	-	22(100)
Mixed boarding	3	50	41	50(100)	41(100)
Mixed day	3	75	71	75(100)	71(100)
Sub-total		157	134	157(100)	134(100)
Total	10	291		291(100)	

*Note.* ( ) percentage

From Table 4.1, it is observed that the sampled schools were 10 public secondary schools and the number of participants who were drawn from the schools to participate in this study was 291. It is also observed from the same Table 4.1 that the return rate of the questionnaires was 100% (291) that is, 157 males and 134 females. The summarized distribution of the participants based on gender and school category is given in Table 4.2.

**Table 4.2***Gender and School Category*

		School category				Total
		Boys boarding	Girls boarding	Mixed boarding	Mixed day	
Gender	Male	32(11)	0	52(18)	73(25)	157(54)
	Female	0	22(8)	39(13)	73(25)	134 (46)
Total		32(11)	22(8)	91(31)	146(50)	291(100)

Note. ( ) percentage

The statistics presented in Table 4.2 show that majority of the respondents were drawn from mixed day schools (50%) whereas the least figure was drawn from girls boarding (8%). The mixed boarding category had the second largest number of respondents (31%) compared to the boys boarding category (11%). Overall, male respondents were the majority representing 54% of the respondents while females were 46%.

#### **4.2.3 Age of the Respondents**

Data collected on respondents' ages was analyzed and the findings presented in Table 4.3.

**Table 4.3***Description of the Respondents age in years*

		Mean	Std dev.	Min	Max	Sk.	Kurt.
Gender	Male	17.36	1.12	14.00	21.00	0.85	.33
	Female	17.22	0.89	15.00	20.00	2.05	.98
Total		17.33	1.02	14.00	21.00	.58	1.28

*Note.* N= 291; Std dev. - Standard deviation; Min – Minimum; Max – Maximum; Sk. – Skewness; Kurt.- Kurtosis

The minimum and maximum age of the respondents was 14 and 21 respectively giving a range of 7. The male respondents had a higher mean age of 17.36 ( $SD = 1.12$ ) compared to the female respondents who had a mean age of 17.22 ( $SD = 0.89$ ). The combined mean age was 17.33 ( $SD = 1.02$ ).

#### **4.3 Results of the Study**

The study's findings were presented according to the objectives stated. The applicable descriptive statistics for each objective was provided together with the specific inferential statistics applied in hypotheses testing. Lastly, a discussion of the findings was given.

### 4.3.1 Relationship between Academic Self-Efficacy and Academic Locus of Control

### 4.3.2 Descriptive Statistics for Academic Self-Efficacy

The participants' total academic self-efficacy scores were analyzed to get the range, mean, standard deviation, skewness and kurtosis. The outcomes of calculation of these measures are given in Table 4.4.

**Table 4.4**

*Description of Academic Self- Efficacy scores*

<i>N</i>	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
291	81.00	99.00	180.00	133.16	12.50	0.34	0.93

The minimum and maximum score was 99 and 180 respectively, giving a range of 81. The mean score was 133.16 ( $SD=12.50$ ) meaning that most of the respondents had moderate academic self-efficacy. The coefficient of skewness was 0.34 implying that low rating was common among many participants as they responded to the items which were in the self-efficacy scale. The Kurtosis was found to be 0.93 which indicated that the distribution was leptokurtic meaning that many values concentrated around the mean.

### 4.3.3 Respondents Level of Academic Self-Efficacy

The academic self-efficacy scores for the participants were used to further classify the participations into three groups depending on one's score. The participants were classified as having low, moderate and high academic self-efficacy. The categorization and frequency of each group are given in Table 4.5.

**Table 4.5**

*Levels of Academic Self-Efficacy*

Level	Frequency	Percent
Low	0	0
Moderate	284	97.6
High	7	2.4
Total	291	100

The cut off scores for low, moderate and high were 40 to 80, 81 to 159 and 160-200 respectively. The information in the table indicates that majority of the participants, 284 (97.6%) are in moderate category while 7 (2.4%) were in the category of high academic self-efficacy. Category of low self-efficacy had no participants.

### 4.3.4 Descriptive Statistics for Academic Locus of Control

In this section, the researcher presents the descriptive analysis of the participants' academic locus of control in Table 4.6.

**Table 4.6***Description of Academic Locus of Control Scores*

<i>N</i>	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
291	16.00	3.00	19.00	15.4	3.34	0.35	-0.39

The mean score which was found to be 15.4 ( $SD = 3.34$ ) meant that most of the respondents were found to have external locus of control according to the academic locus of control scale key. The skewness co-efficient was 0.35 meaning that many of the respondents rated themselves low in this scale. The kurtosis was found to be -0.39 which indicated a distribution with many values concentrated around the mean.

#### **4.3.5 Respondents Academic Locus of Control Orientation**

The respondents' scores in the locus of control scale were further analyzed to determine the academic locus of control orientation with cut off scores of 0-13 and 14-28 for internal and external locus of control orientation respectively. The findings are given in Table 4.7.



**Table 4.7***Orientation of the Respondents Academic Locus of Control*

Levels	Frequency	Percent
External	237	81.4
Internal	54	18.6
Total	291	100%

Table 4.7 indicates that respondents with external locus of control had a higher percentage (81.4) compared to the respondents with internal locus of control (18.6). In line with the first objective of this study, the mean differences in academic self-efficacy scores between participants with different types of locus of control orientation were sought. The resultant data is presented in Table 4.8.

**Table 4.8***Mean score for Academic Self-Efficacy given the Academic Locus of Control Orientation*

	Levels of Locus of Control	N	Mean	SD	Std Error mean
Academic self-efficacy total score	External	237	132.65	12.26	1.82
	Internal	54	135.41	13.36	.80

*Note.* N – Sample size; *SD*- Standard deviation

It was found that a very high number of participants; that is, 237 out of 291 were found to have external academic locus of control orientation while only 54 respondents were found to have internal academic locus of control. It is also notable from Table 4.8 that the mean score of internally oriented respondents was 135.41 ( $SD = 13.36$ ) which was slightly higher than the one of externally oriented respondents which was 132.65 ( $SD = 12.26$ ).

#### 4.3.6 Hypothesis Testing

For the researcher to establish how academic self-efficacy relates to academic locus of control, the following null hypothesis was formulated:

$H_{01}$ : There is no significant relationship between academic self-efficacy and academic locus of control.

Testing this hypothesis required subjection of the data to bivariate correlation analysis. This was done using Pearson's product moment correlation coefficient. The results of the test are shown in Table 4.9.

**Table 4.9**

*Pearson r for Academic Self-efficacy and Academic Locus of Control scores*

			Academic Self	LOC
			Efficacy Total Score	score
Academic	Self-	Pearson correlation	1	.57**
Efficacy	Total	Sig. (2-tailed)		.04
Score		N	291	291

Correlation is significant at 0.05 level (2- tailed)

*Note.* LOC- Locus of Control

It was found that academic self-efficacy scores and academic locus of control scores had a significant positive relationship. As shown in Table 4.9. The obtained Pearson  $r$  value was  $r(291) = .04$ ,  $p < .05$ . Therefore, the null hypothesis was rejected. Rejection of the null hypothesis which stated that, there is no significant relationship between academic self-efficacy and academic locus of control means that students with high scores in academic self-efficacy were found to have high scores in academic locus of control. Having obtained these results, it was necessary to do further analysis to determine how academic self-efficacy related to the different categories of academic locus of control. The analysis is given in Table 4.10

**Table 4.10**

*Correlations between academic self- efficacy and levels of academic locus of control*

		Academic Self- Efficacy total score
Internal Locus of control total score	Pearson Correlation	.50 <sup>**</sup>
	Sig. (2-tailed)	.04
	N	54
External Locus of control total score	Pearson Correlation	.07
	Sig. (2-tailed)	.91
	N	237

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

*Note. LOCUSMT-Locus of Control sum*

According to Table 4.10, it is observed that respondent's academic self-efficacy scores had a significant positive relationship to internal academic locus of control scores,  $r(54) = 0.50, p < .05$ . These findings indicate that respondents with high scores in academic self-efficacy, were found to have high scores in internal academic locus of control orientation. Academic self-efficacy scores were found to have positive but insignificant correlation with external academic locus of control orientation ( $r(289) = .07, p > .05$ ). These findings may be used to explain the secondary school students performance in Matinyani Sub-county, where majority of Students were found to have poor academic performance which can be associated to the fact that they were found to have external locus of control orientation. This view is supported by kutanis et al., (2016) who stated that external locus of control orientation translates to below average performance in academics.

From the findings obtained in Table 4.10 it was expected that students with internal locus of control orientation would have a higher mean score in academic self-efficacy compared to students with external academic locus of control. To confirm this assumption, the researcher carried further analysis using t-test to establish whether there was significant mean difference in academic self-efficacy scores given the respondents academic locus of control orientation. The results were presented in Table 4.11.

**Table 4.11***Independent Samples t-test*

		t-test for equality of means		
		<i>t</i>	<i>df</i>	<i>Sig.</i> (2 tailed)
Academic self-efficacy total score	Equal variances assumed	-1.39	289	.04
	Equal variances not assumed	-1.39	74.67	.07

It is observed from Table 4.11 that, depending on the type of locus of control orientation, the mean difference was significant. The obtained  $t$  value was ( $t = -1.39$ ,  $df = 289$ ,  $p < 0.05$ ) and the mean difference was in favor of those with internal academic locus of control. In support of these findings, most of the students in Matinyani sub-county were found to have external academic locus of control which may be used to infer the reason for their poor academic performance in school examinations.

#### **4.3.7 Discussion of the Results**

The findings obtained supported those of an earlier study done by Onkundi (2014), which revealed existence of positive relationship between the two variables. The sample relied upon in the earlier study and the current study was drawn from secondary school students. This shows that irrespective of the different study locations, academic self-efficacy was a positive correlate of academic locus of control.

The findings also supported those of earlier studies done by Maizan et al., (2016) and Onu et al., (2016) which reported that the respondents' academic self-efficacy was positively correlated to their academic locus of control. The samples used in the two studies were drawn from university students while the sample used in the current study consisted of secondary school students. This implied that irrespective of the level of education of the respondents, academic self-efficacy was found to significantly and positively relate to academic locus of control. Another study done by Malikeh (2015) had findings that were supported by those of the current study. In both studies, self-efficacy positively correlated to locus of control. Thus, it's evident that irrespective of the cultural differences and different study locations; self-efficacy was identified as a positive correlate to academic locus of control.

As indicated in Table 4.5, majority of the participants were having moderate academic self-efficacy. There was positive correlation between academic self-efficacy and external academic locus of control (Table 4.10). From the findings, the problem of below average academic performance in most secondary schools in the locale of this study may be attributed to moderate level of academic self-efficacy and external academic locus of control. Past research work on moderate level of academic self-efficacy and external academic locus of control show that, low and moderate level of academic self-efficacy predict below average academic performance (Malikeh, 2015). Therefore, the problem of below average academic performance in Matinyani

Sub- County may be associated with their level of academic self-efficacy and academic locus of control orientation.

#### **4.4 The Relationship between Academic Motivation and Academic Locus of Control**

##### **4.4.1 Descriptive Statistics for Academic Motivation**

The academic motivation scores for the respondents were analyzed in order to obtain the range, mean, standard deviation, skewness and kurtosis. The results are presented in Table 4.12.

**Table 4.12**

*Scores Description of Academic Motivation*

<i>N</i>	Range	Minimum	Maximum	Mean	Std. deviation	Skewness	Kurtosis
291	16.46	-7.17	9.29	3.08	2.80	-0.52	0.38

The findings indicated that the minimum and maximum score was -7.17 and 9.29 respectively giving a range of 16.46. The mean score was 3.08 ( $SD = 2.80$ ) and the coefficient of skewness was - 0.52 meaning that many of the respondents rated themselves highly on this scale. The kurtosis was found to be 0.38 which indicated that most of the values concentrated around the mean.

#### 4.4.2 Levels of Academic Motivation

The respondents' academic motivation scores were further analyzed with a view to group participants in either low, moderate or high level of academic motivation. The cut-off scores for the categories of low, moderate and high level of academic motivation were -18 to -7, -6 to 6 and 7 to 18 respectively. The outcome of this analysis was presented in Table 4.13.

**Table 4.13**

*Levels of Academic Motivation*

	Frequency	Percent
Low	2	0.7
Moderate	260	89.3
High	29	10
Total	291	100

*Note.* N = 291

As shown in Table 4.13 majority of the respondents were categorized as having moderate level of academic motivation, that is, 260 (89.3%) while 29 (10%) respondents out of the sampled population were rated as having high level of academic motivation and 2 (7%) of the respondents had low level of academic motivation. Given that academic motivation was measured by the AMS which has seven domains, the scores obtained were subjected to descriptive analysis so as to obtain range, mean, standard deviation skewness and kurtosis for every domain of the AMS. The findings were presented in Table 4.14.



**Table 4.14***Descriptive Statistics of Sub-Scales of Academic Motivation*

Sub scale	Range	Min	Max	Mean	SD	Sk.	Kurtosis
IMTK	22	6	28	20.08	5.06	-.500	-0.26
IMTA	24	4	28	21.73	4.80	-.768	.624
IMES	20	4	28	11.40	4.36	.362	-.34
EMID	24	4	28	40.48	5.02	-.533	-.24
EMINJ	24	4	28	19.92	4.72	-.378	.097
EMER	24	4	28	21.78	5.01	-.862	.420
AM	24	4	28	11.40	4.799	.677	.285

*Note.* N = 291; Min- minimum, max- maximum, S- standard deviation, Sk – skewness, IMTK – intrinsic motivation to know, IMTA – intrinsic motivation towards accomplishment, IMES- intrinsic motivation to experience stimulation, Emid- extrinsic motivation identified, Emin – Extrinsic motivation introjected, EMER – extrinsic motivation external regulation, AM - Amotivaton.

As observed from Table 4.14, the highest mean score of 40.48 was obtained on Extrinsic motivation identified while the least mean score of 11.40 was obtained on two sub-scales, that is, amotivation and intrinsic motivation to experience stimulation. The distribution of scores for intrinsic motivation to know, intrinsic motivation towards accomplishment, extrinsic motivation

identified, extrinsic motivation introjected and extrinsic motivation external regulation were found to be negatively skewed which meant that the participants rated themselves highly on these sub- scales. However, the distribution of scores for intrinsic motivation to experience stimulation and amotivation was positively skewed meaning that the participants rated themselves lowly on those sub-scales. In the seven sub-scales, the value of kurtosis was found to be less than three which implied a platykurtic distribution. This distribution implied that the scores were more widely spread out. Furthermore, bivariate correlation matrix was done so as to determine the interrelationship between the seven sub-scales of academic motivation and the results are presented in Table 4.15.

**Table 4.15**

*Correlation Matrix of the Domains of Academic Motivation*

	IMTK	IMTA	IMES	EMiD	EMin	EME	AM	ACM
IMTK	1							
IMTA	.48**	1						
IMES	.13*	.07	1					
EMiD	.54**	.45**	-.02	1				
EMin	.51**	.51**	.15**	.58**	1			
EME	.60**	.54**	.06	.65**	.57**	1		
AM	.13*	-.01	.31**	-.07	.10	-.06	1	
ACM	.36**	.42**	.00**	.52**	.17**	.35**	-.77**	1
N	291	291	291	291	291	291	291	291

*Note.* Min- minimum, max- maximum, S- standard deviation, Sk – skewness, IMTK – intrinsic motivation to know, IMTA – intrinsic motivation towards

accomplishment, IMES- intrinsic motivation to experience stimulation, Emid- extrinsic motivation identified, Emin – Extrinsic motivation introjected, EMER – extrinsic motivation external regulation, AM - Amotivaton.

As observed from Table 4.15, the three domains of intrinsic motivation were found to be positively correlated with academic motivation. Intrinsic motivation towards accomplishment and academic motivation had the highest correlation ( $r(289) = 0.42, p < .05$ ). This was followed by the relationship between intrinsic motivation to know and academic motivation ( $r(289) = 0.36, p < 0.05$ ). The lowest correlation on this domain was realized in the relationship between intrinsic motivation to experience stimulation and academic motivation ( $r(289) = 0.40, p < 0.05$ ). The sub-scales related to extrinsic motivation were positively correlated with academic motivation with the highest relationship being realized between extrinsic motivation identified and academic motivation ( $r(289) = 0.52, p > 0.05$ ), then extrinsic motivation external regulation ( $r(289) = 0.35, p > 0.05$ ), while the lowest relationship was found between extrinsic motivation introjected and academic motivation ( $r(289) = 0.17, p > 0.05$ ). However, amotivation was further found to relate negatively and significantly to academic motivation. ( $r(289) = -.77, p < 0.05$ ).

Having found the interrelationships which existed among the different domains of academic motivation, the researcher sought to establish the mean difference that existed between the academic motivation scores given the respondents' academic locus of control. The results were presented in Table 4.16.

**Table 4.16**

*Academic Motivation Mean scores for levels of academic Locus of Control Orientation*

Levels of locus of control orientation		N	Mean	SD	SD error
Academic Motivation Scores	External	237	2.25	3.30	.45
	Internal	54	3.32	2.69	.18

*Note.* N = 291; SD – Standard deviation

From Table 4.16, it is observed that internally oriented respondents had a higher mean 3.32 ( $SD = 2.69$ ) compared to the externally oriented respondents who were found to have a mean of 2.25 ( $SD = 3.30$ ).

#### **4.4.3 Hypothesis Testing**

In effort to measure the extent of relationship between academic motivation and academic locus of control, a null hypothesis was formulated:

H<sub>01</sub>: There is no significant relationship between academic motivation and academic locus of control.

Testing of the hypothesis involved subjection of the data to a bivariate correlation analysis using the Pearson's product moment correlation coefficient. The outcome of the correlation process is presented in Table 4.17.

**Table 4.17***Pearson r for Academic Motivation and Academic Locus of Control scores*

		Academic motivation score	LOC Score
Academic motivation score	Pearson correlation sig. (2-tailed)	1	.02**
	N	291	291

*Note.* LOC -Locus of control *Note.* LOC -Locus of control

The findings in Table 4.17 shows a positive and significant correlation between academic motivation scores and academic locus of control scores ( $r(289) = .02, p < .05$ ). The null hypothesis was therefore rejected. Rejecting of null hypothesis implied that high scorers in academic motivation got high scores in academic locus of control. These findings necessitated the researcher to do further analysis to explore whether a relationship existed between academic motivation and the different categories of academic locus of control orientation. Table 4.18 presents the correlations.

**Table 4.18**

*Correlations between Academic Motivation and levels of Academic Locus of Control*

		Academic Motivation Score
Internal Locus of control	Pearson Correlation	.11**
	Sig. (2-tailed)	.02
	N	54
External Locus of control	Pearson Correlation	.06
	Sig. (2-tailed)	.08
	N	237

According to Table 4.18, it is observed that academic motivation and academic internal locus of control orientation had a positive and significant correlation ( $r(289) = .11, p < .05$ ). The findings indicated that respondents with high scores in academic motivation were found to have high scores in internal academic locus of control orientation

The second finding was that academic motivation scores were positively and not significantly related to external academic locus of control orientation ( $r(289) = .06, p > .05$ ). In support of these findings, most of the respondents had moderate level of academic motivation which attributes to external academic locus of control orientation (Gunn, 2017). Following these findings, the researcher sought to carry out further analysis using t-test to establish whether there was significant mean difference in academic motivation scores given the respondents academic locus of control orientation. The results are presented in Table 4.19.

**Table 4.19**

*Independent samples t-test for mean difference in AM given the Academic locus of orientation*

	<i>T</i>	<i>df</i>	Sig.(2-tailed)
Equal variances assumed	2.18	289	.030
Equal variances not assumed	2.18	69.87	.060

Key: AM- Academic Motivation

The results in Tables 4.19 indicated that the mean difference in academic motivation between the respondents with external and internal academic locus of control orientation was significant ( $t = 2.18$ ,  $df = 289$ ,  $p < 0.05$ ). The difference was in favor of those with internal academic locus of control orientation. These findings were expected since most of the respondents in this study were found to have external academic locus of control orientation which contributes to below average performance of the learners in academics.

#### **4.4.4 Discussion of the Results**

The findings of this study did agree with earlier studies done by Kamdron (2015) and Fagbola and Popoola (2015) which reported that academic motivation positively correlated with academic locus of control. Another study conducted by Sini et al., (2018) also supported the findings of the current study. The earlier study reported that internally oriented learners in their locus of control were highly motivated. The sample for the earlier study done by Sini et al., (2018) consisted of primary school pupils while the current study's

participants were drawn from secondary school. The implications of these findings is that irrespective of the two studies having samples of different levels of schooling and also different study locations, academic motivation is positively correlated to academic locus of control.

In another research conducted by Kader (2014), which reported internal locus of control to be a positive correlate of intrinsic motivation, was also supported by the results of this study. Even though the study by Kader (2014) used a sample of university students, there was consistency of findings when a sample of secondary school students was used. These findings again implied that the level of schooling is not a significant factor in determining how academic motivation and academic locus of control are related. In another study done by Sundjoto (2017), it was reported that intrinsic motivation significantly influences internal locus of control. The sample was drawn from workers whereas the sample in the current study was drawn from high school students. However, the findings in these two studies reported that intrinsic motivation significantly influences internal locus of control.

According to Table 4.7 on orientation of the respondent's academic locus of control, most of the students in Matinyani sub-county were found to have external academic locus of control orientation which past research associated with below average academic performance. In addition to this, statistics obtained from the sub-county education office indicated that, majority of the students who sit national examinations score below average grades. As



demonstrated by the findings of this study, this problem may be attributed to their academic locus of control orientation. Indeed, most of the respondents in this study were found to have external academic locus of control.

#### **4.5 The Relationship between Academic Self-Esteem and Academic Locus of Control**

##### **4.5.1 Descriptive Statistics for Academic Self-Esteem**

The respondents' academic self-esteem total scores were analyzed and results presented in Table 4.20.

**Table 4.20**

*Description of Academic Self-Esteem Scores*

<i>N</i>	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
291	23.00	7.00	30.00	17.09	3.48	0.16	0.62

*Note* .N =291

The respondents' academic self-esteem scores were analyzed so as to get the mean, minimum and maximum scores, skewness and kurtosis. From Table 4.20, it is observed that the minimum and the maximum score was 7 and 30 respectively giving a range of 23. The mean score was 17.09 ( $SD = 3.48$ ) and the coefficient of skewness was 0.16, indicating that the distribution of academic self-esteem scores was positively skewed implying that most of the

participants rated themselves low on this scale. The kurtosis was found to be 0.62 indicating that the scores were widely spread out.

#### **4.5.2 Levels of Respondents Academic Self-Esteem**

The respondents' academic self-esteem scores were used to further classify them as having low, moderate and high level of academic self-esteem. The results were presented in Table 4.21.

**Table 4.21**

*Levels of Academic Self-esteem*

Level	Frequency	Percent
Low	61	21.0
Moderate	226	77.6
High	4	1.4
Total	291	100.0

*Note.* N = 291

The cut-off scores for low, moderate and high academic self-esteem were 0 to 14, 15 to 25 and 26 to 30 respectively. It is observed from Table 4.21 that, 77.6% were classified as having moderate level of self-esteem, 21% had low level of self-esteem while 1.4% had high level. In line with the third objective of the study, further analysis was carried to establish the mean difference that existed between the academic self-esteem scores given the respondents' academic locus of control orientation. The results are presented in Table 4.22.

**Table 4.22**

*Mean Score in Academic Self-Esteem given the Academic Locus of Control Orientation*

	Levels of locus of control	N	M	SD	SE
Academic self-	Internal	54	17.30	3.44	.48
esteem total scores	External	237	16.17	3.54	.22

*Note.* M- Mean; SD- Standard deviation; SE – Standard error

From Table 4.22, it is observed that internally oriented respondents had a mean score of 17.30 ( $SD = 3.44$ ) which was higher compared to the externally oriented respondents who were found to have a mean score of 16.17 ( $SD = 3.54$ ).

#### **4.5.3 Hypothesis Testing**

The third objective aimed at determining the extent to which academic self-esteem relates to academic locus of control. To achieve this objective, the following hypothesis was advanced;

H<sub>03</sub>: There is no significant relationship between academic self-esteem and academic locus of control.

To test this hypothesis, the researcher subjected the data to a bivariate correlation analysis using the Pearson's product moment correlation coefficient and the results are shown in Table 4.23.

**Table 4.23***Pearson r for Academic Self-Esteem and Academic Locus of Control Scores*

		Academic Self- esteem total scores	Locus of control total score
Academic	Pearson correlation	1	.45**
Self-esteem	Sig.(2-tailed)		.04
total scores	N	291	291

The findings in Table 4.23 show that the respondents' academic self-esteem scores and their academic locus of control scores had a positive and significant relationship,  $r(291) = 0.45$ ,  $p < 0.05$ . Therefore, the null hypothesis was rejected. Rejection of the null hypothesis imply that participants with high scores in academic self-esteem were found to have high scores in academic locus of control. Given that the respondents had been classified as either having internal or external locus of control orientation, further analysis was necessary to find out the relationship that existed between academic self-esteem and the two different locus of control orientation. The results of the analysis are presented in Table 4.24.

**Table 4.24**

*Correlations between Academic Self-Esteem and Academic Locus of Control orientation*

		ASE
Internal Locus of control	Pearson Correlation	.67**
	Sig. (2-tailed)	.02
	N	54
External Locus of control	Pearson Correlation	.14
	Sig. (2-tailed)	.31
	N	237

*Note.* ASE - Academic Self-Esteem

From Table 4.24, its evident that respondents' academic self-esteem scores and their academic internal locus of control orientation scores had a positive and significant relationship ( $r(289) = .67, p < .05$ ). It's inferred that respondents with high scores in academic self-esteem have high scores in academic internal locus of control. It was also established that academic self-esteem related positively and not significantly to academic external locus of control ( $r(289) = 0.14, p > 0.05$ ). Having obtained these results, the researcher sought to carry out further analysis using t-test to establish whether mean difference in academic self-esteem scores was significant given that the respondents had different types of academic locus of control orientation. The results were presented in Table 4.25.

**Table 4.25**

*Independent samples t-test for mean difference in ASE given the Academic locus of control orientation*

		t-test for equality of means		
		<i>t</i>	<i>df</i>	<i>Sig.</i> (2.tailed)
Academic	Equal variances assumed	2.18	289	.030
self-esteem	Equal variances not assumed	2.18	77.40	.036
total scores				

*Note.* *df* – degrees of freedom; *sig.* – significance

It is observed from Table 4.25 that the mean difference between the means of respondents with internal locus of control and those with external academic locus of control was significant. The obtained t value was ( $t = 2.18$ ,  $df = 289$ ,  $p < 0.05$ ) and the mean difference was in favor of internally oriented participants. The implications of these findings may be used to explain the fact that majority of the study's participants were found to have a moderate level of academic self-esteem which may be associated with the respondents being externally oriented in their locus of control and hence the below average performance in academics.

#### **4. 5. 4 Discussion of the Results**

The findings of the current study were in agreement with those of an earlier study conducted by Okwaraji et al. (2018) which established that the two variables are significantly related. The samples used in the two studies differed in terms of their level of schooling; however, their findings indicated that

irrespective of the level of schooling academic self-esteem relates to academic locus of control. Although the samples in the two studies were picked from schools located in a rural setting, the findings implied that despite of the cultural differences, academic self-esteem was found to correlate with academic locus of control.

Secondly, the obtained findings have concurred with earlier findings by Aomo, et al., (2018) which reported that participants who registered high academic self-esteem scores had internal academic locus of control while participants with low self-esteem had external academic locus of control orientation. The sample used in Aomo et al., (2018), was the same as the sample used in the current study in terms of their level of schooling, however, these findings may imply that irrespective of the cross-cultural differences and the different study locations academic self-esteem had a significant effect on academic locus of control.

The current study's findings also supported those of another study conducted by Hosseini et al., (2016) which reported that academic self-esteem and academic locus of control are related and hence good predictors of academic achievement. The samples used in these two studies differed in terms of their level of schooling and so these findings may imply that irrespective of the level of schooling of the respondents, academic self-esteem related to academic locus of control. In another study done by Maryam et al., (2016), pointed out that students' self-esteem and internal locus of control relate significantly. University students in an urban setting comprised the sample in that study

while in the current study the sample was drawn from high school students in a rural setting. Nevertheless, the two studies reported similar findings.

According to this study, most of the respondents had moderate level of academic self-esteem which goes hand in hand with external academic locus of control orientation (Muhammad et al., 2016). The findings may explain the central problem of this study, that is, below average academic performance among most secondary school students in Matinyani Sub-County. Literature reviewed indicated that external academic locus of control orientation among learners is an indicator of below average performance of such learners in their studies (Malikeh, 2015). Therefore, based on the results obtained, the below average academic performance among majority of the secondary school students in Matinyani sub- county may be attributed to external academic locus of control orientation.

#### **4.6 Prediction of Academic Locus of Control from Academic Self-Efficacy, Academic Motivation and Academic Self-Esteem**

The study's fourth objective sought to develop a predictive equation for academic locus of control from academic self-efficacy, academic motivation and academic self-esteem. To achieve this, multiple regression analysis was performed on the data. The outcome was three tables showing the, Model Summary, ANOVA summary and the regression coefficients. The model summary gave the multiple correlation coefficient and the R square for the regression model presented in Table 4.26



**Table 4.26**

*Model Summary for Regression Equation*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.43 <sup>a</sup>	.55	.45	3.27

a. Predictors: (Constant), Academic Motivation Score, Academic Self-Efficacy score, Academic self-Esteem score

From Table 4.26, it is observed that the R square value ( $R^2=0.55$ ) was moderately high and it thus means that 55% of the variation which occurred on the dependent variable was caused by the predictor variables. These results imply that to a large extent, academic locus of control of secondary school students in Matinyani Sub-County was predictable from academic self-efficacy, academic motivation and academic self-esteem. Having established that the criterion variable is predictable, there was need to test the significance of the prediction equation. In connection with this objective, the fourth hypothesis was therefore advanced as follows:

H<sub>04</sub>: There is no significant prediction equation for academic locus of control from academic self-efficacy, academic motivation and academic self-esteem.

Based on multiple regression analysis, Table 4.27 shows the summary ANOVA table which was used to determine the significance of the prediction equation.

**Table 4.27***ANOVA Summary Table for the Regression Model*

Model	Sum of Squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	178.84	3	59.62	5.57 .00 <sup>b</sup>
	Residual	3074.71	287	10.71	
	Total	3253.55	290		

*Note.* N = 291

The statistics presented in Table 4.27 indicate that the prediction model for academic locus of control from academic self-efficacy, academic motivation and academic self-esteem is significant ( $F(3, 287) = 5.57, P < .005$ ). Therefore, the null hypothesis was rejected implying that the three predictor variables significantly predict the criterion variable. Following this finding, regression coefficients for the multiple regression equation are presented in Table 4.28.

**Table 4.28***Regression coefficients for the Prediction of Academic Locus of Control*

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.45	2.20		2.48	.024
	Academic Self- Efficacy Total score	.05	.02	.16	2.99	.003
	ASE Academic Motivation Score	-.04	.06	-.04	-.67	.02
		-.18	.07	-.17	-2.67	.008

a. Dependent Variable: LOCUSMT

*Note.* Academic self-esteem

From Table 4.28, the prediction equation developed using the coefficients are as follows;

$$\hat{y}=5.45 + 0.16ASE -0.17 AM -0.04ASET$$

As shown in Table 4.28, both academic motivation and academic self-esteem have a negative predictive index of ( $B= -0.17$ ) and ( $B=0.04$ ) respectively. The implications of these findings may be that an increase in academic motivation and academic self-esteem scores is associated with a decrease in the academic locus of control scores. Contrary to these findings, academic self-efficacy had positive predictive index of ( $B=0.16$ ) which may imply that an increase in academic self-efficacy scores results to an increase in academic locus of control scores. Academic motivation has the highest predictive index while academic self-esteem was found to have the least predictive index. The implications of this finding may be that students with low academic motivation and academic self-esteem scores may be externally oriented in their locus of control.

It was expected that students posting high scores in academic self-efficacy scale were internally oriented in their locus of control. As per these expectations, the researcher carried out further analysis to establish the prediction equation for the different categories of academic locus of control from the predictor variables as presented in Table 4.29 and 4.30 on page 72.

**Table 4.29**

*Regression coefficients for the Prediction of Internal Academic Locus of Control*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	4.35	1.75			2.49	.01
1 Academic Self-Efficacy Total score	.03	.017	.42		2.66	.01
ASETS	.05	.02	.35		1.023	.01
Academic Motivation Score	.09	.01	.57		-1.73	.04

*Note.* Dependent Variable: Internal locus of control score

From table 4.29, it is observed that the regression coefficients for the prediction equation of the internal academic locus of control from academic self-efficacy, academic motivation and academic self-esteem were positive and significant. The prediction equation developed using the coefficients was significant and is as follows;

$$\hat{y} = 4.35 + 0.42(\text{ASES}) + 0.35(\text{ASE}) + 0.57(\text{AM})$$

As shown in Table 4.29, academic motivation has the highest predictive index ( $B=0.57$ ) followed by academic self-efficacy with a predictive index of ( $B=0.42$ ) and academic self-esteem with the least predictive index (0.35). The implications of these findings may be that, an increase in any of the predictor variables leads to a significant increase in internal academic locus of control scores. These findings may further indicate that students who had high scores

in any of the predictor variables were internally oriented in their locus of control.

A similar analysis was done with respect to external locus of control orientation. Table 4.30 shows the prediction equation and the regression coefficients for the external academic locus of control from the three predictor variables.

**Table 4.30**

*Regression coefficients for the Prediction of External Academic Locus of Control*

Model		Unstandardized		Standardized	<i>t</i>	Sig.
		<i>B</i>	Std. Error	Beta		
1	(Constant)	14.54	2.20		6.61	.08
	Academic Self-Efficacy Total score	-.01	-.02	-.02	.12	.91
	ASETS	-.06	-.06	-.01	1.02	.31
	Academic Motivation Score	-.03	-.06	-.07	-.49	.63

a. Dependent Variable: External locus of control score

The prediction equation developed using the coefficients in Table 4.30 were not significant. Academic motivation was found to have the highest negative predictive index ( $B=-0.07$ ) followed by academic self-efficacy with a predictive index of ( $B=-0.02$ ) and academic self-esteem with the least predictive index ( $B=-0.01$ ). The implication of these findings is that, the three predictors have a negative influence on external academic locus of control. As

indicated in the descriptive statistics for the three variables in Tables 4.5, 4.13 and 4.21 respectively, majority of the respondents were found to have a moderate level of the mentioned variables. These findings may imply that the moderate levels of any of the variables could be associated with but not limited to external academic locus of control orientation. Research evidence has demonstrated that external academic locus of control significantly correlates to low performance of the students in academics (Muhammad et al., 2016). Therefore, the below average academic performance among majority of the secondary school students in Matinyani Sub- county can be associated with low and moderate levels of the predictor variables which is also associated with but not limited to their external locus of control orientation.

#### **4.6.1 Discussion of the Results**

The findings of the current study supported those of an earlier study by Mehmet (2018) which reported that self-efficacy, self-esteem and motivation influenced internal locus of control. The samples used in the two studies differed in terms of the location from where they were drawn. The samples also differed in terms of the respondents' age. However, irrespective of the age and the different study location, self-efficacy, self-esteem and motivation significantly influenced the students' locus of control.

The current study's findings also supported those of an earlier study by Cetin and Askun (2018) which reported that academic locus of control can be effectively predicted using the three predictor variables under study. The samples used in the two studies differed in terms of the context from which

they were drawn; however their findings indicated that irrespective of the different study locations, academic self-efficacy is a significant predictor of academic locus of control. In addition, the current findings also supported findings by Sagone and Caroli (2016) which reported that academic self-efficacy and self-esteem influences internal locus of control irrespective of the participants' age or gender.

The study's findings also supported the results of another research conducted by Olaoye and Olaoye, (2018) on correlates of academic locus of control. It was reported that academic motivation and academic internal locus of control were positively related. The study also reported that academic self-esteem and academic motivation are significant predictors of internal academic locus of control<sup>10</sup>. From the findings discussed, these three variables are significant predictors of internal academic locus of control which contributes to higher levels of academic performance.

A research done by Amanda and Keita (2019) on predicting academic locus of control reported that, academic self-efficacy and academic motivation significantly predict academic locus of control. Based on these findings, students should be taught to set goals which can be achieved easily so that they can improve their academic self-efficacy which in turn will boost their internal academic locus of control. They should also be encouraged to persevere and show persistence when undertaking academic tasks as this will help them in overcoming their academic hurdles. Based on the prediction results, low level

of any of the variables predict external academic locus of control orientation. As indicated in Tables 4.5, 4.13 and 4.21, majority of the respondents were found to have moderate levels of the predictor variables. Therefore, the below average academic performance witnessed in Matinyani Sub-county may be as a result of the moderate levels of academic self-efficacy, academic motivation and academic self-esteem. The moderate levels of these variables predict external academic locus of control orientation which is a positive correlate of below average performance in academics (Kutunis, Mesci and Ovdur, 2016).



## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter is organized into three sections. The first section gives the summary of the findings of the study and the second section gives the conclusions as per the findings. The third section gives the recommendations as they relate to the education stakeholders, policy makers and further research.

#### **5.2 Summary of the Findings**

The aim of this study was to determine how academic self-efficacy, academic motivation and academic self-esteem predict academic locus of control of secondary school students in Matinyani sub-county. The study generated a predictive equation for predicting academic locus of control from the three stated predictor variables.

The first objective was to find out how academic self-efficacy relates to academic locus of control. Verifiable evidence has been found that the correlation between the two variables is positive and significant. Further analysis showed that self-efficacy was a positive correlate of internal academic locus of control orientation. The respondents' external academic locus of control orientation was positively but not significantly related to their academic self-efficacy scores. A t-test established existence of significant mean difference in academic self-efficacy scores of the respondents with regard to

their academic locus of control orientation ( $t = -3.90$ ,  $df = 289$ ,  $p < 0.05$ ). The mean difference was in favor of internally oriented participants.

The study's second objective sought to establish how academic motivation and academic locus of control are related. Correlation found that the scores of the two variables related positively and significantly ( $r(289) = 0.58$ ,  $p < .05$ ). Data obtained by use of the academic motivation scale revealed that the three domains of intrinsic motivation had a positive correlation with academic motivation though the domains had varying correlation coefficients. The highest correlation was realized between intrinsic motivation towards accomplishment and the least value was found in intrinsic motivation to experience stimulation. The sub-scales relating to extrinsic motivation were also found to relate positively to academic motivation though their correlation was insignificant. Extrinsic motivation identified had the highest correlation, followed by external regulation and lastly introjected domain. Amotivation was found to have a negative and a significant relationship with academic motivation. Further analysis established that there were mean differences in academic motivation scores. Given the locus of control orientation, internally oriented respondents had a higher mean compared to their externally oriented counterparts. A t-test for independent samples was done and it was found that significant mean differences existed between the respondents depending on their locus of control orientation ( $t = 2.175$ ,  $df = 289$ ,  $p < 0.05$ ).

The third objective of the study aimed at determining whether academic self-esteem and academic locus of control are related. A positive and significant relationship was established between the two variables ( $r(289)=0.45, p<.05$ ). Further analysis was done and academic self-esteem had a positive and significant relationship with internal locus of control and correlated positively but insignificantly to external locus of control. A t-test for independent samples was done and significant mean difference was found in self-esteem scores depending on the type of locus of control orientation. Internally oriented respondents had a higher mean compared to externally oriented respondents.

The fourth objective was to develop the predictive equation for predicting academic locus of control using the academic self-efficacy, academic motivation and academic self-esteem. Multiple regression analysis was done and a model summary for regression equation showed that the three variables can effectively predict the academic locus of control. The prediction model for academic locus of control from the three predictor variables was significant ( $F(3, 287)=5.57, p< 0.05$ ). The multiple regression coefficients generated the following two equations:

$$\text{Academic locus of control}=5.45+0.16(\text{ASE}) -0.17(\text{AM})- 0.04 (\text{ASET})$$

$$\text{Internal academic locus of control}=4.35+0.42(\text{ASES})+0.35(\text{ASE}) +0.57(\text{AM})$$

Out of the three predictors of academic locus of control, according to this study academic motivation was found to have the highest predictive weight towards the students' academic locus of control.

### **5.3 Conclusions**

The outcomes of this study provided some proof of the existence of the hypothesized relationship between academic self-efficacy; academic motivation; academic self-esteem and academic locus of control. The three predictor variables related positively and significantly with the outcome variable. However, when the academic motivation variable was analyzed considering its' individual domains, It was realized that one of its domains had a negative influence on the students' academic motivation. The domain of amotivation could be used to highlight those students who were found to have low and moderate levels of academic motivation which was found to be associated with below average performance.

When the three predictor variables were analyzed and related with the different types of academic locus of control orientation, it was realized that the three variables related positively and significantly to the students' internal academic locus of control. External academic locus of control was positively and not significantly related to the three predictor variables. Academic motivation was identified as the best predictor of academic locus of control.

With respect to the academic self–efficacy, teachers and educational stakeholders in Matinyani Sub-County may look for ways of cultivating the students' academic self-efficacy because of its positive effect on internal academic locus of control which is associated with above average performance. Students should be made to internalize the importance of improving their own

abilities through doing individual studies or having group discussions for their own benefits and academic excellence. Therefore, teachers should encourage the students to do their own discoveries so as to improve their academic self-efficacy. This active learning will also help the students to nurture their believe in themselves hence moving towards their internal academic locus of control orientation.

The study also supported that academic motivation had the highest prediction value towards the students' academic locus of control. Academic motivation and academic locus of control had a positive relationship which was significant. More specifically, the six domains of academic motivation were found to positively correlate with academic locus of control while the seventh domain which is amotivation had negative effect on academic locus of control. This could mean that students with low and moderate academic motivation scores, if not helped may continue having external locus of control orientation which in turn may lead to below average performance. Therefore, parents and teachers should take up the responsibility of helping the students' to develop the desire to perform better in their classes. Teachers and parents may also abolish the rewarding system so that students may develop intrinsic motivation. In other words, both teachers and parents should encourage the students to have the zeal of working hard in order to perform better in school. This will promote their internal academic locus of control orientation which in turn will promote the students' learning processes.

It was established that academic self-esteem can significantly predict internal academic locus of control. As its theorized by Covington (1984) & Beery (1976) one's potential to achieve is directly linked to his or her self-esteem and so this theory forms the basis upon which academic self-esteem and academic locus of control are examined. From this theory, it is clear that one's achievement depends greatly on the person's level of self-esteem. Consequently, students should be helped to recognize their worthy regardless of their family background. Teachers should encourage the students to think positively and also to value themselves and appreciate their performance in class. Parents also have a duty to enlighten their children on the need to value ones' self, irrespective of their family background. This will help the students to improve their levels of academic self-esteem and hence move towards their internal locus of control orientation. This will help the students to value and work hard towards improving their performance in class so that they can in turn change their future life patterns.

The predictive values of academic self-efficacy, academic motivation and academic self-esteem on academic locus of control varied depending on the academic locus of control orientation. This indicated that high scores in the three predictor variables positively and significantly predicted internal academic locus of control while low scores in the three predictor variables had a negative influence on the students' academic locus of control. In this respect, both teachers and the parents need to work towards improving the students' academic self-efficacy, academic motivation and academic self-esteem levels

which will enable them to improve their academic locus of control orientation towards internal. As a result, the increase in the students' levels in these variables will lead to their having internal academic locus of control orientation which will result to academic improvement and realization of above average performance as past research had indicated.

## **5.4 Recommendations**

The following recommendations for policy and further research were proposed in regard to the findings of the study:

### **5.4.1 Policy Recommendations**

- i) Considering that academic self-efficacy, academic motivation and academic self-esteem were found to have a significant predictive power on internal academic locus of control which positively influences academic performance; teachers should provide stimulating learning environment to promote acquisition of these constructs by the students to enhance the quality of the learning outcomes.
- ii) Capacity development for teachers such as in-service and pre-service teacher education should be enhanced so that teachers can learn on how to foster students' academic self-efficacy, academic motivation and academic self-esteem for a better academic performance.
- iii) Parents and teachers should collaborate to ensure that they provide a conducive learning environment in order to enhance the development and nurturing of the three constructs among the students both at home and in school.

- iv) Since academic motivation was established to be an effective predictor of academic locus of control, teachers should encourage the development of the types of the academic motivation which are positive correlates of internal academic locus of control.
- v) The school environment should be pleasing so as to encourage and motivate the students to want to stay and be in school and desire to work hard in their studies without the use of incentives such as the school tours and the other gifts given to them so as to encourage them to perform better. This will help the students to develop personal interests in their class work and make them have their internal academic locus of control orientation which will in turn boost their above average performance.
- vi) Motivation talks by the experts and even peers should be encouraged in schools so that the students can learn from those who succeeded in school before them. This will help the students to realize that, irrespective of their family background, they can still make it in life hence boosting their academic self-esteem level.
- vii) Curriculum developers should come up with school programmes which help the students boost levels of academic self-efficacy, self-esteem and motivation hence improving students' academic locus of control towards internal orientation.
- viii) Teachers for practical subjects such as home science, music and art and craft should be posted to all the schools irrespective of the school



type and category. This will make learning more relevant and meaningful to the students hence improving their level of academic self-efficacy and academic motivation.

#### **5.4.2. Recommendations for Further Research**

The following areas of concern can be considered for further research:

- i) The findings of this study have established that academic self-efficacy, academic motivation and academic self-esteem have significant predictive value on internal academic locus of control which positively influences academic performance. Consequently, a follow up study should be conducted with a purpose of developing a predictive model taking into consideration moderating variables such as sex of the respondents. One may be interested in looking at gender and how it relates to academic locus of control.
- ii) Another issue of concern is that the data collection was done using a questionnaire which the respondents may find it hard to convey feelings and emotions. It could be of importance for future researchers to do the same study and use a data that is collected using more methods of data collection including but not limited to interviews, case study and focus group discussions.
- iii) This study looked at high school students and more specifically at form three students who may have developed their academic locus of control orientation. Therefore, the future researchers can conduct the same study

on primary school pupils and even students in colleges and in the universities.

iv) In this study, locus of control was restricted to educational domain.

Therefore, future researchers may consider using the same model and apply it to co-curriculum activities in school.

v) An intensive study of this type can be done in other parts of Kenya and more specifically in urban areas so as to determine the disparities in academic locus of control.

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**APPENDICES**

**Appendix A: CONSENT TO PARTICIPATE IN THE STUDY**

This is a research study designed to find out whether academic motivation, academic self-efficacy and academic self-esteem predicts academic locus of control which in turn influences academic achievement. All the information that a student will provide will be handled confidentially and utilized for research purposes only.

The study findings will help improve the students' academic achievement in Matinyani sub-county. Participation in the research is voluntary and there are no conditions should one decide to withdraw during the course of the study.

Please sign in the space provided if you volunteer to participate.

Thank you.

Signature.....date.....

Yours faithfully

Muthui Priscah Mulike

Masters student, Kenyatta University

## **Appendix B: Questionnaire for Students**

### **Section A: Instructions and Background Information**

#### **Instructions**

This questionnaire is not an examination. There are no correct and incorrect responses. Kindly answer all the items to the best of your knowledge. The duration of time given to complete the whole questionnaire is one and half hours.

#### **Background information**

1. Name of the school.....

2. Category of the school

Boys only boarding ( )

Girls only boarding ( )

Mixed boarding school ( )

Mixed day school ( )

3. Gender

Male ( )

Female ( )

4. Age .....years.



**Section B: Academic Self-Efficacy Scale - (English Version)**

**Directions**

For each statement, mark the extent to which it is true about you.

Example

SI.NO	Exactly True	Nearly True	Neutral	Nearly False	Exactly False
6. I am unable to efficiently manage my study time.		X			

STATEMENT	Exactly True	Nearly True	Neutral	Nearly False	Exactly False
1. I competently learn all subjects					
2. I am unable to study and comprehend my textbooks well					
3. I believe that am fast in picking points from what I study					
4. I believe I don't have ability to keep things in memory					
5. I have ability to pursue my projects as expected.					
6. I am unable to efficiently manage my study time					
7. I plan how teachers will help me in learning					
8. I have a problem in locating study materials					
9. I am able to plan for peer assistance to my learning when necessary					
10. I don't aim high in studies					
11. Sometimes I find solutions to problems I encounter in my study					
12. I have difficulties expressing ideas in examinations					
13. I have a problem in reading and understanding textbooks					

in English language.					
14. During examinations, I am able to remember the content I learnt.					
15. Sometimes I don't understand the content of what I study.					
16. When assisted through teaching, I can prepare neat class notes					
17. When there are sundry chores, I don't get time for learning					
18. I organise to get reading materials from relatives and neighbours.					
19. I am confident that my few friends can assist me in studies					
20. When teachers doubt my abilities, I am unable to show my abilities in class.					
21. I can achieve my objectives in learning					
22. Answering essay questions appropriately is difficult to me.					
23. I have weakness of understanding when a teacher is teaching in class.					
24. I am able to acquire reading skills needed when learning different subjects.					
25. After reading new ideas, I am able to reconnect them to my previous learnt knowledge.					
26. I make use of library for my studies					
27. I do not do assignments on time.					
28. I always compensate any time I lose through missing classes					
29. I have not established a					

good relationship with my teachers.					
30. I have surety of doing well in competitive examinations.					
31. I have problems in tackling problems I encounter in my study					
32. I maintain calmness in examination period because I am aware of my abilities to learn.					
33. I do all homework on my own without relying on references					
34. I am able to manage situations which disturb my studies					
35. I can comfortably do an impromptu examination					
36. Trying can help me score a good grade.					
37. I am unable to answer my teachers' questions correctly.					
38. I am able to perform well in short answer questions.					
39. I am not able to finish difficult tasks in my study.					
40. I am able to answer tricky questions even if they are much twisted.					

### Section C: Academic Motivation Scale

Please tick one option which best suits you as per the statement.

#### WHY DO YOU GO TO SCHOOL?

		<b>TD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>TA</b>
1	To acquire KCSE certificate and a get a well-paying job					
2	Because learning new things gives me pleasure and satisfaction					
3	Because I believe that secondary school education is the foundation for me to build my future career					
4	Because going to school is pleasant to me					
5	Because for me school is fun					
6	Honestly, I believe that attending school is not a waste of time					
7	To prove that I can competently complete secondary school education					
8	I would like to get a good job later in life					
9	To make discoveries of new things which are pleasing to me.					
10	Going to school will help me secure the job that I prefer					
11	school has been meaningful but now am casting doubt about continuing with education					
12	For pleasure since it is one of my accomplishment					
13	Succeeding in school makes me important					
14	To have a good life after it					
15	I feel good when I learn new concepts about various subjects.					
16	Going to school will help me in career decision making					
17	Because I derive pleasure from having interesting discussions with my teachers.					
18	Going to school is not important to me and it has no impact on me.					
19	Because I get contented when I accomplish difficult tasks					
20	Going to school can help me prove that I am intelligent					
21	Going to school can help me get better salary in future					
22	Going to school will give me opportunity to study things that interest me					

23	Going to school will make me more competent in the field of work								
24	I would like to get a certificate which is a requirement to get high paying job.								
25	I feel good to be at school to read interesting subjects								
26	I am not aware; I do not understand the reason why I go to school.								
27	Excelling in studies will give me personal satisfaction								
28	Going to school gives me an opportunity to give myself a proof that I can succeed in my studies.								

**Section D: The Rosenberg Self-Esteem Scale 1965**

Please tick an option which best describes you as per statement.

		0	1	2	3
		Strongly disagree	Disagree	Agree	Strongly agree
1	I am entirely comfortable with myself				
2	Sometimes, I don't think of being good at all.				
3	I have a feeling I have some good qualities in me.				
4	I can do things which most people can do.				
5	I have few things to brag about.				
6	Sometimes I feel I am useless				
7	I feel I am valuable on equal levels with others				
8	I wish I could accord myself more respect				
9	On the whole I am cognizant that I am not successful.				
10	I am positive about myself				

**Section E: Academic Locus of Control Scale**






**For each statement, tick True or False**

	<b>True</b>	<b>False</b>
1. Examination grades reflect the effort I put in academics		
2. I enrolled in secondary school to meet the expectations others had on me		
3. I have defined my own career goals		
4. Some people write well with ease while others are unable to write well even if they try very hard.		
5. At least once, I have sat for an examination because I could pass it.		
6. Teachers may make an early impression of you which remains unchangeable even if you put efforts to change it.		
7. I am unable to perform well in some subjects.		
8. Student leaders and athletes are given free rides in school classes.		
9. Sometimes I lose hope of improving in my studies		
10. I am optimistic that I can improve in my studies.		
11. I don't give social activities room to affect my studies.		
12. I have alternative important things I can do other than studying to get good grades.		
13. Undertaking studies daily is a crucial activity		
14. It's not worth to attend classes for some subjects		
15. I feel motivated towards succeeding in life		
16. I write well		
17. I value doing school work.		
18. My learning is guided by the school and subject needs, not my volition.		
19. It's known that I make decisions though they are not taken seriously by others.		

20. I am easily distracted.		
21. I can be easily be withdrawn from studying.		
22. Sometimes depression disrupts my accomplishment of tasks.		
23. I may become a failure in future.		
24. I have not totally made up my mind on career goals.		
25. I feel hardwork will enable me make a real contribution to the world one day.		
26. Sometimes social activities interfere with my academic performance		
27. I am determined to complete secondary school, but there are more important things in my life.		
28. I plan well and I stick to my plans		


END. THANK YOU FOR YOUR CO-OPERATION

## Appendix C: Research Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: <b>921690</b>	Date of Issue: <b>19/September/2019</b>
<b>RESEARCH LICENSE</b>	
	
<b>This is to Certify that Miss. PRISCAH MUTHUI of Kenyatta University, has been licensed to conduct research in Kitui on the topic: PREDICTORS OF ACADEMIC LOCUS OF CONTROL AMONG FORM THREE SECONDARY SCHOOL STUDENTS IN KITUI COUNTY KENYA for the period ending : 19/September/2020.</b>	
License No: <b>NACOSTI/P/19/1652</b>	
Applicant Identification Number <b>921690</b>	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Verification QR Code	
	
<b>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</b>	



## Appendix D: Research Authorization Letter

  
**KENYATTA UNIVERSITY**  
**GRADUATE SCHOOL**

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)  
Website: [www.ku.ac.ke](http://www.ku.ac.ke)

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

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Our Ref: E55/CE/34260/2016 DATE: 3<sup>rd</sup> September, 2019

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

Dear Sir/Madam,


RE: RESEARCH AUTHORIZATION FOR MUTHUI PRISCAN MULIKE - REG. NO. E55/CE/34260/2016.

I write to introduce Muthui Priscah Mulike who is a Postgraduate Student of this University. The student is registered for M.ED degree programme in the Department of Educational Psychology.

Priscah intends to conduct research for a M.ED Project Proposal entitled, "Predictors of academic locus of control among form three secondary school students in Kitui County, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

  
PROF. ELISHIBA KIMANI  
AG. DEAN, GRADUATE SCHOOL

AM/g

## Appendix E: Sample Size Determination Table

Table 3.1									
<i>Table for Determining Sample Size of a Known Population</i>									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

*Note: N is Population Size; S is Sample Size*

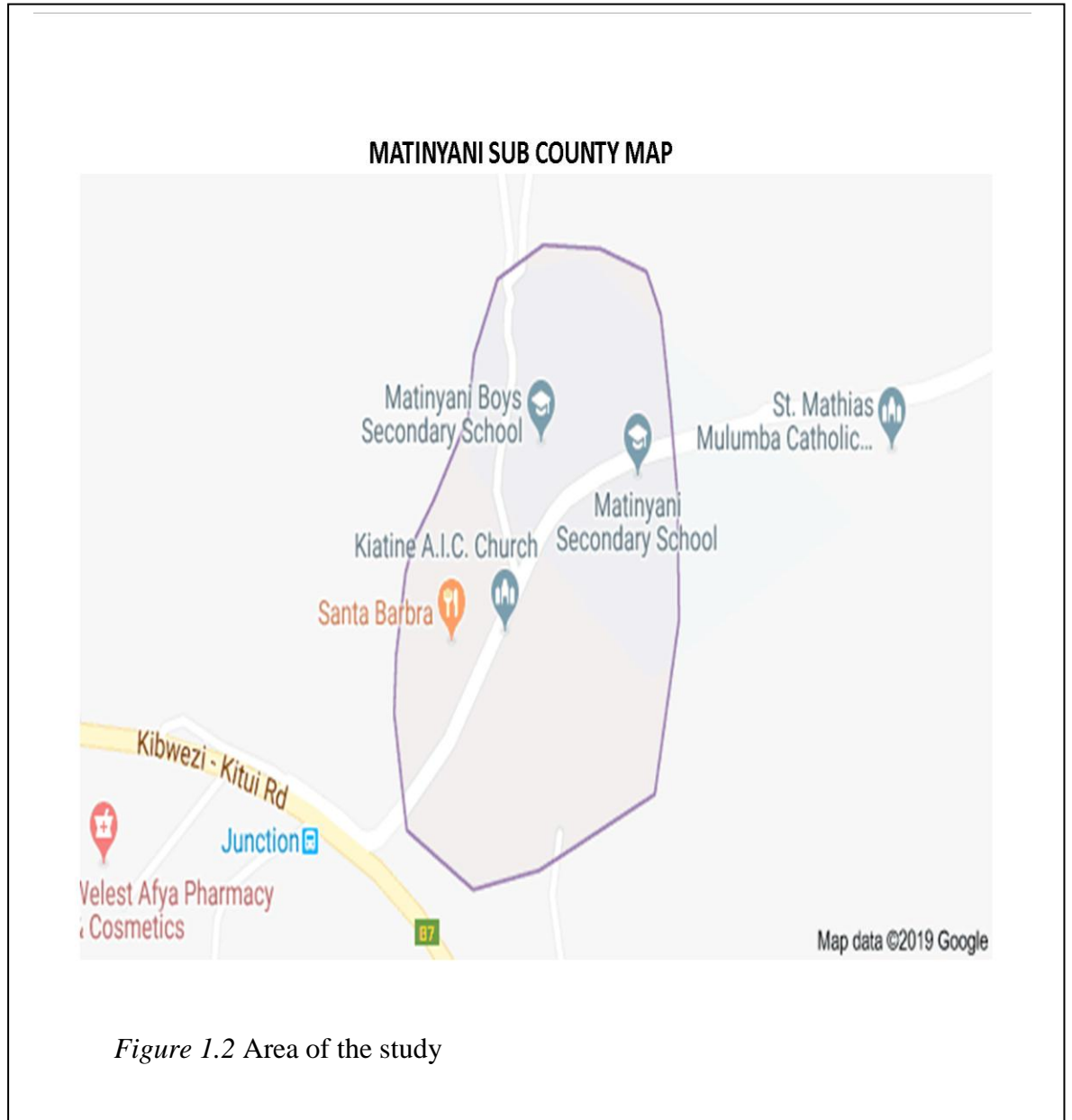
*Source: Krejcie & Morgan, 1970*

**Appendix F: Kitui County KCSE Mean scores from 2015-2018**

Sub county	2015	2016	2017	2018
Kitui Central	7.96	7.65	7.09	7.12
Lower Yatta	6.05	6.87	6.03	6.23
Kitui West	7.70	6.5	6.01	6.12
Kisasi	7.45	7.09	6.83	7.29
Nzambani	6.95	7.01	6.03	6.01
Mutitu	6.86	6.11	6.08	6.770
Mutomo	6.78	5.95	6.01	5.88
Ikutha	6.00	6.52	5.72	5.90
Katulani	7.61	7.04	6.59	5.92
Matinyani	5.21	5.65	4.63	4.34
Mwingi	6.61	7.08	6.69	6.02
Central				
Mwingi East	6.01	6.27	5.91	5.42
Tselkuru	6.02	5.99	5.48	4.99
Muumoni	5.71	5.92	5.35	5.41
Kyuso	6.56	6.83	5.45	5.25
Migwani	6.97	5.93	5.06	5.01

*Source:* County Director of Education, Kitui County (2018).

## Appendix G: Map of Matinyani Sub- County



Source: Map data @2019 Google