ACADEMIC RESILIENCE AND SELF-EFFICACY AS PREDICTORS OF ACADEMIC ACHIEVEMENT AMONG FORM THREE STUDENTS IN TRANS-NZOIA COUNTY, KENYA

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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 certification. This research project has been complemented by referenced sources duly acknowledged; where text, data, graphics or tables have been borrowed from other sources, including the internet, these are specifically accredited and referenced using the current APA System in accordance with anti-plagiarism regulations.

Signature……. Date……

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This project has been submitted with my approval as the university supervisor.

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DEDICATION

To my late beloved dad, Ernestus Kelly Nyaosi (May his soul rest in peace), and the entire family of Ernestus Kelly Nyaosi, and the Sisters of Mary of Kakamega for their patience and understanding while I worked on this research project.

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TABLE OF CONTENTS

CONTENT **PAGE**

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

AAS	Academic Achievement Scale
ARS	Academic Resilience Scale
ASE	Academic Self-Efficacy
ASES	Academic Self-Efficacy Scale
GPA	Gross Product Achievement
IAR	Intellectual Ability Responsibility
KCSE	Kenya Certificate of Secondary Education
LSSI	Learning and Study Strategies Inventory
SCT	Social Cognitive Theory
SPSS	Statistical Package for Social Science
USA	United States of America

ABSTRACT

For the past five years, 2015 to 2019 Trans-Nzoia County has shown a low academic achievement in Kenya Certificate of Secondary Education (KCSE) among students. Little has been done in this area to establish how academic achievement relates with academic resilience and academic self-efficacy among form three learners. The aim was to explore how academic resilience and self-efficacy related with academic achievement. The study objectives were: To examine whether there is a relationship between academic resilience and academic achievement, to examine how academic self-efficacy correlates to students' academic achievement, to establish differences in gender in students' academic resilience and academic self-efficacy and to determine how academic achievement is predicted from academic resilience and academic self-efficacy. Flach's theory of resilience and social cognitive theory by Bandura were applied in this study. Correlational research design was used and the study targeted 1500, form three learners in Kiminini Sub-County in the year 2021. Kiminini Sub County, public secondary schools and form three students were purposively sampled. The number of participants per school was proportionately determined and 306 participants were randomly picked. Data was collected using academic resilience and academic self-efficacy scales. Students' academic achievement was obtained from students' progressive records. To ascertain whether research tools used were reliable and valid, piloting was done. SPSS (Version 21) aided analysis of data. The hypotheses were tested by both descriptive and inferential statistic. Pearson correlation and multiple regression analysis were employed to test research hypothesis. Findings indicated a strong relationship between academic resilience and academic achievement, r (279) = .65, $p < .05$. Academic self-efficacy significantly and moderately correlated positively with academic achievement, r (281) = .46, $p < .05$. Gender differences were statistically significant in academic resilience, t (279) = - 4.11, $p < .05$. Significant gender differences also existed in academic self-efficacy, t (279) = -4.74, $p < .05$. R squared value was 0.54 showing that 54% of the variance in academic achievement could be attributed to academic resilience and self-efficacy. This study recommends that teachers should utilize the findings to come up with suitable instructional methods and guidance programs to help students enhance their self-efficacy and resilience skills for better learning outcome.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter offers a description of the background to the study, statement of the problem, study's purpose and research objectives. The research hypotheses and significance of the study as well as limitations and delimitations of the study are also presented in this chapter. The assumptions, conceptual and theoretical frameworks and then definition of operational terms are also outlined in this chapter.

1.2 Background to the Study

In any educational setting, academic achievement of learners has been of great importance. It is used to measure the magnitude to which learners, educators, and learning institutions have achieved their stated goals. Academic achievement is significant in the progressive development of the young generation in any given community. Students who are successful in their studies find it easy to make transition into adulthood and achieve educational, occupational and economic success (Lakhani et al., 2017). Singh et al., (2016) also argued that academic achievement of any student contributes socio-economically in the development, progress and transformation of a given country.

According to Kpolovie et al., (2014) primary and secondary education are the foundation stone for further studies and for the development of a nation. The education of a child is monitored on the basis of their academic achievement (Singh & Choudhary, 2015). Education acts as fundamental stone in the building of human capital management and

individual wellbeing and occasions for better living (Igberadja, 2016). Kenya, like any other country, treasures education because of her intrinsic and extrinsic benefits (Kosgei et al., 2013). However, learners' low achievement may lead to frequent repetition or failure which is associated with frustrations, depression and fear (Samer & Muhammad, 2015). The learners may miss opportunities to further education, while at the end, the community may lack required human resource necessary to meet demands of wealth production. There is evidence that academic underachievement is high and it affects the students and the society at large.

Literature on academic resilience and, self-efficacy has been dominated by studies carried out in America, USA, Asia, Malaysia, South Africa, and Nigeria (Basith et al., 2020; Kolo et al., 2017; Mariano et al., 2015; Muhammad & Bakar, 2015; Nikola, 2018; Yaghoobi & Mohammadzadeh, 2017). Studies carried out in Nigeria show that academic resilience and self-efficacy correlated positively with students' academic achievement. However, these studies were carried out among university and college students, some confined themselves to one subject. The studies that are available in Kenya have concentrated on academic resilience, motivation, self-efficacy, self-concept, and identity status, in relation to academic achievement (Ireri, 2015; Kipngetich, 2021; Mambili, Areba, & Gisore, 2020; Mutweleli, 2014; Mwangi, 2015; Njoki, 2018; Ochieng, 2015). Previous studies have concentrated on the factors affecting students' achievement, home based factors; environmental factors and social factors affecting academic performance (Murunga, 2017; Simiyu, 2015). Studies that have been done found out that 'academic achievement' predicts both 'academic resilience' and 'academic self-efficacy', and determine gender disparity in

respect to students' academic resilience and self-efficacy (Mousa et al.,2015; Mohammed, 2019; Mwangi & Ireri, 2015). The findings of these studies laid a foundation for the current study.

Academic resilience is defined as a procedural process of adapting with and recovering from adversities with the aim of coming out with academic success (Alao, 2015). Academically resilient students are competent, inherently motivated, hopeful, self-confident, and adjust fast to their environment. They also show concern, are solution oriented, show sense of friendship, determination, assertiveness, and possess appropriate and suitable communication skills ((Herman, et al., 2021; Zolkoski & Bullock, 2012). These characteristics may lead to progressive academic achievement among students. Globally, academic resilience has been perceived as a significant predictor of academic achievement (Abolmaali & Mahmudi, 2013; Anakwe, 2016; Fayombo,2010; Garcia-Izquierdo et al., 2015; Kamalpour et al., 2017; Oke et al., 2016). In Kenya, research indicate that academic resilience is significantly associated with academic achievement (Mwangi et al., 2015; Mwangi et al., 2018; Ricketts, 2015).

Adika et al., (2013) defines self-efficacy as a fundamental concept describing a person's confidence and trust in reaching a designated goal. Learners with high self–efficacy beliefs can easily face stressful situations as compared to learners with lower levels of self-efficacy beliefs (Yahsuan & Jodie, 2015). Highly efficacious students easily seize classroom opportunities in terms of behaviors, learning and, motivation than learners with low self-efficacy (Hermita & Thamrin, 2015). In addition, students who are confident and accept challenging tasks have high self-efficacy beliefs (Deci & Ryan, 2012). Studies suggest that

academic self-efficacy and achievement related (Atoum & Al-Momani, 2018; Tiyuri et al., 2016). Studies done in Europe on the two variables show that the two variables (academic self-efficacy and achievement) are related. (Tiyuri et al.,2016; Goulao, 2014). In Nigeria studies indicated that college students possessed high self-efficacy beliefs (Kolo et al.,2017). In Uganda studies showed that academic self-efficacy and academic performance positively correlates (Matovu, 2020; Ssekakubo, et al., 2021; Waita, 2019). Studies in Kenya, stipulate that academic self-efficacy relates with academic achievement (Kipngetich, 2021; Mambili, Areba, & Gisore, 2020).

Gender can be defined as some characteristics that entails the responsibilities, roles, opportunities, constraints and cultural aspect of being male or female (Filgona & Sababa, 2017). Studies that have been carried out on gender and self-efficacy show that higher self-efficacy is seen more in female students as compared to male students. Others showed no significant outcome for gender or interaction of academic achievement and gender on self-efficacy that was perceived (Atoum & Al-Momani, 2018; Vilani & Udari, 2017). Studies on gender and academic resilience show female students as being more resilient as compared to male students (Filgona & Sababa, 2017; Mwangi & Ireri, 2017).

Academic resilience and academic self-efficacy have a close link in that ability to learn from failure and experience are associated with self-efficacy which is considered one of the key characteristics of resilient adolescents (Ungar, 2008). Adolescents' experiences and failures will help them develop self-efficacy as they learn from each other which is an essential protection against adversity (Kellan, 2004). Studies show that academic resilience

and self-efficacy related (Cassidy, 2015; Speight, 2009).Therefore, this study looked at how academic achievement relates with academic resilience, and self-efficacy and the mediation done by gender in the relationship among the variables among form three students in Kiminini Sub County, Trans-Nzoia County, Kenya.

1.3 Statement of the Problem

The Government of Kenya attempts to boost and encourage excellent academic achievement through performance contract for head teachers, introduction of free education, county government bursaries, reduction of compulsory examinable subject in KCSE and increasing the number of optional subjects. In Trans-Nzoia County academic achievement has been consistently low from the year 2016 to 2019 with the mean scores being 4.37, 3.91, 3.76 and 3.82 respectively.

With reference to Kiminini Sub-County statistics in Appendix G, from 2015-2019 the sub-county has consistently recorded low academic achievement in KCSE. This trend may lead to many students missing opportunities to advance their education while in the end the community may lack required human labor and resources to support the quest of wealth production in the county. In addition, many students may end up being involved in substance abuse, mental disorders, poor health, low self-esteem and stress to the parents. Although academic resilience and academic self-efficacy have been studied in USA, Iran, Nigeria, Uganda and Kenya, academic achievement has been found to significantly relate to academic resilience and academic self-efficacy, and therefore, calling for more research to establish whether academic resilience, self-efficacy, and students' achievement related in Trans-Nzoia.

1.4 Purpose of the Study

The purpose of this study was to investigate how students' academic achievement can be predicted from academic resilience and self-efficacy. It also sought to determine if there were differences in gender in students' academic resilience and self-efficacy.

1.4.1 Objectives of the Study

The researcher's intention was to execute the research objectives outlined;

i. To establish the strength of the relationship between academic resilience and academic achievement among form three students in Kiminini Sub County.
ii. To examine how academic self-efficacy correlates to students' academic achievement among form three students in Kiminini Sub County.
iii. To establish differences in gender in students' academic resilience and academic self-efficacy among form three students in Kiminini Sub County.
iv. To establish how academic achievement is predicted from academic resilience and academic self-efficacy among form three students in Kiminini Sub County .

1.4.2 Research Hypotheses

The following hypotheses guided the study:

H_{a1}: Academic resilience and academic achievement are significantly correlated.

H_{a2}: Academic self-efficacy and academic achievement are significantly related.

Ha3: Significant gender differences exist in students' academic resilience and self-efficacy.

H_{a4}: Academic achievement is significantly predictable from academic resilience and, academic self-efficacy.

1.5 Significance of the Study

The data statistics obtained may adjoin to the previous studies on the significance of academic achievement as predicted by academic resilience, and self-efficacy. This study may help teachers on how to foster and nurture student's capabilities on how to exercise resilience in order to overcome academic challenges and setbacks. In addition, it may help teachers and parents to plan useful programs for promoting students' resilience and self-efficacy.

1.6 Study Limitations and Delimitations

1.6.1 Limitations

A self-rating questionnaire was used to collect data. This questionnaire might have introduced subjectivity in the results. To mitigate this, the participants were made aware on the importance of being honest and confidential to their responses. Another limitation was, the correlational design which was adopted does not allow manipulation of variables. Therefore, causal relationship among variables was not established. In addition, the study only involved students in Trans-Nzoia County. Therefore, the results may not be generalized beyond this County (Trans-Nzoia). To mitigate this problem, proportionate and random sampling was used in selecting data so as to ensure the targeted characteristics of a population was presented in the sample as required. Finally, the secondary schools in Trans-Nzoia County were just a portion of the whole population in Kenya, and therefore, the findings are discussed with these limitations in mind.

1.6.2 Delimitations

Only secondary school students were involved for the study in Trans-Nzoia County. The study engrossed two variables; academic resilience, and academic self-efficacy and how they relate with academic achievement. A correlational research design was adopted and questionnaires were used to collect data. Participants were all students from form three in public schools in Kiminini Sub County.

1.7 Assumptions of the Study

The main assumption of the study was that the responses given by respondents would be honest and the assessment test administered by teachers at the end of the year would give valid and reliable evaluation results for academic achievement. The participants would give honest responses.

1.8 Theoretical and Conceptual Framework

1.8.1 Theoretical Framework

The two theories that guided the study; Flach's theory of resilience (Flach, 1989) and Social cognitive theory (Bandura, 1986) are discussed as follows;

a) Flach's Theory of Resilience (Flach, 1989)

This theory was advanced by Frederic Flach in 1989. The theory states that resilience is the capacity to adapt well with change, misfortune or miseries successfully. Flach's theory focuses on law of disruption and re-integration, which means the act of being disturbed by change (Flach, 1989). In any learning institution change is necessary in order to cope with stressful events that might exist in the school setting. Resilience comprises of psychological strength needed so as to navigate life changes successfully.

In this study, the negative disruptions include student's health, pressure from parents and teachers, over ambitious parents; student's attitude and behavior, negative feedback from teachers, bullying among others (Srivastava, 2017; David, 2020; Atmaca & Hamit, 2019). The theory states that temporary negative issues are viewed as mechanisms that help one to cope with past wounds and general re-organizing of one's perspectives daily through discovery of new mechanisms. Different students manage these disruptions differently. Academically highly resilient students will discover new coping mechanisms and solve their problems easily. This enables them to excel academically; students who have low resilience may fail to manage the challenges hence poor academic achievement. This theory has a link with the current study which emphasizes on the negative disruptions which exists in the school setting. The academic resilience in this study provided significant reason on how students discover new mechanisms on how to solve their problems easily.

b) Social Cognitive Theory (Bandura, 1986)

Self-efficacy is designated as one's capacity in sorting out and executing measures to help to produce the desired achievement (Bandura,1986). The theory views learning as a component that can only be achieved by taking individual actions. It also provides a framework on how human beings influence and are influenced by their environment, where learning occurs in a social context. It puts greater emphasis on cognitive component of observational learning and the way behavior, cognition and environment interact in shaping human beings.

In a school setting, learners who achieve high in their studies are believed to possess high efficacious beliefs in comparison to their less efficacious counterparts who post low scores.

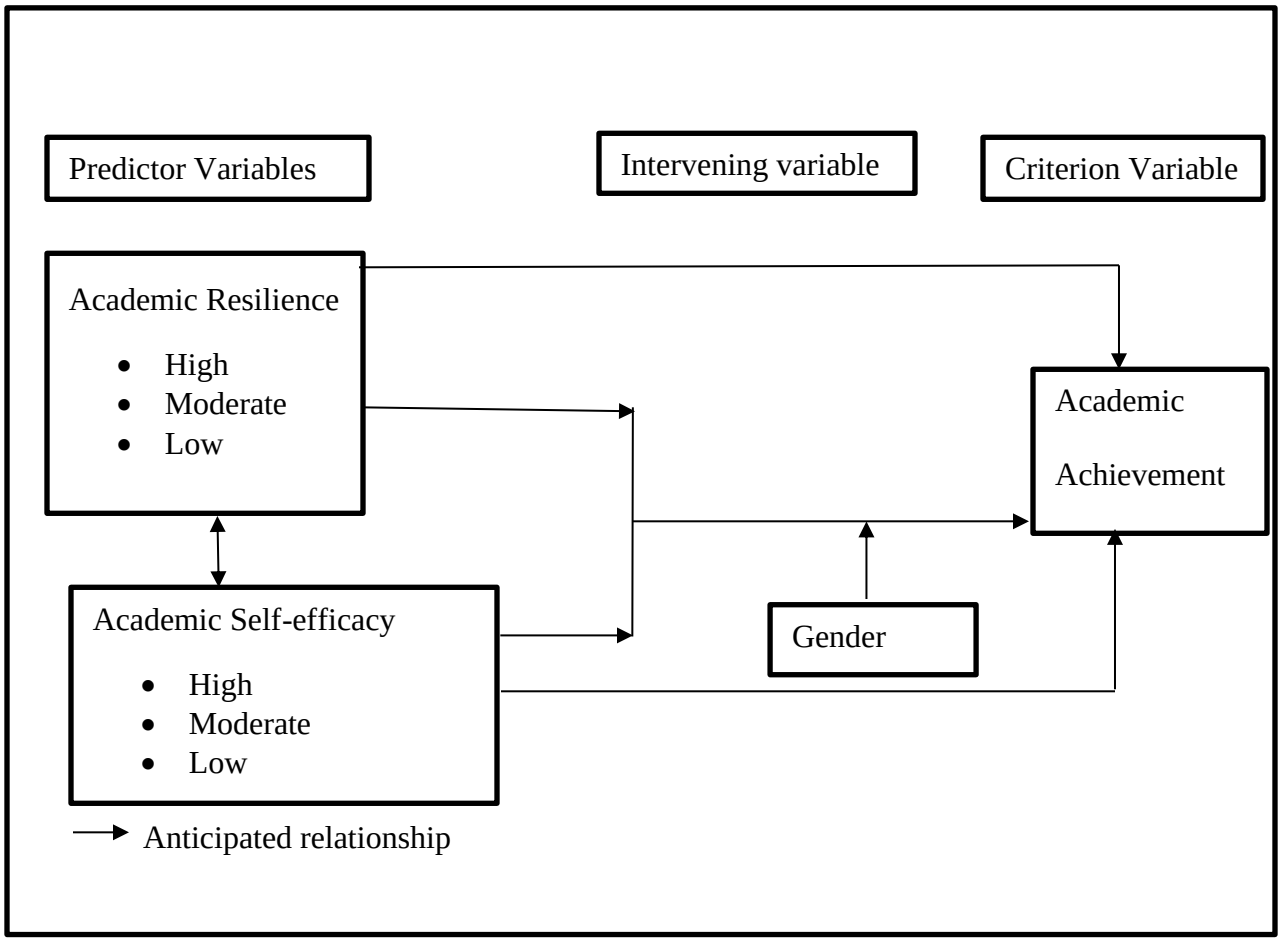
The theory of social cognitive assumes that there is a major difference in the way individuals feel and act between those with lower and higher self-efficacy beliefs. It influences the goals one chooses to pursue and the efforts that are put in them, how long one desires to endure the misfortunes and the feedback expected. This theory was relevant to the students' academic self-efficacy for instance mastery experience which is one of the components in social cognitive theory which stresses that successful experiences elevates self-efficacy while failure erodes it.

The researcher used the two theories so as to complement the inadequacy that might exist for instance Flach's theory of resilience does not take into account that learning is influenced by individual actions which was catered for by social cognitive theory.

1.8.2 Conceptual Framework

Figure 1.1 Demonstrates links that exist among the Study's Variables.

Conceptualized Representation of Variables' Relationships



The three types of variables stipulated in conceptualization are predictor, intervening and criterion variables. Measurable levels of predictor variables are indicated. The direction of the relationship which the researcher anticipates as well as interaction effects are shown diagrammatically. According to the diagram, gender was an intervening variable, academic resilience and self-efficacy individually relates to academic achievement and they jointly predict academic achievement.

1.9 Operational Definition of Terms

Academic achievement: Average score of learners for three consecutive terms in form three in the year 2021 obtained from students' progressive records.

Academic resilience: Learners' ability to adapt to challenges associated with the learning environment as shown by scores in the academic resilience scale.

Academic self –efficacy: A belief that a student will excel academically as indicated by academic self-efficacy scores in the scale used.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presented other academic works on academic achievement and how it relates with academic resilience and academic self-efficacy. It also presented literature on the role of gender in academic resilience and academic self-efficacy. Literature on how learners' academic achievement is predicted from academic resilience and academic self-efficacy is also presented. Finally, a review of the related literature is summarized, and the gaps are identified.

2.2 Academic Resilience and Academic Achievement

Ricketts (2015) carried out correlation while studying academic resilience as a correlate of perception of students in mathematics. The study participants were 237 and 279 male and females, respectively. All were drawn from South Eastern United States among a low-income urban school. Rasch analysis was used in this study. The mathematics scale was completed by participants whereby the results indicated that students' perception in mathematics was related with academic resilience. Academic resilience was found to be correlated positively with mathematics' scores. This study limited itself to how academic resilience relates to academic achievement on perception of mathematics only. The on-going study will endeavor to fill the gap by showing how academic resilience relates with academic achievement on overall performance of learners in all subjects.

Abomaali and Mahmudi, (2013) did a study on how academic achievement relates with classroom environment perception and resilience among female high school students in Tehran. A sample of 374 participants were randomly selected. Questionaires were used to collect data. Collected data were subjected to multiple regression. The results showed that resilience and degree of perceived challenge significantly predict academic achievement. The current study will fill the gap by using both male and female students for the study to curb the gender bias that existed in the previous study.

Oke, et al., (2016) conducted a research among secondary school students in Ogun estate in Nigeria on academic motivation, satisfaction and resilience in relation to academic confidence. The participants of the study were 2160 students where, 24 secondary schools were sampled using random sampling technique. Descriptive survey research was adopted by the researcher. Collection of data was done using questionaires and analyzed using simple percentage and stepwise-multiple regression. The study findings showed that academic motivation, satisfaction and resilience positively correlated with students' academic confidence. However,the method of analyzing data used did not show the correlation between variables of interest, the gap this study endavoured to fill using pearson correlational coefficient.

In Kenya, Mwangi, (2015) did a research on how academic resilience correlates with academic achievement. The research was done among form three students in Kiambu County with a sample comprising of 390 students (198 boys and 192 girls). Participants age ranged from 15-24 years old. The study participants were drawn from Kiambu among

10 secondary schools. Descriptive correlational design was adopted. multiple regression analysis was employed in the evaluation of prediction. Academic achievement were infered from school performance records. The researcher used questionaires to collect data. The results attained indicated that academic achievement positively relates with academic resilience. Based on this study, the present study was executed in Kiminini Sub-County to see if the results may be generalized beyond that given geographical area.

Another study in Kenya by Mwivanda and Kingi, (2019) focused on how students academic performance relates with teacher's resilience. The participanats were picked from public secondary schools among Kenya selected counties. Adversity quotient theory was used and correlational design was adapted. 441 secondary school teachers were sampled for the study. Data analysis and testing how variables related was achieved with the aid of SPSS. High moderate teachers resilience was revealed by the results obtained. Further, it was revealed by the study that teachers'resilience and student performance had significant and positive correlation. It is against this bacground that the current study will sample students from public secondary schools to bridge the gap.

2.3 Academic Self- efficacy and Academic Achievement

Tiyuri et al. (2016) studied how academic performance related with self-efficacy. The study participants were 320 post graduate students from Jordan. Students from each school were sampled proportionately. Data were collected using Philips and Russell's research self-efficacy and demographic questionnaires, and grade point average. Statistical test in SPSS were employed in data analysis and hypothesis testing. This study revealed that self-efficacy scores of post graduate students were at an acceptable level, except quantitative and computer skills that needed appropriate educational intervention. Informed by this

study, the current study targeted secondary school students from an urban setting to ascertain the findings.

Kolo et al. (2017) studied whether self-efficacy beliefs related to academic performance. To obtain a total of 334 participants aged 19 to 34 years from a college of education in Nigeria, simple random and stratified sampling techniques were employed. The researcher employed correlational research design. Collection of data was done using questionnaires. It was established that, respondents in college had higher self-efficacy beliefs. Whereas this study targeted respondents from college, the current study targeted secondary school from public secondary schools aged between 16-18 years old to determine whether similar findings will be obtained from the differences in the population used.

Matovu (2020) designed a study in Uganda among university undergraduate students on how academic self efficacy relates performance.The sample of 140 and 153 female and male respectively were drawn from public and private universities using stratified and purposive sampling techniques. After analysing data, a positive significant correlation was revealed among the two variables. However, confining a study to the university setting reduces scope of generalizability to other populations, the current study used students from secondary setting and produced results which may be applied to other populations excluded by the previous study.

In Kenya, Ochieng (2015) investigated whether self-efficacy relates with academic achievement. Notably, 390 high school Students from Nyakach Sub County in Kenya were recruited. Descriptive research method was used. The findings revealed existence of gender differences in self-efficacy in favor of girls in the same education level. The study further

indicated that students who performed well in mathematics had higher self-efficacy compared to those who performed poorly. However, this study confined itself to one subject (mathematics), the current study informed the gap by basing itself on the overall performance of learners in all subjects.

Mambili et al. (2020), designed a study in Kenya on students self efficacious influence of attainment of KCSE target in Trans-Nzoia, Kenya. 101 public secondary schools were targeted by the study. Stratified random sampling was used to select different categories of schools. The principals, director of studies, form 3 class prefects and parents association chairperson were purposively selected. Data were collected by structured questionaires, interviews schedules and document analysis. A statistical positive significant correlation with respect to academic self efficacy and KCSE academic target was revealed. The study targeted form 4 students, the current study will target form 3 students to see if there are differences in year of study. In addition,to curb the interview biasness the research will use questionaires.

2.4 Gender Differences in Students' Academic Resilience and Academic Self-efficacy

2.4.1 Gender Differences in Students' Academic Resilience

Albert (2014) investigated how gender influences resilience of university academic deans in a state university of Phoenix in USA. The study participants were all academic deans employed in 87 public universities. The researcher adopted survey method for data colletion. Personal resilience questionaires were also employed. The results showed that female deans resilience level were high as compared to male counterparts. In this study,

survey method was limited because it is featured by complexibility in that there is no room for adjusting of questionaires.

Latif and Amirullah (2020) investigated whether gender and cohort differences existed when studying student' resilience.The participants of the study were Faculty of Education, Department of Psychology and Guidance Univerrsitas Negeri Makassar. 103 students (77 females and 26 males) formed the study participants. Mann Whitney Statistical and Kruskal analyzed the data. Academic resilience between female and male students did not differ significantly. However, the study confined itself to the two statistical tests, the current study will use t-test for independent samples to see wether there are gender differences.

Nor et al. (2017) examined whether differences in gender exist when studying resilience in Malaysia. Undergraduate students formed the study participants in this study. The participants of the study were 2604 (796 male and 1808 female). The researcher adopted the questionaires. The study findings revealed that undergraduate from health science school showed higher mean score compared to their female counterparts, from electrical engineering school. However, this study confined itself in evaluating gender differences in the field of study of university students, a gap which has been addressed by looking at the same variable among secondary school students.

Mwangi and Ireri (2017) carried out a study to test differences in gender in academic resilience and academic achievement in Kiambu County. Participants were drawn from

form three classes in 10 schools consider a sample size of 390 (198 female and 192 male). The researcher adopted a descriptive correlational design and ex-post facto research design. The researcher used questionaires to collect data. The study findings indicated existence of differences in academic resilience on the basis of gender. Female students were academically resilient as compared to the male counterparts. It will be meaningful to conduct the current study given the differences in the study location.

2.4.2 Gender Differences in Students Academic Self-efficacy

Atoum and Al-Momani (2018) carried out a study to find out how academic achievement relates with perceived self-efficacy and gender. Jordanian secondary school students were involved. Sample size of 356 (210 males and 146 female) participants were randomly chosen using sections of various schools as assignment unit. The study results showed that most of the learners possessed moderately high level of perceived self-efficacy in favor of high achievement students. The findings also indicated negative significant effect for gender or interaction of academic achievement and gender on self-efficacy that was perceived. The study was carried out in an urban setting and the findings may not be generalized leaving a gap requiring to be addressed. The current study was done in a rural setting to see if it will produce results that maybe generalized.

Mohammed (2019) did a study to test differences in gender when academic self-efficacy was being correlated with academic achievement. Locale of the study was Niger estate, Nigeria. Descriptive survey design and two research questions and hypothesis were employed. A sample of 435 students (294 males and 141 female) were proportionately selected. Data collection was achieved using ASES and academic achievement test in

english language and mathematics. There was no significant differences in academic self-efficacy from the findings obtained. Howevever,the mean value of male students indicated a higher level compared to female students. This study confined itself to two subjects, the current study will inform the gap by using overal performance of learners in all subjects.

Vilani and Udari (2017) carried out a study among university students of Sri-Jayewardenepura in Asia to test differences in gender on academic self-efficacy throughout the year. Data were collected using questionaires. The findings obtained indicated that undergraduates in seeking assistance from peers were not hesitant, they possessed confidence on completing the degree within four years by meeting the deadlines. In addition, the results indicated that self-efficacy beliefs were higher among female students than their male counter parts. The current study was designed to study the same variables among learners of different level of education.

In Kenya, Odanga and Aloka (2015) studied the correlation of self-efficacy and gender. The study targeted 1790 teachers in 143 public schools in Kisumu County, Kenya. 327 teachers were sampled randomly. Questionaires and interviews yielded data whose analysis revealed that gender differences which existed were statistically non significant. Since this research confined itself to teachers, the present study addressed this gap by using secondary school students.

Mwaura (2021), did a study in Kenya to see if gender differences existed in academic self-efficacy. The study's framework was formed by social cognitive theory. The sample comprised of 397 form 4 students who were drawn from Nairobi County. In the choice of

the locale, schools and respondents, purposive, stratisfied and straightforward sampling procedures were employed. Data was analyzed by revelant research design and the statistical packages for social sciences (SPSS). The findings did not prove any significant relationship between self efficacy and gender. Use of form 3 students will help see whether there are differences when the year of study is different.

2.5 Prediction of Academic Achievement from Academic Resilience and Self-Efficacy

Nikola (2018) carried out a study that correlated perceived stress and resilience on academic performance. Participants were drawn from the University of New York in Prague. Non-experimental quantitative research design was used. Data were obtained from 97 students who aged between 17-31 years. Students from Europe, US, Russia and Asia were selected randomly. Data was analyzed using multiple regression. It was found out that none of the predictors were useful in predicting academic performance, neither individually nor in combination. The study used only multiple regression analysis, the current study used both multiple regression analysis and Pearson correlation coefficient to check the relationship among variables for the study.

Mousa et al. (2015) studied how academic self-efficacy and resilience are correlated with academic achievement. A sample consisted of 81 students (40 female and 41 male), six schools in two educational districts of Shahrekord city in Iran were sampled and the Connor & Davidson resilience scale and ASES Jingand Morgan were responded to. Descriptive inferential stastistis were used to analyze data. A positive significant correlation was reported to exist between the variables. This study used multi-stage

sampling which may be subjective and inaccurate, the current study used simple random sampling to fill the gap.

Nne and Ekene (2021) investigated how academic achievement in English language related with academic variables namely self-concept and self-efficacy. Anambra state formed the locale of the study in Nigeria. The research used correlational research design and pearson correlational coefficient and multiple regresssion analysis were adopted to analyze data. The participants were 21202 with a sample size of 600. From the finding all the two variables statistically predicted students' academic achievement. Self efficacy beliefs jointly predicted academic achievement positively. It is worthwhile to carry out the current study to see whether academic resilience and self efficacy beliefs jointly predicted academic achievement using overal subjects among secondary school students.

Esther (2018) investigated how academic self-efficacy and cognitive engagement relates with academic achievement in Kaduna in Nigeria. The study had seven objectives, null hypothesis and research questions. Participants for the study were 380, they were assembled by use of random sampling techniques. A correlational research design was adopted. Pearson correlation and regression were used in analysis. Academic self-efficacy, cognitive engagement and academic achievement were positively correlated. It was worthwhile to carry out the current study to show whether academic resilience and academic self-efficacy jointly predict academic achievement.

Aurah (2017) did a study in Kenya to find out how self-efficacy in science and gender relates to academic achievement in genetics among form four students. One of the objectives of the study was to investigate differences in gender in science and academic

achievement in genetics. The study comprised of 2,139 participants. The researcher adopted self-efficacy questionaires. The results obtained from data analysis revealed that students' science self efficacy is highly related to academic achievement. The study was subject specific (science self-efficacy) and this gap was informed by focusing on perfomance of learners in all subjects.

A similar study was carried out in Kenya by Kipngetich (2021) on how self efficacy and motivation predicts academic performance. Kitui county formed the study locale. Questionnaires were filled by the sample that was picked using stratified random sampling. Ex-post facto design was utilized. Pearson's regression analysis and t-test for independent sample were utilized when testing the relationship between variables, relative predictive weights of predictor variable on the criterion variable and gender differences respectively. Social determination theory and social cognitive theory formed the framework of this study. The result revealed a positive relationship between variables. This study excluded resilience in the prediction. The current study will fill the gap by focusing on academic resilience as a predictor variable.

2.6 Summary of the Related Literature and Gap Identification

Studies done in South East United States, Iran, Nigeria and Kiambu in Kenya reported that academic achievement and academic resilience were positively and significantly related. Some studies focused on specific subjects while others were done in an urban setting. The studies reviewed on how academic self-efficacy related with academic achievement indicated that the two variables were positively and significantly related. However, there

were gaps to be filled, in that some studies focused on university students while others on college students.

Studies reviewed on differences in gender in academic resilience and academic self-efficacy revealed a positive correlation on gender differences on academic resilience and academic self-efficacy. Female participants were more resilient and possessed high self-efficacy beliefs as compared to male counterparts. However, there were differences in the literature whereby, a study done in Jordanian University indicated moderate gender differences in academic self-efficacy and study done in Malaysia indicated that male students had higher resilience as compared to female students in the school of engineering. Some of the studies also indicated the methodological gap that was used in the study.

The studies carried in New York, Nigeria and Kenya stipulated that academic resilience and self-efficacy with other predictor variables like perceived stress and cognitive engagement positively correlates with academic achievement. However, there were differences in the literature reviewed on the study carried in New York which showed non-significant relation between perceived stress, resilience and academic achievement.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the study design, research design and research variables. The chapter also describes the locale of the study, target population, sample size, sampling procedures, data analysis and, interpretation of the research tools, piloting, reliability, and validity of the research instruments, and data collection techniques, including ethical considerations.

3.2 Research Design

Correlational research design was used in this study. This design is applied in describing relationships between or among variables in the study (Lillykutty & Samson, 2018). The researcher chose correlational research design because it enabled the researcher to describe the relationship between the study variables (Asenabi, 2019). Through this design, the researcher was able to establish the relationship between academic resilience, self-efficacy and academic achievement.

3.3 Research Variables

The investigation considered three variables namely; the predictor variables were academic resilience and academic self-efficacy, gender acted as an intervening variable and outcome variable was academic achievement. Academic achievement of the students was measured using the total marks obtained in seven subjects at the end of term examination. The predictor and outcome variables were measured at interval level while gender was rated at nominal level.

3.4 Study Locale

This study's locale was Kiminini Sub-County, Trans Nzoia County. The County has 261 Secondary schools, of which 241 are public and 20 private schools. The researcher selected this county because the performance in KCSE in the area has been consistently low as reflected by the National, County and Sub County mean scores from the year 2015 to 2019 as shown in Table 3.1

Table 3.1

Mean Score for KCSE (2015-2019)

Year	2015	2016	2017	2018	2019
National Mean	5.45	4.50	3.72	3.95	4.06
Trans-Nzoia County Mean	6.37	4.37	3.91	3.76	3.82
Kiminini Sub-County Mean	5.80	3.96	3.56	2.98	3.02

Source: The County Education Director, Trans-Nzoia County

3.5 Population

The study target for this research was 1500 form three students, picked from 26 public secondary schools in Kiminini Sub-County. Form three students were considered appropriate for this research because they were about to sit KCSE and therefore had relatively stable academic resilience and self-efficacy.

3.6 Sampling Techniques and Sample Size Determination

3.6.1 Sampling Techniques

Stratified sampling was administered by the researcher to group the schools into four strata on gender basis, and considering whether the school is day or boarding. This was important to establish if there were differences in academic resilience and self-efficacy across the different school categories. Ten schools were purposively picked from which respondents were drawn. The number of participants for the study from each school were proportionately sampled. A total of 306 students were randomly sampled from the selected schools.

3.6.2 Sample Size Determination

The sample for the study was set as 306 students, (156 males and 150 female). Krejcie and Morgan, (1970) table which is utilized when the population size is known was used to select the sample (Appendix F). To calculate the number in each cell of the sample size, proportionate sampling formula was used. Where;

$$n = \frac{n1}{N} \times n$$

n-Population in terms of gender, N-general population and n-sample size.

Table 3.2

Sampling Distribution and Sample Size

School type	Enrolment			Sample size		
	Schools	Students		**S**chools	Students	
		Boys	Girls		Boys	Girls
Boys boarding	3	400	-	1	82	-
Girls boarding	4	-	300	1	-	61
Mixed boarding	1	70	80	1	14	18
Mixed day	18	300	350	7	61	70
Sub-total		770	730		157	149
		51.3%	48.7%			
Total	26	1500		10	306	
	100%	(100%)		39%		

Source: Sub- County Director of Education Office, Trans-Nzoia County.

3.7 Research Instruments

Tools utilized for data collection were questionnaire and a pro forma summary for students' examination results.

3.7.1 Questionnaire for Students

The questionnaire had five parts. Section A contained instruction to the participants; Section B comprised the questions on participants' personal information. Section C consisted of academic resilience scale, section D consisted of academic self-efficacy scale and section E consisted of pro forma summary for students' examination results. The full scales appear in Appendix B.

a. Academic Resilience Scale

This scale was authored by Connor-Davidson, 2003. The scale has 25 items which measures the extent to which learners face adversities in the learning environment. The items' rating is on a Likert scale of five points which ranges from *Strongly disagree to Strongly agree.* All points in each item were summed up for scoring purposes. The possible highest score was 125 while the lowest score was 25. According to this scale, generally scores ranged from 25 to 125. The scale was scored from 25 to 58, 59 to 92, 93 to 125 showing low to highest academic resilience scale respectively.

b. Academic Self-Efficacy Scale

This scale was developed by Gafoor and Ashraf (2006). It is composed of 40 items aimed at measuring low, moderate and high self-efficacy. The rating of the items on the scale bases on five point Likert scale varying from *Exactly true to exactly false.* Expert review was involved and examined the scale to ascertain that it had content validity. The scores for self-efficacy ranged from 40 to 200. The scores for self-efficacy were rated from low, moderate, and high that is 40 to 93 low, 94 to 147 moderate and 148 to 200 high.

3.7.2 Pro-forma Summary of Students' Results

Academic achievement score for each student was obtained from students' progressive records. This data was collected from respective teachers. The prepared pro forma table in (Appendix C), was used to organize and analyze the results. The scores were then transformed to T scores using SPSS program to make them comparable.

3.8 Pilot Study

For piloting, one mixed school was used which was picked using purposive sampling and, 30 participants were picked randomly. The pilot study data were analyzed by the researcher for the purpose of checking if the tools used were reliable. Through the pilot study, the researcher confirmed appropriateness data analysis method and also checked whether the language level was appropriate for the students participating in the study. Since no issue was noted, there was no item that was altered. The researcher excluded the school used during piloting activity.

3.8.1 Validity of the Research Instrument

Questionnaire's content and face validity were verified by consulting the lecturers in the Department of Educational Psychology. They confirmed that the questionnaires were valid to measure academic resilience and academic self-efficacy.

3.8.2 Reliability of the Research Instrument

The scales adapted were academic resilience and self-efficacy. The internal consistency reliabilities of these adapted scales were .72 for academic resilience scale and .78 for academic self-efficacy. However, the reliability of the tools confirmed from the finding obtained during the piloting process. The reliabilities of these scales were determined by Cronbach's coefficient alpha and the results were as presented.

Table 3.3

Cronbach's alpha reliabilities of the study

Scale	Items	α(Authors)	α (Pilot Study)
Academic resilience scale	25	.72	.81
Academic self-efficacy scale	40	.78	.91

The Cronbach alpha coefficient for academic resilience scale was .81 and for academic self-efficacy was .91. Gliem and Gliem (2003) asserted that any reliability coefficient of .70 or more is considered reliable. Coefficients obtained as presented in Table 3.3, were greater than.70. Therefore, the scales were considered reliable.

3.9 Data Collection Techniques

Selected schools were visited on the day of data collection exercise. Questionnaires were issued at the time during which the researcher and the school administration had agreed. The teachers in the respective schools were consulted when setting the time to carry out the exercise. After briefing the students about research, they were given a minimum of 40 minutes to fill the questionnaires. Students' results were obtained from the respective form three teachers.

3.10 Data Analysis

Collected data was coded, keyed and then scored using the Statistical Package for Social Science (SPSS) software (Version,21) for statistical analysis. percentage, mean and standard deviation were the descry iptive used to describe and summarize data in frequency

distribution tables and graphs. Inferential statistics were utilized in testing formulated hypothesis. The statistical test used to test each hypothesis is indicated.

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

H_{02}: Academic self-efficacy and academic achievement have no significant relationship.

H_{03}: There are no gender differences in students' academic resilience and academic self-efficacy.

H_{04}: Academic achievement cannot be significantly predicted using academic resilience, and self-efficacy.

The first and second hypothesis were tested using Pearson product moment correlation while the third hypothesis was tested using t-test for independent samples. For fourth hypothesis, multiple regression analysis was employed.

3.11 Logistical and Ethical Considerations

3.11.1 Logistical Considerations

A letter of introduction to the field from Kenyatta University's Graduate School was secured by the researcher, as well as a permit to do research from National Council for Science, Technology and Innovation (NACOSTI). Thereafter, the national government offices; the county and the Sub-County Director of Education (SCDE) in Trans-Nzoia County, Kiminini Sub- County were notified about the research. The MOE approved this study to be conducted in the area. After obtaining all the permissions, the researcher communicated with the principals of the schools which were involved and was permitted to collect data from the schools.

3.11.2 Ethical Considerations

Participants were briefed on the intentions of conducting the study. Then, their consent to participate was sought. The researcher assured the participants of non-exposure to any harm, upholding confidentiality before, during and after the research and gave them the freedom to quit participating in the study at any stage. Finally, the researcher pledged to the participants the intention to share the study findings once the exercise is over.

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATIONS AND DISCUSSIONS

4.1 Introduction

This chapter deals with the presentation, interpretations and discussions of the statistical data. It starts with participants' details of demographic information, followed by analysis. The results are discussed as per the objectives of the study.

4.2 General and Demographic Information

Table 4.1 Presents information regarding the return rate of questionnaires.

Table 4. 1

Return Rate of the Questionnaires

Type of school	Questionnaires administered		Return Rate	
	Students		Students	
	B	G	B	G
Boys boarding	82	-	70(82%)	-
Girls boarding	-	61	-	56(93%)
Mixed boarding	14	18	14(93%)	13(72%)
Mixed day	61	71	59(97%)	69(97%)
Sub-total	157	150	143(89%)	138(93%)
Total	306		281(91%)	

Note: B=Boys; G=Girls

Table 4.1 shows that the study was carried out in four categories of schools. The researcher administered a total of 306 questionnaires and out of this, 281 questionnaires were returned (91 %). 70 out of 82 questionnaires issued in the boys boarding schools were returned translating to 82% return rate. The girls boarding had questionnaire return rate of 93% while the mixed boarding had a return rate of 72%. Mixed day schools questionnaire return rate was 93%. The overall questionnaire return rate was 91% which was above the recommended threshold of 50% (Creswell, 2014).

4.2.2 Respondents' Background Information

The respondents background information collected were school category, gender and age.

Table 4. 2

School Respondents by Category

School Category	*F*	%
BB	70	24.9
GB	56	19.9
MD	128	45.6
MB	27	9.6
Total	281	100.0

Note: BB=Boys only boarding; GB=Girls only boarding; MD=Mixed day; MB=Mixed boarding

In Table 4.2 it is indicated that among the students who gave their responses, 70 (24.9%) came from boys boarding, 56 (19.9%) were from girls boarding while 128 (45.6%) and 27

(9.6%) students came from mixed day and mixed boarding schools respectively. The results showed that the mixed day schools had the highest number of students sampled.

Table 4. 3

Respondents' Gender

Gender	*f*	%
Male	143	50.9
Female	138	49.1
Total	281	100.0

Table 4.3 shows a sum total of 143 male students participated in the study which accounts for 50.9 % while the female students were 138 representing 49.1%. The results show that both male and female students were sampled but male students were slightly higher than the female students. The researcher also examined gender of the students in the different categories of schools and results were as given in Table 4.4.

Table 4. 4

Gender and School Category Cross Tabulation

		Gender Male	Female	Total
SC	BB	70(100%)	0	70(100%)
	GB	0	56(100%)	56(100%)
	MD	59(46%)	69(54%)	128(100%)
	MB	14(52%)	13(48%)	27(100%)
Total		143(50.9%)	138(49.1%)	281(100%)

Note: SC=School Category; *BB*= Boarding school for boys only; GB=Boarding school for girls only; MD= mixed day; MB= Mixed boarding.

As tabulated in Table 4.4, a total of 70 boys were sampled from boys boarding schools and 56 from girls boarding schools. 128 students were from mixed day school out of which 59 (46%) were boys and 69 (54%) were girls who participated in the survey. In addition, 14 boys representing 52% and 13 girls representing 48% were selected from the mixed boarding schools. Table 4.5 gives the description the students' age.

Table 4. 5

Descriptive Statistics of Age of the Respondents

	N	Range	Mn	Mx	Mean	*SD*
Age	281	10.0	16.0	26.0	18.10	1.35

Note: Mn=Maximum; Mx=Maximum

The lowest and highest age were 16 and 26 years respectively. The participants had 18.1 years mean age and 1.35 standard deviation. As shown, some of the students were older than expected of form three students.

The age and gender cross tabulation for the students were recorded as observed in Table 4.6.

Table 4. 6

Descriptive of Age by Gender

	N	Range	Min	Max	Mean	*SD*
Male	143	10.00	16.00	26.00	18.11	1.35
Female	138	6.00	16.00	22.00	17.10	1.30

The results in Table 4.6 indicates that 143 respondents were boys and 138 were girls. The minimum age for both boys and girls was 16 years with the highest recorded age for boys being years 26 (SD= 1.35) while that of girls was 22 years (SD= 1.30).

To establish if the age differences between male and female students was statistically significant, the researcher conducted independent sample t-test.

Table 4.7

Independent Samples t- test for Age Differences

		T	*Df*	Sig. (2-tailed)
Age	Equal variances assumed	.02	279	.98
	Equal variances not assumed	.02	278.596	.98

The outcome in Table 4.7 stipulated that t (279) = 0.02, $p < .05$. This implies that the age difference across genders was not statistically significant.

The study also explored the descriptive of age of the respondents by school category as tabulated in Table 4.8.

Table 4. 8

Age by School Category

	N	Range	Min	Max	Mean	*SD*
Boys boarding	70	4	16	20	17.71	0.87
Girls boarding	56	6	16	22	17.77	1.19
Mixed day	128	5	16	21	18.37	1.35
Mixed boarding	27	10	16	26	17.56	2.14

In Table 4.8, a total of 70 male students from boys' boarding schools took part in the survey. The participants were aged between 16 and 20 and mean age was 17.71 years. The

female students sampled from the girls' boarding schools were 56 with age mean of 17.71 years. Mixed day schools had a total of 128 students sampled whose ages spread from 16 to 22 and mean age was 18.37 years. A total of 27 students sampled from mixed boarding schools had a mean age of 17.56 years with the lowest age being 16 years while the highest age was 26 years.

ANOVA was conducted to establish if the age differences across the school categories were significant. The statistical findings were displayed in Table 4.9.

Table 4.9

ANOVA for Age Differences Across the School Categories

	Sum of Squares	*Df*	Mean Square	*F*	Sig.
Between Groups	31.33	3	10.44	6.02	.00
Within Groups	480.68	277	1.74		
Total	512.01	280			

Note: SS=Sum of squares

As shown in the Table 4.9, the p value is .00, a value exceeded by the significance level of .05. This indicated that the age difference across the different school categories was statistically significant, F (3, 277) = 6.02.

4.3 Results on Relationship Between Academic Resilience and Academic Achievement

Academic resilience and achievement's descriptive statistics, hypothesis testing, and discussions of the results are presented in this section.

4.3.1 Descriptive Statistics for Academic Resilience

The descriptive conducted and reported were range, minimum and maximum scores, mean, standard deviation, skewness and kurtosis as shown in Table 4.10.

Table 4. 10

Academic Resilience Descriptive Statistics

	N	Range	Mini	Maxi	*M*	*SD*	Ske	Kurt
Academic Resilience	281	25.00	45.00	70.00	60.76	4.63	-.54	.26

Note: Sk=Skewness; Mini=Minimum; Maxi=Maximum; M=Mean, SD=Standard Deviation; Kurt= Kurtosis

As displayed in Table 4.10, academic resilience highest score was 70 whereas 45 was the lowest score with a range of 25. The mean of academic resilience scores was 61 (SD= 4.63). The skewness and kurtosis coefficients were -.54 and .26 respectively. This shows a near normal distribution of the scores.

The researcher further examined academic resilience by gender and the findings obtained were as displayed in Table 4.11

Table 4. 11

Descriptive Statistics for Academic Resilience by Gender

Gender	*N*	Range	Mini	Maxi	Mean	*SD*	Skewness	Kurtosis
Male	143	25.00	45.00	70.00	59.68	5.27	-.12	-.09
Female	138	18.00	52.00	70.00	61.89	3.53	-.93	.58
Total	281	25.00	45.00	70.00	60.76	4.63	-.54	.26

Note: Mini=Minimum; Maxi=Maximum; SD=Standard Deviation

Male students lowest score was 45 and the highest score was 70. Male students mean score was 59.68 with a range of 25. For the female students the scores were spread from 52 to 70. The female students mean was 61.89 (*SD* = 3.53).

To establish whether the mean difference of the scores between sex of students (male and female) was statistically significant academic resilience scores were subjected to independent t-test.

Table 4.12

Independent Samples t test for Differences in Academic Resilience

		T	*Df*	Sig. (2-tailed)
ARES	Equal variances assumed	-4.11	279	.00
	Equal variances not assumed	-4.14	249.034	.00

Note: ARES=Academic Resilience

Academic resilience between male and female students mean differences were statistically significant, t (279) = - 4.11, $p < .00$. The female students were better in academic resilience compared to the male students.

Four categories of schools formed the basis of this study and the description of academic resilience scores by school category was as tabulated in Table 4.13

Table 4.13

Descriptive Statistics for Academic Resilience by School Category

School Category	*N*	Range	Mn	Mx	Mean	*SD*
Boys boarding	70	25.00	45.00	70.00	59.04	5.79
Girls boarding	56	14.00	56.00	70.00	63.73	2.55
Mixed day	128	18.00	51.00	69.00	60.99	4.29
Mixed boarding	27	11.00	56.00	67.00	58.64	1.87
Total	281	25.00	45.00	70.00	60.76	4.63

Note: N=281; Mn=Minimum; Mx=Maximum; SD=Standard Deviation

The findings in Table 4.13, indicates a maximum scored value for both boys boarding and girls boarding was 70 and the lowest scores were 45 and 56 respectively. The mean scores for boys boarding schools was 59.04 and that of the girls boarding was 63.73. Mixed day schools' highest score was 69 and the lowest was 51 with a mean of 60.99. In addition, mixed boarding students had a mean of 58.64 with a range of 11. Mixed boarding schools had the lowest maximum score of 67 while boys boarding schools had the highest maximum score of 70 while boys boarding schools had the lowest minimum score of 45.

To establish if academic resilience variations in different categories of schools were statistically significant, ANOVA was conducted and the results are exhibited in Table 4.14.

Table 4.14

ANOVA for Differences in Academic Resilience

	Sum of Squares	*Df*	Mean Square	*F*	Sig.
Between Groups	895.26	3	298.42	16.18	.00
Within Groups	5108.25	277	18.44		
Total	6003.51	280			

Note: SS=Sum of Squares; MS=Mean Square

Table 4.14, the level of significance was .00 which is less than .05 level of significance. This implies that the mean differences in academic resilience were statistically significant for the various school categories, F (3, 277) = 16.18, $p < .05$. Girls boarding schools mean score were higher compared to the other school categories.

The researcher categorized academic resilience of the students into three levels using academic resilience scores as tabulated in Table 4.15. The highest possible score being 125 while the lowest being 25. According to this scale, generally scores ranged from 25 to 125. The scale was scored from 25 to 58, 59 to 92, 93 to 125 showing low to highest academic resilience scale respectively and data statistics findings are recorded in Table 4.15

Table 4. 15

Levels of Academic Resilience

Level of Academic Resilience	*F*	%
Low	51	18.1
Average	192	68.3
High	38	13.5
Total	281	100.0

In Table 4.15, it's noticeable that the larger number of the participants representing 68.3% had an average level, 18.1% reported lower level while 13.5% recorded highest level of academic resilience.

The researcher also categorized academic resilience scores by gender and the statistical data were as tabulated in Table 4.16.

Table 4. 16

Levels of Academic Resilience by Gender

		Gender Male	Female	Total
ARL	Low	37(26%)	14(27%)	51
	Average	78(55%)	114(59%)	192
	High	28(19%)	10(26%)	38
Total		143(51%)	138(49%)	281

*Note:*ARL= Academic Resilience Levels

Table 4.16 indicates that many of the male students (55%) had average academic resilience, 37 male students (26%) had low academic resilience. A total of 114 female students (59%) had average academic resilience, 27% had low academic resilience scores while 26% had high academic resilience scores.

To examine whether academic resilience and gender can be significantly correlated, Chi square was used and the statistical findings were tabulated in Table 4.17

Table 4. 17

Chi-Square Tests for the Correlation between Level of Academic Resilience and Gender

	Value	*Df*	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.56[a]	2	.00
Likelihood Ratio	26.33	2	.00
Linear-by-Linear Association	.25	1	.61
N of Valid Cases	281		

The results indicated that academic resilience and gender had a correlation which was positive and significant, χ^2 (2, 281) = 25.56, $p < .05$. This insinuated that gender affects the academic resilience of the students. This is consistent with the descriptive results which showed that more girls (26%) were more resilient than boys (19%). Similarly, more girls (59%) had moderate level of academic resilience relative to boys (55%).

Concerning the levels of academic resilience by school type, the statistics data are tabulated in Table 4.18.

Table 4. 18

Academic Resilience and School Category Cross Tabulation

		S C				Total
ARL		Boys boarding	Girls boarding	Mixed day	Mixed boarding	
	Low	22(31%)	3(5%)	26(20%)	0	51
	Average	34(49%)	43(77%)	89(70%)	26(96%)	192
	High	14(20%)	10(18%)	13(10%)	1(4%)	38
Total		70(100%)	56(100%)	128(100%	27(100%	281

Note: ARL=Academic resilience levels; S C=School category

The results of Table 4.18 indicated that the majority of students (49%) from boys boarding schools had average academic resilience, a total of 22 (31%) students had low levels of academic resilience and 14 (20%) students had high level of academic resilience. A total of 43 students (77%) girls from boarding schools had average levels in their academic resilience, 3 students (5%) had low level of academic resilience, and 10 students (18%) had high academic resilience. Mixed boarding schools recorded the highest number of students who had average level of academic resilience scores. Mixed boarding schools had a total of 27 respondents out of which 1 student (4%) had high level of academic resilience.

The researcher examined how level of academic resilience relates to school category using Chi square and the findings are indicated in Table 4.19.

Table 4. 19

Chi-Square Test for Level of Academic Resilience and School Category

	Value	*Df*	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.73[a]	6	.00
Likelihood Ratio	36.96	6	.00
Linear-by-Linear Association	.06	1	.81
N of Valid Cases	281		

The results indicate that academic resilience and school category are positive and significant correlates, χ^2 (6, 275) = 30.73, $p < .05$. This implies that the type of school has an impact on academic resilience of the students.

4.3.2 Descriptive Statistics of Academic Achievement

The researcher descriptively analyzed the raw scores of academic achievement, and the standardized scores of academic achievement, for comparability enhancement of participants' academic achievement scores across schools, their mid-term and end term mean score of 2021 form three examinations were converted into z-score and then into T-score. The range, mean, standard deviation, skewness and kurtosis of the converted scores are presented in Table 4.20

Table 4. 20

Descriptive Statistics of Academic Achievement Raw Scores

	N	Range	Min	Max	Mean	*Sd*
Academic Achievement	281	64.00	16.00	80.00	43.39	12.48

*Note:*Min=Minimum; Max=Maximum; Sd=Standard Deviation

The raw scores' mean was 43.39 (*SD* = 12.48). The lowest raw score was 16 and the highest raw score was 80 giving a range of 64. The results indicate that a majority of the students scored below average in academics.

The statistics descriptive of standardized achievement scores were as given in Table 4.21.

Table 4. 21

Descriptive Statistics of Academic Achievement Standardized Scores

	N	Ran	Mn	Mx	Mean	*SD*	Ske	Kur
Academic Achievement	281	54.78	20.67	75.45	49.68	10.75	.51	-.26

Note: Mn=Minimum; Mx=Maximum; Kur=Kurtosis; Ske=Kurtosis; SD=Standard Deviation; Ran=Range

As tabulated in Table 4.21, mean score was 49.68 (*SD* = 10.75). The highest score was 75.45 while the lowest score was 20.67 thus giving a range of 54.78. The skewness and

kurtosis coefficients were .51 and -.26 respectively. The implication of the presented statistics was that the scores obtained in this study assumed near normal distribution.

In Table 4.22, researcher further categorized academic achievement scores by gender.

Table 4. 22

Academic Achievement Descriptive Statistics by Gender

Gender	*N*	Range	Min	Max	Mean	SD
Male	143	50.39	20.67	71.06	46.57	11.36
Female	138	39.51	35.94	75.45	52.90	9.04
Total	281	54.78	20.67	75.45	49.68	10.75

The male students had a mean of 46.57 (*SD* = 11.36) while female students had a mean of 52.90 (SD= 9.04). The findings indicated female students performed better than the male students.

To check whether the mean differences in academic achievement between boys and girls were statistically significant, an independent sample t-test was administered, and the statistical data are observed in Table 4.23.

Table 4.23

Independent Samples T Test for Gender Differences in Academic Achievement

		T	*Df*	Sig. (2-tailed)
Academic Achievement	Equal variances assumed	-5.15	279	.00
	Equal variances not assumed	-5.17	269.24	.00

The mean differences were significant, t (279) = - 5.15, $p < .05$. because the p value was below .05. The female students had better academic achievement scores compared to their male counterparts.

The researcher further analyzed academic achievement scores by school type and the outcome was as indicated in Table 4.24.

Table 4. 24

Descriptive Statistics of Academic Achievement by School Type

School category	*N*	Range	Min	Max	Mean	*SD*
Boys boarding	70	50.39	20.67	71.06	48.16	13.68
Girls boarding	56	26.53	48.92	75.45	58.55	7.79
Mixed day	128	37.41	35.18	72.59	47.93	8.57
Mixed boarding	27	31.30	37.47	68.77	43.47	5.46
Total	281	54.78	20.67	75.45	49.68	10.75

Table 4.24 shows that boys boarding schools had mean score of 48.16 (*SD* = 13.68). The mean score for girls boarding was 58.55 (SD= 7.79). Mixed day and mixed boarding schools had their means as 47.93 and 43.47 respectively. The boys' boarding schools recorded highest score of 71.06 and the lowest score of 20.67. The girls' boarding schools scores varied from 48.92 to 75.45 being minimum score. Mixed boarding schools had a maximum score of 68.77 while the minimum score of 37.47 with the mixed day scores ranging from 35.18 to 72.59. The findings indicated that girls' boarding schools performed better than the rest of the school categories.

To establish whether the differences in academic achievement across the different categories of schools were statistically significant, ANOVA was administered, and the results are displayed in Table 4.25.

Table 4.25

ANOVA for Mean Differences in Academic Achievement in the School Categories

	Sum of Squares	*Df*	Mean Square	*F*	Sig.
Between Groups	15.49	3	5.16	14.32	.00
Within Groups	99.89	277	.36		
Total	115.38	280			

As given in Table 4.25 the results show a statistically significant differences in academic achievement in different school categories, F (3, 277) = 14.32, $p < .05$. This means, differences in academic achievement across the different school categories were significant. The girls boarding performed better than the rest of the school categories in academic achievement.

Academic achievement of the students was categorized into three levels as follows; 40 and below was categorized as low, 41-65 was categorized as average, and 66 and above was categorized as high. The statistical findings are displayed in Table 4.26.

Table 4. 26

Levels of Academic Achievement

	F	%
Low	78	27.8
Average	161	57.3
High	42	14.9
Total	281	100.0

Table 4.26 shows majority of students representing 57.3% had average scores in academic achievement, 27.8% of the students sampled had low scores in academic achievement and 14.9% of the respondents had high scores in academic achievement.

The highest possible score for academic resilience was 125 while the lowest score was 25. According to this scale, generally scores ranged from 25 to 125. The scale was scored from 25 to 58, 59 to 92 and 93 to 125 showing low, average and high academic resilience respectively. Based on these categories, the study examined the level of academic resilience and academic achievement mean score and the statistical findings were as tabulated in Table 4.27.

Table 4. 27

Academic Achievement Mean Score and Level of Academic Resilience

Level of Academic Resilience	N	Academic achievement Mean Score	*SD*
Low	51	39.07	9.17
Average	192	50.21	7.34
High	38	61.19	13.77
Total	281	49.68	10.75

Note: N=281; SD=Standard deviation

Table 4.27 records 38 students having high academic resilience, the number of students who had low and average academic resilience were 51 and 192 respectively. The students with high academic resilience achieved a mean score of 61.19 (*SD* = 13.77) in academic achievement while those with low academic resilience had a mean of 39.07 whereas those with average academic resilience had a mean of 50.21 in academic achievement.

To test whether there were significant mean differences an ANOVA was used and the output was tabulated in Table 4.28

Table 4. 28

ANOVA for Mean differences in Academic Achievement

	Sum of Squares	*Df*	MS	*F*	Sig.
Between Groups	10833.48	2	5416.740	70.02	.00
Within Groups	21504.91	278	77.356		
Total	32338.39	280			

Note: MS=Mean Square

As indicated in the Table 4.28 students with varied levels of academic resilience were found to have mean differences in academic achievement which were statistically significant (F (2, 278) = 70.02, $P < .05$).

4.3.3 Hypothesis Testing

This study's first objective was to relate academic resilience and academic achievement. To correlate the two variables, the following hypothesis was examined.

There is no significant correlation between academic resilience and achievement.

Pearson correlation was utilized in hypothesis testing and the findings were as shown in Table 4.29.

Table 4. 29

Correlation Between Academic Resilience and Academic Achievement

		Academic Achievement
Academic Resilience	Pearson Correlation	.65**
	Sig. (2-tailed)	.00
	N	281

As indicated, the variables have a strong positive relationship which was significant r (279) = .65, $p < .05$. Therefore, the advanced null hypothesis was rejected. This implies students with a high academic resilience score high in academic achievement while those with low academic resilience get low academic achievement scores.

4.3.4 Discussion of the Results

The statistical findings established a significant positive correlation between academic achievement and academic resilience. This suggests that a student who exhibits high academic resilience will get high academic achievement scores and vice versa. The findings corroborate with the results of other researchers. Similar to our study findings are the results of Karabiyik (2020). The study was conducted among Turkish undergraduates who had specialized in training how to teach English. In the study, academic resilience and academic accomplishment were correlated. Descriptive statistics showed that participants scored highly on academic resilience. Furthermore, resilience and academic achievement had a significant correlation. Resilience significantly predicted GPA. The results confirmed the importance of academic resilience in school achievement. The current study found low and average academic resilience among most participants, which may be associated with low academic achievement among majority of the students.

Furthermore, Fang et al., (2020) found similar results like the current study findings. Academic resilience was found to significantly mediate support by teachers as well as peers on academic achievement. The examination on the factors was done among children whose ages varied from 13 to 15 years. The researcher used data from the national survey in China with a total of 2328 children. The study findings showed that support was linked to academic resilience. Children with high academic resilience performed better than those with low academic resilience. The results demonstrate the importance of academic resilience in learning environment and, school performance This was in agreement with Flach's theory of resilience which states that highly resilient students easily find ways of dealing with challenges in order to succeed in academics.

Mwangi et al., (2015) study's in Kiambu county among secondary schools' students found similar findings. The study intention was to identify academic resilience and academic accomplishment relationship. Descriptive correlational strategy was used. A total of 390 students from form three were sampled and adapted tool was administered to obtain data. The school performance records were used to inferred from academic records. Academic resilience and academic achievement were found to have a positive and significant association. Again these findings confirm the importance of academic resilience in school achievement. Academic resilience enables students to cope with stressful events that they encounter in the school setup while pursuing their academic goals. Academic resilience entails the psychological strength needed to successfully navigate academic challenges which leads to better learning outcomes.

Furthermore, Mwangi et al. (2018) findings corroborate the current study findings. The study explored association between school type, academic resilience, and academic achievement. Correlational strategy with 390 respondents drawn from form three class were used. Students were selected from different categories and adapted tools were utilized in data collection. When the type of school was taken into account, the academic resilience scores showed a significant mean difference. This was in favor of girls' boarding school. Boys' boarding school had the lowest academic resilience. The type of school was found to be a fundamental contributor to secondary school students' educational achievement. The results suggest that learning context may be related to the student's academic resilience. The results corroborate the postulations of the Flach's theory of resilience that learning experiences affect students' academic resilience in a school environment.

4.4 Results on Relationship Between Academic Self- efficacy and Academic Achievement

The second objective sought to establish whether correlation existed between academic self-efficacy and academic achievement. Descriptive statistics regarding the results, hypothesis testing as well as discussion of the results were presented in this section.

4.4.1 Descriptive Statistics for Academic Self- Efficacy

Table 4.30 shows academic self-efficacy descriptive statistics**.**

Table 4. 30

Descriptive Statistics for Academic Self-efficacy

	N	Range	Min	Max	Mean	SD	Ske	Kurtosis
Academic Self Efficacy	281	59	71	130	96.94	9.72	.32	.89

*Note:*Ran=Range; Min=Minimum; Ma=Maximum; Mea=Mean; Ske=Skewness; SD=Standard Deviation

Table 4.30 gives a mean score of 96.94 (*SD* = 9.72) for the students 'academic self-efficacy. The scores were spread from 71 to 130 thus giving a range of 59. The skewness and kurtosis coefficients were .32 and .89 respectively. This implies that the distribution was approximately normal.

The researcher further examined academic self-efficacy of the students based on gender as displayed in Table 4.31.

Table 4. 31

Descriptive Statistics for Academic Self- efficacy by Gender

Gender	N	Range	Min	Max	Mean	SD
Male	143	49.00	71.00	120.00	94.34	10.10
Female	138	54.00	76.00	130.00	99.64	8.55

As indicated in Table 4.31 female students were 138 while male students' respondents were 143. The male students had a mean of 94.34 with the scores varying from 71 to 120 (range 49). The mean score for the female respondents was 99.64 (*SD* = 8.55). The highest score attained by the female respondents was 130 and the minimum score was 76 thus giving a range of 54. Females recorded higher scores on this scale than their male counter parts.

The researcher also analyzed academic self-efficacy by school category and the findings are as given in Table 4.32

Table 4. 32

Descriptive Statistics for Academic Self- efficacy by School Category

	N	Range	Min	Max	Mean	SD
Boys boarding	70	48	72	120	95.61	12
Girls boarding	56	54	76	130	102.86	8.44
Mixed day	128	49	71	120	96.11	8.62
Mixed boarding	27	23	86	109	92.07	3.76

Note: Min=Minimum, Max=Maximum and SD=Standard Deviation

As Table 4.32 indicates, 70 students were picked from boys boarding schools. The mean for the boys boarding schools was 95.61 (*SD* = 12) with the range being 48. The 56 respondents from the girls boarding schools had a mean of 102.86 (*SD* = 8.44) and a range of 54. Mixed day schools had a total of 128 respondents and their mean score was 96.11. the score recorded among these participants ranged from 71 to 120. A total of 27 students were sampled from mixed boarding schools and their mean score was 92.07 while the range was 24. The findings indicate that the girls boarding performed better than all other school categories.

Academic self-efficacy scale had 40 items. The expected score in the scale were to lie between 40 and 200 with scores spread from 40 to 80 indicating low academic self-efficacy, 81 and 120 indicated moderate academic self-efficacy and 121 and above indicated high academic self-efficacy data statistics were shown in Table 4.33.

Table 4. 33

Levels of Academic Self- efficacy

Level	*F*	%
Low	29	10.3
Average	249	88.6
High	3	1.1
Total	281	100.0

The statistics in Table 4.33 shows majority respondents representing 88.6% had average academic self-efficacy, 10.3% had low academic self-efficacy and 3 respondents representing 1.1% had high academic self-efficacy.

Table 4. 34

Levels of Academic Self- efficacy by Gender

Academic Self-efficacy Levels	Gender		Total
	Male	Female	
Low	19(13.3%)	10(7.2%)	29 (10.32 %)
Average	124(86.7%)	125(90.6%)	249 (88.6%)
High	0	3(2.2%)	3 (1.1%)
Total	143(100%)	138(100%)	281 (100%)

Table 4.34 shows that 249 students; 124 (86.7%) male and 125(90.6%) female representing 88.6% had average academic self-efficacy. A total of 29 students; 19 (13.3%) male and 10 (7.2%) female representing 10.32% had low scores in academic self-efficacy while three female students representing 1.1% had high academic self-efficacy.

The researcher examined if level of academic self- efficacy and gender are correlates using a Chi square and obtained statistics shown in Table 4.35.

Table 4. 35

Chi-Square Tests for the Correlation between Levels of Academic Self- efficacy and Gender

	Value	*Df*	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.71[a]	2	.06
Likelihood Ratio	6.91	2	.03
Linear-by-Linear Association	4.48	1	.03
N of Valid Cases	281		

The results indicate existence of correlation which was not significant between levels of academic self-efficacy and gender, χ^2 (2, 279) = 5.71, $p > .05$. This implies that the two variables are not related significantly.

The academic self-efficacy levels were also examined based on school category as shown in Table 4.36

Table 4. 36

Levels of Academic Self- efficacy by School Type

		School Category				Total
		BB	GB	MD	MB	
ASE Levels	Low	16(23%)	2(4%)	11(9%)	0	29 (10.3%)
	Ave	54(77%)	51(91%)	117(91%)	27(100%)	249 (88.6%)
	High	0	3(5%)	0	0	3 (1.1%)
Total		70(100%)	56(100%)	128(100)	27(100%)	281 (100%)

Note: ASE=Academic Self Efficacy; Ave=Average: BB=Boys boarding; GB=Girls Boarding; MD=Mixed Day; MB=Mixed Boarding

Table 4.36 indicate 249 students which represented by 88.6% across the four types of schools achieved average scores in the academic self-efficacy. A total of 29 respondents (10.3%) across the four type of schools had low scores in academic self-efficacy while 3 students (1.1%) from the girls' boarding schools had high academic self-efficacy.

To determine whether level of academic self-efficacy and school category had significant relationship, use Chi square test helped to show the output as tabulated in Table 4.37.

Table 4. 37

Chi-Square Tests for the Relationship between Academic Self- Efficacy Levels and School Category

Pearson Chi-Square	29.93[a]	6	.00
Likelihood Ratio	28.48	6	.00
Linear-by-Linear Association	8.54	1	.00
N of Valid Cases	281		

The statistics in Table 4.37 show that levels of self-efficacy and school category had a significant correlation, χ^2 (6, 275) = 29.93, $p > .05$. This shows that the different school attended by students have varying impact on their academic self-efficacy. Those in girls' boarding schools recorded higher level than others in other type of schools.

The statistics regarding these variables are tabulated in Table 4.38.

Table 4. 38

Academic Self-Efficacy Levels and Academic Achievement Mean Score

ASE Levels	*N*	Academic Achievement Mean Score	Std. Deviation
Low	29	45.92	15.15
Average	249	49.81	9.77
High	3	74.56	1.09
Total	281	49.68	10.75

Note: Std=Standard

Table 4.38 shows that 29 students had low academic self-efficacy and they attained a mean of 45.92 (*SD* = 15.15). Many students' self-efficacy was found to be average and this group had a mean of 49.81 (*SD* = 9.77) in their academic achievement. Students with high scores in self-efficacy scored the highest mean of 74.68 in academic achievement.

To establish if academic achievement and self-efficacy levels were significant in mean differences, the data was subjected to one-way ANOVA and the outcome generated were as shown in Table 4.39.

Table 4. 39

ANOVA Table for Levels of Academic Self-efficacy and Academic Achievement

		Sum of Squares	*Df*	Mean Square	*F*	Sig.
Btn Groups	(Combin)	2272.02	2	1136.01	10.50	.00
Within Groups		30066.37	278	108.15		
Total		32338.39	280			

Note: Btn=Between; Combin=Combined

The data statistics in the Table 4.39 tabulates that differences in the mean between the variables were statistically significant, F (2, 278) = 10.50, $P < .05$. This suggests that academic self-efficacy levels and students' academic achievement significantly related.

4.4.2 Hypothesis Testing

The study hypothesized that academic achievement and academic self-efficacy had no significant relationship. To test the hypothesis, Pearson correlation was used and the findings obtained were indicated in Table 4.40.

Table 4. 40

Correlation between Self-efficacy and Academic Achievement

		Academic Achievement
Academic self-efficacy	Pearson Correlation	.46**
	Sig. (2-tailed)	.00
	N	281

Academic self-efficacy and academic achievement had moderate positive significant, r (281) = .46, $p < .05$. Thus, the null hypothesis was not supported. This implies that high academic self-efficacy helps learners achieve high academic achievement and vice versa.

4.4.3 Discussion of the Results

The study's findings reported positive and significant correlation between academic self-efficacy and academic achievement. Globally, in Africa and Kenya, researchers have documented similar findings. Kolo et al. (2017) reported similar findings in a study conducted to determine how academic achievement correlates with self-efficacy beliefs. The findings showed that while in college learners have high levels of self-efficacy. Learners who scored better in academics had high self-efficacy scores. The social cognitive theory views self-efficacy as one of the factors which relates to the goals one chooses to pursue and the efforts that are put in them, how long one desires to endure the misfortunes and the feedback expected. This plays a major role in academic goals one chooses to pursue and the level of effort they put to achieve set targets. Therefore, high academic self-efficacy is associated with academic success. The present study found that self-efficacy skills are significantly related with performance in academics thus supporting the argument.

The findings of Hayat et al. (2020) also corroborate the current study findings. Hayat's study was on the mediators' academic self-efficacy and performance among undergraduates pursuing medical sciences in Shiraz university. Structural equation modelling demonstrated that students' self-efficacy influences the mediators of the relationship, which affects the academic achievement. The student's emotions could be as a result of many factors such as pressure from parents and teachers and bullying from other students. The Flach's theory of resilience argues that such temporary negative environments for the students molds them to overcome past challenges and come up with better ways to overcome them. This enhances the student's self-efficacy which enhances academic outcomes. In our current context the students in Trans Nzoia County may not be performing well in academics due to low and moderate academic self-efficacy reported among a majority of the students.

In Uganda, Matovu (2020) studied how academic self-efficacy and academic performance were related among Uganda University graduates and reported similar results. The sample was recruited from public and private universities and it comprised of 140 female and 153 male students. Self-efficacy and academic achievement were found to be correlated. The study drew a sample of secondary school learners while Matovu involved a sample of university students. From the findings of the two studies, it may be inferred that academic self-efficacy is a determiner of academic achievement of the learners in different level of education. The results show that despite of study level, academic self-efficacy relates to academic achievement. This is in line with Bandura's theory which states that self-efficacy is important in learning and achievement. The theorist argued that individuals influence their learning environment provided learning occurs in a social context. Therefore, the

variable may be useful when describing causes of variation in academic achievement among learners in either secondary or university level.

Relately, Akturk. and Oztrurk, (2018) carried out a similar study and the findings corroborated the present finding. In their study done among 1597 (females 792 and male 805) students in Konya and Ankara, academic self-efficacy and achievement were correlated and found to be significant correlates. From their findings the concluded that enhancing self-efficacy of the learners may contribute to improvement of achievement of the learners. Similar to the current study findings, significant differences in gender in students' self-efficacy and academic scores were established.

A study carried by Olivier et al., (2019) reported similar findings. The study involved a sample size of 671 students (348 girls and 323 boys). Self-efficacy, student behavioral and emotional involvement, and academic accomplishment were investigated. The study's major aim was to determine applicability of self-efficacy and other theories in learning contexts by following children in grades 4 through 6. In light of the evidence obtained, self-efficacy related to academic achievement. Students who had high efficacious beliefs were more determined and focused in academics and such students scored higher grades compared to their counterparts how demonstrated to have low self-efficacy. Those students were persistent and worked amidst all challenges to succeed in academics. They are ready to learn, ask for assistance and face learning experiences with a positive attitude.

The results of the correlation between academic self-efficacy and achievement, some findings agreed with the current study while others disagreed with the current study. The similarity in self-efficacy, shows that the two variables may explain individual differences

in academic achievement as shown in the previous literature (Akturk. & Oztrurk, (2018); Matovu (2020); Olivier et al., (2019)

4.5 Gender Differences in Students' Academic Resilience and Academic Self-Efficacy

The third objective, aimed at establishing whether differences in gender existed in academic resilience and self-efficacy. For the researcher to achieve this, descriptive analysis of the scores was conducted and then hypotheses was tested using independent samples t-test.

The descriptive statistics were computed and presented in Table 4.41.

Table 4.41

Descriptive Statistics of Academic Resilience by Gender

Gender	N	Range	Minimum	Maximum	Mean	Std. Deviation
Male	143	25.00	45.00	70.00	59.68	5.27
Female	138	18.00	52.00	70.00	61.89	3.53
Total	281	25.00	45.00	70.00	60.76	4.63

Table 4.41 shows that a total of 281 respondents were sampled (143 male and 138 female students). The male students' mean was 59.68 (*SD* = 5.27) in academic resilience. They recorded scores spread from 45 to 70 with a range of 25. Female students had a mean of 61.89 (*SD* = 3.53). The minimum score obtained by the female students was 52 while the maximum score was 70 with a range of 18. The female students performed better than the male students in academic resilience.

Table 4.42

Descriptive Statistics of Academic Self-efficacy by Gender

Gender	*N*	Range	Minimum	Maximum	Mean	Std. Deviation
Male	143	49.00	71.00	120.00	94.34	10.09
Female	138	54.00	76.00	130.00	99.64	8.55
Total	281	59.00	71.00	130.00	96.94	9.72

Table 4.42 shows that 281 learners (143 males and 138 female) participated. The male students' mean score was 94.34 (*SD* = 10.09). Males' score range was 49 with the scores spreading from 71 to 120. Female students' mean was 99.64 (*SD* = 8.55). The minimum score obtained by the female students was 76 while the maximum score was 120 with a range of 54. The female students performed better than the male students in academic self-efficacy.

4.5.2 Hypothesis Testing

To establish if gender differences in students' academic resilience and academic efficacy were significant, independent sample t-tests was performed and Table 4.43 and 4.44 show the results.

Table 4. 43

Independent Samples t- test for Gender Differences in Students' Academic Resilience

	F	Sig.	*T*	*Df*	Sig. (2-tailed)
Equal variances assumed	16.46	.00	-4.11	279	.00
Equal variances not assumed			-4.14	249.03	.00

In Table 4.43, statistically significant gender differences in academic resilience are indicated, t (279) = - 4.11, $p < .05$. The girls had high academic resilience than the boys. Therefore, the findings did not support the null hypothesis leading to its rejection. As per the results, significant differences were evident whereby girls' performance in academic resilience was higher as compared to boys in the same attribute.

Table 4. 44

Independent Samples t- test for Gender Differences in Students' Academic Self-Efficacy

	F	Sig.	*T*	*Df*	Sig. (2-tailed)
Equal variances assumed	7.19	.01	-4.74	279	.00
Equal variances not assumed			-4.75	274.36	.00

As computation in Table 4.44, indicate, gender differences that were found to exist were significant in academic self-efficacy t (279) = - 4.74, $p < .05$ these findings necessitated the null hypothesis rejection. This implies that the girls were significantly higher in academic self-efficacy than boys.

4.5.3 Discussion of the Results

Gender differences were found to exist in academic resilience and academic self-efficacy. Previous studies also reported similar findings while others found contradictory results. Vilani and Udari (2017) conducted a study in Asia at Sri Jayewardenepura University to assess academic self-efficacy levels based on gender and academic year. The study revealed a stronger academic self-efficacy exhibited by female students than male students. Furthermore, the data displayed a substantial variation in academic self-efficacy by academic year. The findings were in support of the current research which found higher academic self-efficacy in female students and low in male students.

Similarly, Atoum and Al-Momani (2018) reported similar results. The research was conducted to relate academic achievement to perceived self-efficacy and gender differences in the two variables among 356 participants (210 males and 155 females) secondary learners in Jordan. According to the findings, majority rated themselves moderately on self-efficacy. Top achievers demonstrated high perceived self-efficacy while low achievers who had low self-efficacy. Gender of the student did not significantly affect perceived self-efficacy of the students. Again, the results may be attributed to the differences in learning experiences of the students that were involved in the studies.

On gender differences in students' academic resilience, most researches done revealed that male and female students differ substantially on academic resilience. Nor et al. (2017) found similar results in a research which explored resilience among undergraduate students to establish if there were any changes based on gender and subject of study. The research was carried out in Malaysia's Penang. There were 2604 people who took part in the study (796 males and 1808 female). In comparison to their female counterparts from the school of electrical engineering, undergraduates from the school of health science had the highest mean score. Female students were academically more resilient than male students. This study limited itself to examining gender differences among undergraduates. The current research involved secondary level learners to show variations across different levels of study.

A study by Mwangi and Ireri (2017) found that gender differences were evident in academic resilience among learners in Kiambu County. A total of 390 students (198 females, and 192 male) secondary school student were studied. Questionnaires were utilized in data exercise. The findings of the study revealed that academic resilience differed by gender, with girls demonstrating higher resilience. This was similar to the findings of the current research.

Contradictory findings were reported by Mohammed (2019) in a research exploring gender differences in two variables among 435 students (294 males and 141 females) public schools in Nigeria. Data were gathered using ASES and AAT in English language and mathematics. The study found that gender differences in academic self-efficacy were not significant. However, male students had a greater mean score on academic self-efficacy

than female students. Since the current study found that female students performed better in academic self-efficacy, the contradictory results may have been caused by contextual differences in areas where the samples were obtained. Therefore, there is need for further research in this area to establish how learning context influence academic self-efficacy.

4.6 Prediction of Academic Achievement from Academic Resilience and Self-efficacy

The fourth objective, aimed to come up with a predictive equation for academic achievement using academic resilience and self-efficacy. To achieve this, regression analysis was used. Section 4.6.1 presents the tests for the assumptions of regression analysis.

4. 6.1 Tests for the Assumptions of Regression Analysis

The assumptions that were tested were; multicollinearity and singularity, normality, heteroscedasticity and homoscedasticity and independence of observations. Table 4.45 displays the findings of multicollinearity and singularity test.

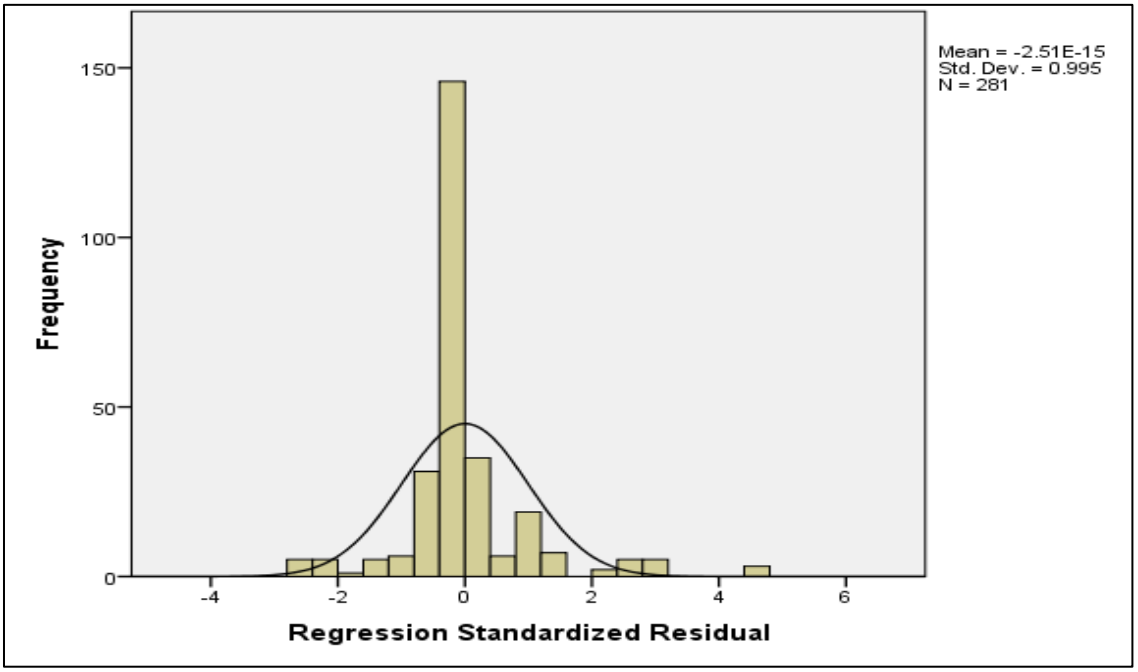
Table 4. 45

Assumptions of Multicollinearity and Singularity

Model		Tolerance	VIF
1	(Constant)		
	Academic Resilience	.97	1.03
	Academic self-efficacy	.97	1.03
2	(Constant)		
	Academic Resilience	.93	1.08
	Academic self-efficacy	.91	1.09
	Gender	.89	1.13

Figure 4.1

Figure 4. 1 ***Histogram for Normality Test***



According to Tabachnick and Fidel (2019), tolerance value should not be less than 0.1 while VIF should not be greater than 10. From the results in Table 4.45, the assumption of multicollinearity was satisfied. Figure 4.1 Presents the results of the test for normality. Fig 4.1 indicates that the error terms of the predictor variables were approximately normally distributed. Therefore, the scores did not violate the assumption of normality.

Testing heteroscedasticity and homoscedasticity assumptions was effected using normal P-plot of regression standardized residual as shown in figure 4.2.

Fig 4.2

Figure 4. 2 ***Normal P-P Plot of Regression Standardized Residual***

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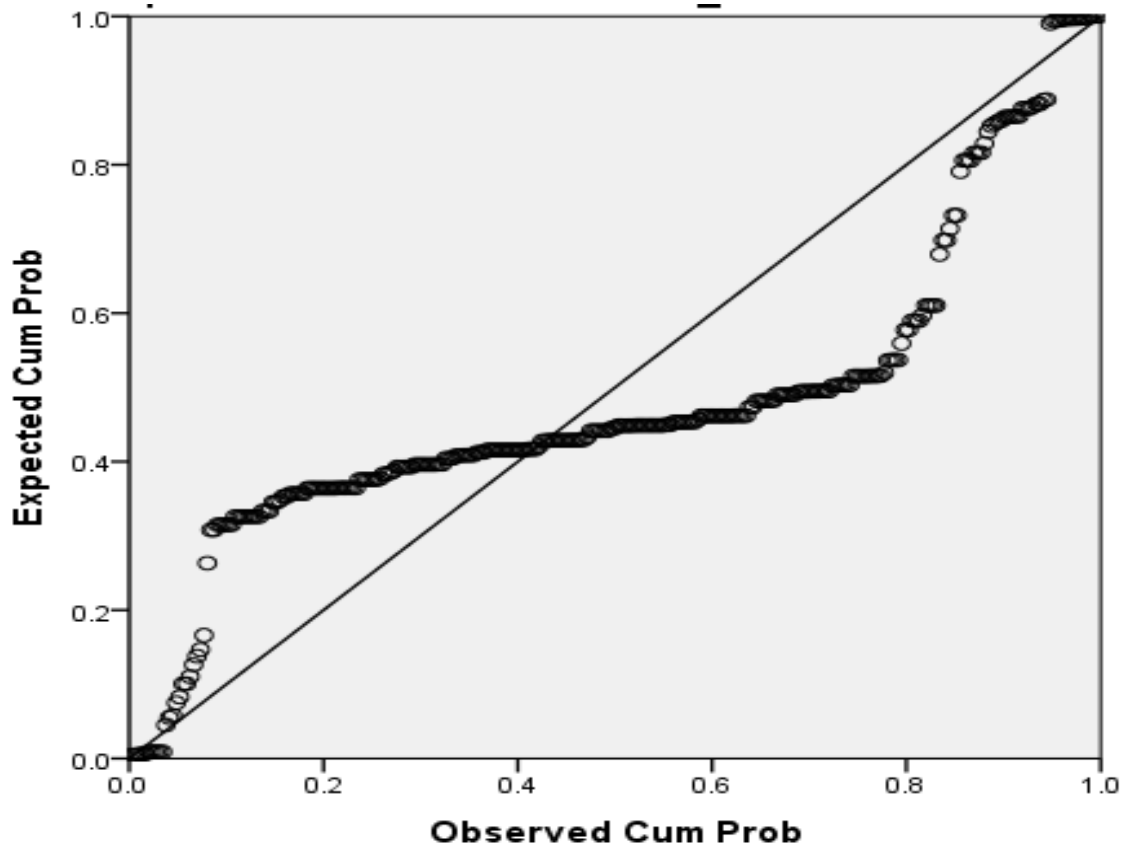

Fig 4.2 shows that the distribution of the error terms was the same for the study variables. This implies that the error terms had a constant variance. Thus, the error terms spread out uniformly between the independent variables and therefore this indicates there was no violation the homoscedasticity assumption.

Testing for assumption of independence of observations was achieved by conducting Durbin-Watson test. The results were as tabulated in Table 4.46.

Table 4. 46

Durbin-Watson Test for Independence of observations

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.73[a]	.54	.53	7.31	
2	.74[b]	.54	.54	7.29	.18

According to Tabachnick and Fidel (2019) Durbin-Watson value should not be greater than 3 or less than 1. From the results obtained the assumption of independence of observations existed.

4.6.2 Hypothesis Testing

In order to establish if academic achievement could be significantly predicted using academic resilience and self-efficacy and the moderating role of gender, the researcher carried out a hypothesis testing using regression analysis.

Table 4. 47

Model Summary for the Prediction of Academic Achievement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.73[a]	.54	.53	7.31	
2	.74[b]	.54	.54	7.29	.18

a. Predictors: (Constant), ASE, ARES

b. Predictors: (Constant), ASE, ARES, gender

c. Criterion Variable: Academic Achievement

Table 4.47 shows two models for the prediction of academic achievement. The predictor variables for model 1 were academic resilience and academic self-efficacy. The multiple regression coefficient was 0.73 indicating that predictor variables strongly predicted academic achievement. R Squared value was 0.54 showing that 54% of academic achievement variations can be attributed to self-efficacy and academic resilience. Model 2 had academic resilience, academic self-efficacy and gender as the predictor variables. The multiple regression coefficients was .74 indicating that the three variables strongly predicted academic achievement. R Square was .54 showing that 54% of the variation in academic achievement could be explainable by self-efficacy, academic resilience and gender. Gender accounted for 1% variance in academic achievement. In Table 4.48, ANOVA conducted to establish the two models can significantly predict academic achievement.

Table 4. 48

ANOVA Summary for the Prediction of Academic Achievement

Model		Sum of Squares	*Df*	Mean Square	*F*	Sig.
1	Regression	17459.86	2	8729.93	163.12	.00[b]
	Residual	14878.53	278	53.52		
	Total	32338.39	280			
2	Regression	17585.11	3	5861.70	110.06	.00[c]
	Residual	14753.28	277	53.26		
	Total	32338.39	280			

a. Dependent Variable: Academic Achievement

b. Predictors: (Constant), ASE, ARES

c. Predictors: (Constant), ASE, ARES, gender

Table 4.48 indicates that academic resilience and self-efficacy are significant predictors of academic achievement, F (2, 278) = 163.12, P <.05. When gender was added in model 2, the variables still significantly predicted academic achievement of students, F (3, 277) = 110.06, p < .05. On consideration of the results obtained, the null hypothesis was not supported. Regarding how each of the predictor variables contribute to academic achievement, the results are displayed in Table 4.49.

Table 4. 49

Regression Coefficients for the Prediction of Academic Achievement

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-70.65	6.68		-10.57	.00
	ARS	1.35	.09	.58	14.11	.00
	ASES	.39	.04	.35	8.59	.00
2	(Constant)	-69.25	6.72		-10.29	.00
	ARES	1.324	.09	.57	13.54	.00
	ASES	.37	.04	.34	7.98	.00
	Gender	1.42	.92	.06	1.53	.13

Note: ARES=Academic Resilience; ASE=Academic Self-Efficacy

Table 4.49, model one indicates that of academic resilience predictive index was 1.35 while the predictive index of academic self-efficacy was .39. The academic achievement predictive equation from academic resilience and self-efficacy is;

$\hat{y} = 1.35ARES + 0.39ASE - 70.65$

Where ARES = Academic Resilience; ASE = Academic Self-efficacy

The results imply that a unit change in academic resilience leads to 1.35 change in academic achievement. A unit change in academic self-efficacy led to 0.39 change in academic achievement.

Model two shows the regression coefficients for academic resilience, academic self-efficacy and gender. The predictive indexes were 1.324, .37 and 1.42 for academic resilience, academic self-efficacy and gender for the three variables. However, gender did not significantly predict academic achievement. The equation for predicting academic achievement with the mediating effect of gender is given as;

$$\hat{y} = 1.32ARES + .37ASE - 69.25$$

Where AR = Academic Resilience; ASE = Academic self-efficacy; G = Gender.

4.6.3 Discussion of the Findings

Academic achievement was found to be significantly predicted by academic self-efficacy and academic resilience. High ratings in academic achievement responded with high scores in academic self-efficacy and academic resilience. Gender was found to influence academic achievement prediction from academic resilience and academic self-efficacy. However, students' academic achievement was not significantly predicted by gender. The present study findings support the findings of (Hernandez, et al., (2019) in a study that was carried out to find out the predictive values of some selected variables of undergraduate academic achievement. A total of 288 learners (176 females and 112 male) were sampled and each student filled a questionnaire. Descriptive analyses were conducted and hypothesis tested. Increased academic achievement and resilience related directly to higher academic self-efficacy. Participants rated as having high resilience posted high scores in academics with their counterparts who reported to be less resilient posing low scores in their academic profiles.

Regarding self-efficacy, Eakman et al., (2019) reported that self-efficacy had an effect on academic achievement of tertiary institution learners in United States. Data was gathered using online surveys. The institution provided the grade point average (GPA) scores. As per the findings, academic self-efficacy and academic achievement were all predicted by health-related characteristics (such as depression). The relationship between instructor autonomy support and GPA was independently mediated by academic self-efficacy.

The findings, of Ayala and Manzano (2018) corroborate the current findings. The study involved 748 students who were randomly sampled. Using a time-lagged methodology, their study looked into whether there was a relationship between the qualities of resilience and engagement and first-year university students' academic achievement. Furthermore, the study looked into whether the aspects of resilience and engagement were different among students who dropped out of university during their first year compared to those who stayed on. The results showed that two characteristics of resilience (hardiness and resourcefulness) and two dimensions of engagement (dedication and absorption) helped predict academic achievement. Nonetheless, the relative importance of each of these characteristics varied by gender. Males' academic success was predicted by absorption, whereas females' performance was not. The findings revealed that students who stayed in university after their first year had higher vitality, toughness, and resourcefulness than those who dropped out. These findings suggested that if the goal was to increase academic achievement, resilience and engagement should be taken into account at the time of university admission. This demonstrates the importance of academic resilience in predicting academic achievement.

In Kenya, previous research identifies academic resilience and self-efficacy as significant predictors of students' academic achievement. Aurah (2017) revealed how academic achievement of students predicts academic self-efficacy. The study was conducted among form four students who were taking biology. Even though the two studies focused on different subjects, the results were similar indicating the variables under study. Therefore, for better performance in academics, there is need to enhance students' academic resilience and self-efficacy.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is organized into four sections. The first section introduces the contents of the chapter while the second section summarizes the findings. The third and the fourth section offers conclusions and recommendations of the study respectively.

5.2 Summary of the Findings

This study related academic resilience and academic achievement. In addition, it also examined whether academic achievement related with academic self-efficacy. The role of gender in mediating the relationship among the variables was explored as well as the prediction of academic achievement using the stated variables.

Concerning objective one of the study, data statistics on academic resilience and academic achievement correlation, the findings showed that academic resilience were positively and significantly related. Female students were better in academic resilience compared to the male students. Academic resilience was further examined based on school type, girls' boarding schools scores outperformed the other categories of schools. When academic resilience was categorized into levels, students who had high levels of academic resilience recorded better scores in academic achievement in comparison with their counter parts who had low and average scores. The results demonstrated that academic resilience to a great extent determine how learners perform in academics.

The second objective investigated whether academic achievement and academic self-efficacy were related. The obtained results indicated that students' academic achievement and academic self-efficacy had a correlation which was positive and significant. In academic resilience, female students were better than the male students. Girls boarding had the highest score relative to the other school categories. Students who reported high scores in self-efficacy scored high marks in academics while their less efficacious counter parts with low scores posted low marks in their academics. The mean difference was statistically significant.

The third objective aimed to establish differences in gender in the students' academic self-efficacy and academic resilience. Statistics obtained from analysis showed that gender differences were significant, as female students scored better in academic resilience and self-efficacy than males.

In the fourth objective, the researcher sought to determine a predictive equation for academic achievement. The findings show that both academic resilience and academic self-efficacy significantly predicted the students' academic achievement. Academic resilience had the highest predictive index. Gender of the student accounted for 1% variance in the prediction of academic achievement. However, gender negatively predict academic achievement of the students.

5.3 Conclusion

The first objective explored whether academic resilience and academic achievement related. The results showed existence of a positive and significant correlation. This implies that students with a high academic resilience score better in academic achievement. From

the researcher findings, students need to be trained and supported in order to improve their academic resilience so as to foster skills in their academic achievement.

Correlation of the results between academic self-efficacy and academic achievement was found to be positive and significant. The findings corroborated earlier research studies which reported similar findings. Therefore, as per the current and previous studies, high self-efficacy corresponds to high academic scores while low scores in efficacy are associated with low scores in academics. Based on the results, learners should be guided on how to elevate efficacious beliefs so as to improve their academic achievement.

Gender differences in the academic self-efficacy and resilience were evident in this study. Female students performed better in the academic resilience and academic self-efficacy than their male counterparts. The differences were statistically significant. Male students need to be given more focus to enhance their academic self-efficacy and resilience for better performance in academics.

In the fourth objective, a predictive equation for academic achievement using academic self-efficacy and resilience was generated. Between the two variables, academic resilience was the better predictor of academic achievement. For better scores of the learners in their academic achievement, they need to be trained and supported in order to boost their academic resilience and academic self-efficacy.

5.4 Recommendations

The researcher made the following recommendations.

5.4.1 Policy Recommendations

i. Academic resilience and self-efficacy are significant predictors of academic achievement as found by the researcher. Therefore, teachers should train students on skills that enhance resilience and, self-efficacy. They should utilize the findings to come up with suitable instructional methods and guidance and counselling programs to help students to enhance their self-efficacy and resilience skills for better learning outcomes.

ii. Teacher trainers should enhance their teaching training practices on how to emphasize to enhance academic resilience and self-efficacy of students so as to raise the overall performance of the students.

5.4.2 Further Research Recommendations

i. The study explored how academic resilience, self-efficacy, and achievement are related. The findings showed the variables were significantly related. Further research should be done on the factors to enhance the students' self-efficacy and academic resilience.

ii. The study was carried out among form three students in Trans Nzoia County. Replica research should be done in different counties involving samples of students from same level so as to enhance knowledge in this area. Further, similar research should be conducted with KCSE results from 2020 onward to see if the same factors correlates with academic achievement.

iii. The study used correlational research design and collected data using questionnaires. For more conclusive findings, similar studies should be conducted in other areas using mixed method research design.

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APPENDICES

Appendix A: A Consent to Participate in the Study

This is a research designed to find out whether academic resilience and academic self-efficacy predicts academic achievement. The information that student will provide will be handled with confidentially and utilized for research purpose only.

The study findings will help improve the students' academic achievement in Trans-Nzoia county. A participant volunteer to participate. Any participant is free to withdraw from participation without any penalties. Kindly sign in the space provided below if you volunteer to participate.

Thank you.

Participant signature……. Date……

Yours Faithfully,

Kelly Angeline

Masters' Student, Kenyatta University

Appendix B: Questionnaire for the Students

Section A: Instructions

This questionnaire is not an examination, and it is meant to collect data to be used for purposes of research. There are no correct and incorrect responses. Please complete the questionnaire to your level best. The duration given to complete the whole questionnaire is 40 minutes.

Section B: Background Information

1. Name of school……
2. Category of the school

   Boys only boarding ( )

   Girls only boarding ( )

   Mixed boarding ( )

   Mixed day school ( )
3. Admission Number……....
4. Age……
5. Gender

   Male ( )

   Female ( )

Section C: Academic Resilience Scale

Tick on any of the following options as the statement applies to you; strongly agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD)

NO	ITEM	SA	A	N	SD	D
1	I mostly manage challenges in whatever situation					
2	I prefer to be self-reliant than relying on others					
3	I initiate plans and follow them closely					
4	Interesting things are important in my life					
5	Am able to be on my own when necessary					
6	I have pride once I accomplish things in life.					
7	I am committed to things in my stride					
8	I keep myself in touch with my own life.					
9	I have confidence that I can multi-task					
10	I have determination in life					
11	At times I don't understand meaning of the points discussed.					
12	I can't do more than one thing at a time.					
13	My experience with difficult situation helps me to get out of other difficult situations very fast.					
14	I am able to discipline myself					
15	I am able to keep things that interest me					

16	I am able discover things that will make me laugh					
17	Trusting in self helps me to get out of difficult situations					
18	Am a reliable person in moments of challenging situations					
19	Am able to focus on situations in divergent ways					
20	At times I force myself to do things whether I want or not					
21	There is purpose of my life					
22	I don't remain in a situation that am unable to support it by myself					
23	In difficult moments I find solution out					
24	I am energetic enough to do what am supposed to do					
25	When am defeated I don't give up.					

Section D: Academic Self-Efficacy Scale - (English Version)

Directions

Some statements concerning your beliefs about learning are given. Each statement has five responses. 1. Exactly true 2. Nearly True 3. Neutral 4. Nearly False 5. Exactly false. Read each statement carefully and decide to what extent is true in your case. Then mark ('√ ') in the column of the given response against the serial number of the statement.

NO	Statements	Exactly True	Nearly true	Neutral	Nearly false	Exactly false
1	I competently learn all subjects					
2	I am unable to study and comprehend my textbook as required.					
3	I believe that am faster in selecting important points from what I study					
4	I am unable to keep things in memory for long.					
5	I believe am able to do my project well					
6	I am unable to efficiently manage my study time.					
7	I plan how my teachers will assist me in my studies.					
8	I am unable to get the important information for my study.					
9	I cannot arrange for peer assistance whenever there is need					
10	I am unable aim higher					
11	I am able to discover solutions to problems I encounter in my studies					

12	I am unable to convey points well while attending exams					
13	I find it challenging to comprehend English well					
14	I am able to comprehend the content that have learnt well during examination					
15	Sometimes am unable to comprehend the content that have learnt.					
16	I can prepare my class notes neatly if taught					
17	When there are sundry chores I don't have to study well					
18	. I am unable to organize and get reading resources from relatives and neighbors.					
19	I have few friends who can be helpful in my studies.					
20	When teachers doubt my capability I am unable to show my abilities while learning in classroom setting.					
21	I am able to achieve my objectives in learning.					
22	It is difficult for me to answer essay questions appropriately					
23	I have difficulties in understanding when a teacher is teaching in class.					
24	I am able to acquire reading skills necessary in learning different subjects.					
25	After studying new ideas am able to reconnect them to previously learnt information.					
26	I can make good use of library materials for the study.					
27	I am able to observe time in preparing my seminars and assignments					

28	I believe I can compensate the loss of time well once I miss classes for some reasons					
29	I have not established a conducive and good relationship with my teachers.					
30	I am able to excel in a competitive examination.					
31	I have challenges in dealing with problems I encounter in my studies.					
32	I remain calm during times of exams because am aware of consciousness of ability to learn.					
33	Without the assistance from guidebooks and previous notes I can't complete homework by myself.					
34	I am handicapped in handling challenging circumstances in my studies.					
35	I can do any test without necessary being informed early.					
36	When am able to try I score good grades					
37	I am unable to answer correctly my teacher's questions.					
38	In short answer questions am unable to score					
39	I am unable to finish difficult tasks and problems in my study.					
40	Am able to answer twisted questions.					

Appendix E: Pro Forma Summary for Students' Examination Results

1. Name of the school……
2. Participants' admission number……....

Student's academic achievement in form three, in the year 2019

School Terms	Final Score	Mean Score
First Term		
Second Term		
Third Term		

Researcher's signature……Date……

Appendix D: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 339071

Date of Issue: 28/January/2022

RESEARCH LICENSE

This is to Certify that Ms.. kelly angeline of Kenyatta University, has been licensed to conduct research in Transnzoia on the topic: ACADEMIC RESILIENCE AND SELF-EFFICACY AS PREDICTORS OF ACADEMIC ACHIEVEMENT AMONG FORM THREE STUDENTS IN TRANS-NZOIA COUNTY, KENYA for the period ending : 28/January/2023.

License No: NACOSTI/P/22/15327

339071

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

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

Appendix E: Graduate S

KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

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

Our Ref: E55/CE/34418/2016

DATE: 30th November, 2021

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR KELLY ANGELINE REG. NO. E55/CE/34418/2016

I write to introduce Ms. Kelly Angeline who is a Postgraduate Student of this University. She is registered for M.Ed degree programme in the **Department of Educational Psychology.**

Ms. Kelly intends to conduct research for a M.Ed Project Proposal entitled, **"Academic Resilience and Self-Efficacy as Predictors of Academic Achievement among form three Students in Trans-Nzoia County, Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully 30 NOV 2021

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

EK/nn

School Authorization Letter

KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 30th November, 2021

TO: Kelly Angeline
C/o Educational Psychology Dept.

REF: E55/CE/34418/2016

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 29th November, 2021 approved your Research Project Proposal for the M.Ed Degree Entitled, **"Academic Resilience and Self-Efficacy as Predictors of Academic Achievement among Form Three Students in Trans-Nzoia County, Kenya".**

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

30 NOV 21

HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Educational Psychology Department.

Supervisors:

1. Dr. Anthony Ireri
C/o Department of Educational Psychology
Kenyatta University

HI/nn

Appendix F: Sample Size Determination Table

Table 3.1

Table for Determining Sample Size of a Known Population

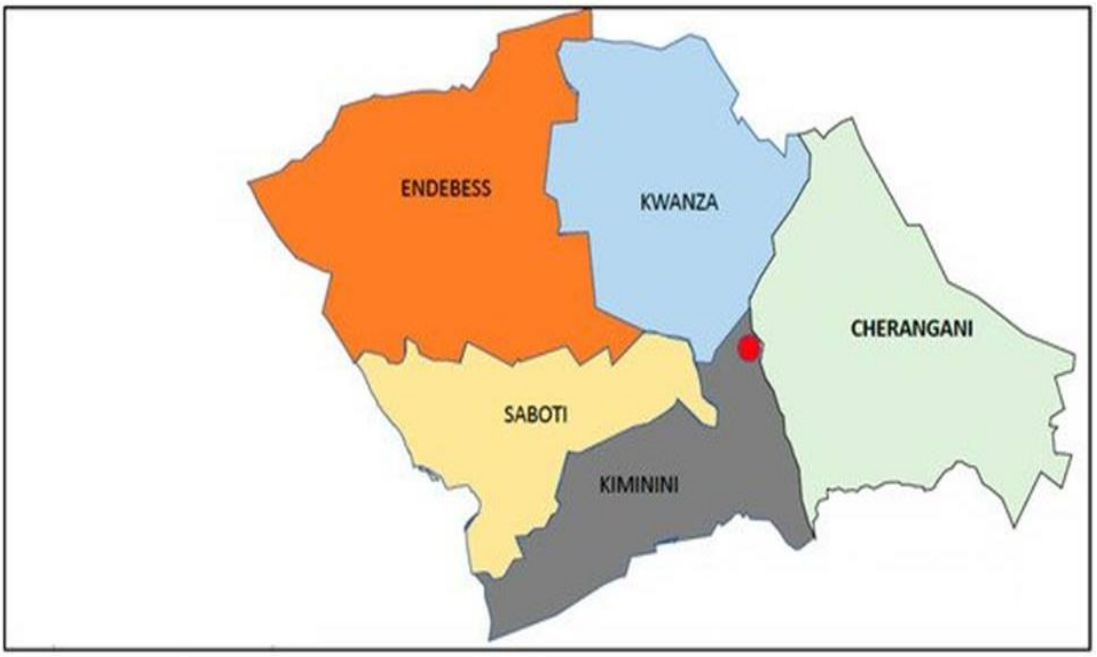
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	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 G: Performance for Sub Counties in Trans-Nzoia County

SUB COUNTY	2015		2016		2017		2018		2019	
Trans-Nzoia West	6.69.	C	4.12	C-	4.01	C-	3.92	D+	4.00	C-
Trans-Nzoia East	7.19	B	5.02	C	4.90	C-	4.00	C-	4.01	C-
Kwanza	6.00	C	4.71	C-	3.96	D+	3.90	D+	3.75	D+
Kiminini	**5.80**	**C**	**3.96**	**D+**	**3.13**	**D**	**2.98**	**D-**	**3.55**	**D**
Endebes	7.00	B	5.01	C-	3.32	D	3.30	D	3.50	D
County M/S	6.37	C	4.37	C-	3.91	D+	3.76	D+	4.00	C-
National mean	5.45	C	4.50	C-	3.72	D+	3.95	D+	4.01	C-

Appendix H: Map of Trans-Nzoia County



Source: **IEBC (2010)**