ACADEMIC ENGAGEMENT AND GRIT AS CORRELATES OF ACADEMIC BURNOUT AMONG FORM THREE STUDENTS IN NYANDARUA COUNTY, KENYA

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DECLARATION

I confirm that this research work is my own original work and has not been presented in any other university/institution for consideration. The thesis has been complimented by referenced works duly acknowledged. Where texts, data, graphics, pictures or tables have been borrowed from other works-including the internet, the sources are specifically accredited and references cited in accordance with anti-plagiarism regulations.

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Supervisor Declaration: This Research work has been submitted for appraisal with my approval as the University Supervisor

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DEDICATION

To my parents Stephen and Tabitha who introduced me to school, my wife Dorcas and my children Elvis, Ivy and Elsy for their tolerance and understanding throughout the period of my study.

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First, I would like to give thanks to the Almighty God for the gift of life. Writing this research work has been a special experience with many challenges. I am grateful to my Supervisor Dr. James Oluoch for continued and tireless intellectual assistance. I am indebted to my lecturers: Dr. Doyne Mugambi, Dr. Samwel Mutweleli, and Dr. Peter Mwaura just to mention a few, for their inspiration which continue to impact me positively.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

ABBREVIATIONS AND ACRONYMS

K.C.S.E -Kenya Certificate of Secondary Education

KICD -Kenya Institute of Curriculum Development

NACOSTI - National Commission for Science Technology and Innovation

SPSS - Statistical Package for Social Sciences

UWES-S - Utrecht Work Engagement Scale for Students

SCEO -Sub-county Education Office

ABSTRACT

Academic burnout is a condition that arises from students' feeling of exhaustion and incompetence in academics. The academic burnout might be due to multiple factors such as school assignments, continuous assessment tests among other examinations. These may lead to academic disinterest and students' unexplained absenteeism. This study intended to establish the relationship between academic engagement, grit and academic burnout among form three students in Kipipiri Sub-county in Nyandarua County, Kenya. Students experiencing academic burnout may face maladjustment that may seriously affect their academic path. Students in Nyandarua County secondary schools experience academic burnout. The aim of this study therefore, was to determine the relationship between academic engagement and academic burnout and to establish the relationship between academic grit and academic burnout. Further, the study sought to establish the prediction equation for academic burnout from academic engagement and academic grit. Work

engagement theory and grit theory were used to guide this study. Correlation research design was employed. Form three students were the target population 1,152 (572 boys and 580 girls) from 8 secondary schools in Kipipiri Sub-county. The sampling methods that were used in the study are purposive sampling, proportionate sampling and simple random sampling. The sample comprised of 349 participants from 8 secondary schools. Research tools used consisted of the Utrecht work engagement scale meant for students, academic grit scale and the academic burnout scale. A pilot study was carried out using 36 students selected randomly in one of the schools within Kipipiri Sub-county. To ascertain validity of the research instrument, the researcher presented them to expert (supervisors) for scrutiny**.** Cronbach's alpha coefficient was used to ascertain the reliability of the research instruments. Statistical Package for Social Science (SPSS version 25) was used to compute inferential and descriptive statistic. The study established that there exists a significant negative relationship between academic engagement and academic burnout. $r(345) = -.68$, $p < .05$. It was also established that there exists a negative and significant relationship between grit and academic burnout, suggesting that, the higher the academic grit, the lower the academic burn out and vice versa. , $r\ (345) = -.76$, $p < .05$. It was established that both grit and academic engagement had a joint negative and significant predictive value on academic burnout among form three students in Kipipiri Sub County. R obtained was 0.59 which suggests that 59% variance in academic burnout is explained by grit and academic engagement. The study recommends that teachers should come up with guidance programs and other more relevant interventions to help students boost their academic engagement and grit in order to reduce academic burnout.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

The researcher in regards to this chapter of the study, present the background as well as statement of the study. In addition the purpose and the objectives related to this study have also been included. Further, the research hypotheses, limitation and theoretical of the study are parts of this chapter. Finally the researcher has included the conceptual framework and the operational definition of terms.

1.2 Background to the Study

Worldwide, academic burnout is a major challenge in education as it affects motivation energy of students and deters them from fully engaging in academic work. Academic burnout refers to students' feeling of exhaustion emanating from study demands. Academic burnout leads to students feeling of a sense of academic incompetent, unwilling to do assignments and being pessimistic. Such feeling leads to students developing negative attitude towards learning and school related work (Cillier et al. 2017). Students experiencing academic burnout may have problem of maintaining attendances in classroom, low interest to participate in class activities, feeling of inadequacy in learning academic materials and increased school dropout (Maroco et al. 2020). In Italy for instance, Fiorilli et al. (2017) reported that academic burnout is more common among adolescent students with the symptoms of academic disengagement and exhaustion leading to higher academic procrastination and low performance in academics.

In Nigeria, Eseudu et al. (2019) reported that students with academic burnout exhibit characteristics of high emotional exhaustion and low academic efficacy that leads to academic disengagement. Similarly in Uganda, Kajjimu et al. (2021) reported that 54% of students pursuing medical clinical degree in selected universities had high academic exhaustion, low level of academic efficacy and high level of cynicism.

In Kenya, a study on academic burnout carried out among selected medical schools by Ogoma (2020), reported that many students in the field of medicine were much affected by academic burnout. Oyoo et al. (2020) indicated that academic burnout affect academic achievement negatively. In addition, Winga et al. (2016) found out that students with low academic performance have reduced academic efficacy, high academic exhaustion and disengagement.

Globally, studies that have been done have linked academic engagement with academic burnout. Academic engagement refers to positive and fulfilling state of mind manifested by vigor, absorption and dedication during studying activities. Srivastava et al. (2021) in India found out that academic engagement negatively correlates with academic burnout. In addition, academic engagement among students can be categorized in terms of high, moderate or low and each category affect students' academic burnout differently.

In Africa, Studies on academic engagement in relation to academic burnout have concentrated more on university students. Brittany et al. (2019) in Nigeria revealed that students in social work courses experienced high academic burnout due to high demand encountered during this course. Academic engagement was found to be having a negative relationship with academic burnout. Students with low academic burnout were reported to be having high academic vigor, dedication and absorption.

In Kenya, studies that correlate academic engagement and academic burnout are sparse. Most studies are on academic engagement and how it correlates with academic achievement (Sulum, 2018; Masila & Ireri, 2022). In Nyandarua County there are limited studies if any that have been carried out on academic engagement in relation to academic burnout. Therefore, this research was conducted with an aim of establishing the extent to which academic engagement correlates with academic burnout among students in public secondary schools in Kipipiri sub-county Nyandarua County in Kenya.

Academic burnout is associated with a number of factors. Among these factors is academic grit. Academic studies have shown that academic grit is a student psychological state and ability to maintain interest and persistent effort by constantly persevering in order to overcome setbacks and frustration experienced during learning activities with an aim of arriving at academic goal and success. Globally, studies on academic grit in relation to academic burnout have shown that academic grit act as a psychological construct for diminishing academic burnout (Kim, 2020).

Similarly, study conducted in South Africa by Jumat et al. (2020) established that academic grit in the dimension of consistent of interest is an important tool in mitigating academic burnout. Further, it was established that students with lower academic grit are prone to academic burnout compared to those with high academic grit. Hence, in attempt to deal with academic burnout among students, studies on academic enhanced effort and perseverance need to be intensified among secondary school students.

The academic grit in relation to academic burnout studies has received little attention in Kenyan context. Most of the available studies have correlated academic resilience and academic burnout. Academic resilience is an inherent characteristic of academic grit. Oyoo et al. (2018) reported that due to the problems of academic burnout preference in learning institutions in recent years,

academic resilience programs need to be reinforced for the students to gain skills that will help them battle academic burnout in academics. In Nyandarua County, there is dearth of studies that correlate academic engagement and grit with academic burnout. Therefore, due to limited attention given in this area of study in this county, the researcher sought to investigate whether academic engagement and grit had any relationship with academic burnout among students in form three in Kipipiri a sub-county in Nyandarua County, Kenya.

1.3 Statement of the Problem

Academic burnout is a students' feeling of frustration, mental exhaustion and lack of motivation towards academics activities. It may lead to reduced productivity and negative attitude towards learning and the school work. There are a number of studies on academic burnout and other related variables that have been studied in Kenya such as academic resilience, social support, learning environment but still academic burnout continue to be a major challenge in the educational setting. The persistency of this problem calls for further study on different variables that might account for academic burnout among students. Academic burnout is not an exception among learners studying in secondary schools in Kipipiri a sub-county in Nyandarua County. The low academic performance in this sub-county in comparison to other sub-counties of Nyandarua County may be attributed to academic burnout. Moreover, different studies that correlate academic engagement and academic grit on academic burnout are scarce in this county. These variables might act as inhibitors of academic burnout among study population. It is for this reason therefore, that the researcher carried out the current study to establish whether academic engagement and grit relate with academic burnout among learners in form three in Kipipiri a sub-county in Nyandarua County, Kenya.

1.4 Purpose of the Study

The current study purposed to examine whether academic engagement and academic grit relates with academic burnout among form three students in public secondary schools in Nyandarua County, Kenya.

1.5 Objectives of the Study

The following are the objectives that guided the study:

i. To determine the relationship between academic engagement and academic burnout among form three students in Kipipiri Sub-county.

ii. To establish the relationship between academic grit and academic burnout among form three students in Kipipiri Sub-county.

iii. To establish a prediction equation for academic burnout from academic engagement and academic grit among form three students in Kipipiri Sub-county

1.6 Research Hypotheses

The study explored the following hypothesis:

H_{a1}: There is a significant relationship between academic engagement and academic burnout among form three students in Kipipiri Sub-county.

H_{a2}: There is a significant relationship between academic grit and academic burnout among form three students in Kipipiri Sub-county.

H_{a3}: There is a significant prediction equation for academic burnout from academic engagement and academic grit among form three students in Kipipiri Sub-county.

1.7 Assumptions of the Study

The current study was grounded on the assumption that learners in form three are already experiencing academic burnout. Secondly, it was assumed that the respondents were to give responses that were sincere on the items in the questionnaires. Finally, this study made assumption that academic engagement and academic grit are present in the population of the study.

1.8 Limitations and Delimitations of the Study

1.8.1 Limitations of the Study

The researcher in the current study used questionnaires for data collection which relied on students' self-report. To some extent, this may have introduced certain degree of biasness in the findings of the study. In the effort to minimize this biasness, the researcher ensured every protocol required was followed to guarantee reliability of the findings. In addition, data was analyzed using correlational methods which limited the researcher from explaining results in term of cause-effect of variables. Finally, the study participants were students drawn from form three classes in Kipipiri a Sub-county within Nyandarua County. It is for this reason that the results which emanated from this research may only be applied to students of the same level.

1.8.2 Delimitations of the Study

The current research was done within the boundaries of Kipipiri Sub-county in Nyandarua County. Respondents were drawn from form three classes only. In addition, the study focused on two variables in relation to academic burnout that is academic grit and academic engagement out of numerous variables that may have related with academic burnout. Lastly the proposed study was bound to correlation research design out of many other research designs that could be employed.

1.9 Significance of the Study

This research may be of great significance to educational stakeholders for instance; Ministry of Education may use the information in this study to understand how academic burnout affects students psychologically and consequently their academics and propose mitigation measures. The findings from this research may also provide learners with insight in terms of how to avoid and even seek guidance especially when affected by academic burnout. Further, it may be useful to subject teachers in understanding consequences of overworking students without proper understanding of the concept of academic burnout. Finally, the proposed study may add to partly available literature in the major field of the study; academic engagement and academic grit in association to students' burnout in academic

1.10 Theoretical and Conceptual Framework

1.10.1 Theoretical Framework of the Study

This research was reinforced by two theories that is, the work engagement theory (Shaufeli et al. 2002) and grit theory (Duckworth et al. 2006) to examine academic engagement and academic grit variables respectively in relation to students' academic burnout.

(a) Work Engagement Theory, (Shaufeli et al. 2002)

According to work engagement theory by Shaufeli et al. (2002), the term engagement refers to positive attitude towards work. Shaufeli et al. (2002) proposed that in line with psychological point of view, activities that are done by students including attending classes are considered as work. This is in a sense that academic work is goal directed for instance to excel in examinations. Therefore, this theory proved to be important in describing the concept of academic engagement

in relation to academic burnout. Work engagement theory by Shaufeli et al. (2002) has engagement divided into three aspects namely, vigor, dedication and absorption.

Vigor as described in work engagement theory refers to increased energy that enable one to work for more hours without getting exhausted. Dedication refers to one being focused in work and being inspired to work even if facing challenges. On the other hand, absorption means one's ability to be engrossed in work to the extent of finding difficult to detach from it. In academic field, vigor in the current study referred to willingness of a student to exert effort in academic activities, and their persistence in the face of challenges during their studies. In addition, the study by the current researcher, hypothesized that learners with vigor would have low level of academic burnout as they would be believed to approach learning activities positively and with mental resilience. In addition, students with dedication are likely to be self- inspired and have a sense of enthusiasm for engaging in studies. Further, students with absorption are hypothesized to probably fully concentrate in their academic activities. Work engagement theory has been used in the field of education by other scholars to explain students' academic engagement for instance, Mae et al. (2022) used this theory to explain that students' academic engagement has a rewarding power towards better academic performance and alleviation of academic boredom and burnout. Generally, the current study assumes that academic engagement (vigor, dedication and absorption) would cushion students against academic burnout

(b) Grit Theory (Duckworth, 2006)

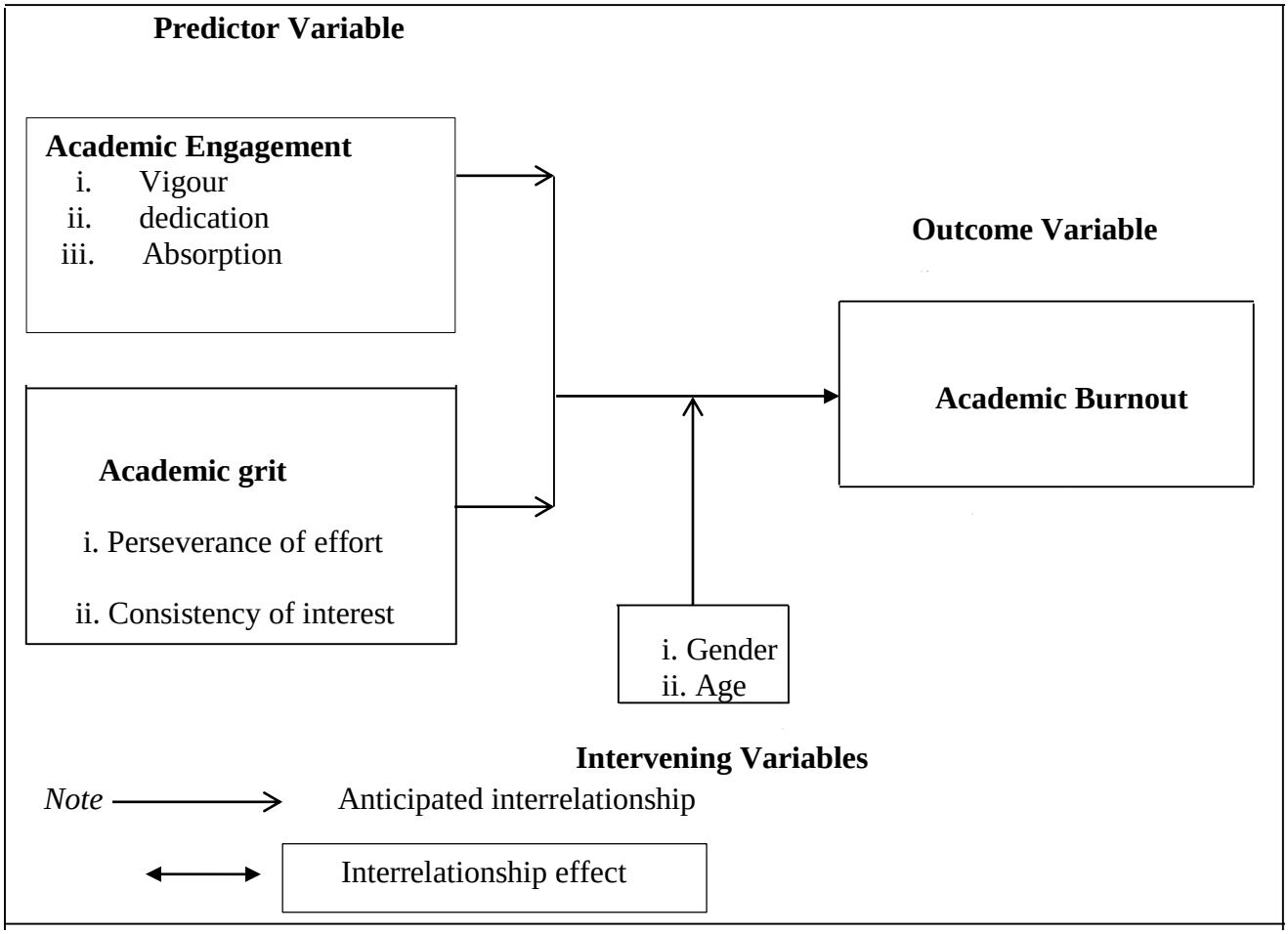
According to Duckworth (2006), grit theory explains why some people are successful while others fail or they are not successful. In grit theory, Duckworth discusses that success is not pegged on ability to learn faster nor does it depend on good luck, the physical fitness or intelligence quotient but instead, persistence, interest, ability to overcome setbacks and being aware that you are the

one who drives your own motivation. Therefore, based on this theory it was hypothesized that academic resilience, perseverance of effort in academics, consistence of academic interest all being the constructs of academic grit would help students to overcome the problem of academic burnout. Additionally, based on this theory it was argued that since low academic achievement can result from pressure to perform well in examinations, academic grit is an important resource to counteract academic burnout. Different researchers have used grit theory in explaining the concept of grit in academic context and its usefulness in helping students to attain their academic objectives despites facing academic setbacks for instance, Steinmayr et al. (2018) explained that grit is a personality construct that enables students to maintain interest and effort amid academic setbacks. Further using grit theory, it was discussed that students who have higher persistence effort and strong consistency of interest are regarded to be having higher power of learning and are less prone to academic burnout. Based on this theory the current researcher hypothesized that high academic grit would possibly compel students to demonstrate perseverance of effort and consistency of interest in their academics which would be important in cushioning them against academic burnout. On the other hand, students with low academic grit were more likely to show less effort and interest while engaging in academic activities which would expose them to academic burnout.

1.10.2 Conceptual Framework

The study variables and their anticipated relationships have been explained in this section

Figure 1.1: Conceptual Framework



Source: Researcher (2024)

The probable interrelationships among study variables anticipated in this study are in figure 1.1. Academic engagement and academic grit are predictor variables. The academic burnout is the outcome variable. Gender and age are moderating variables. It was hypothesized that academic engagement and academic grit relates to academic burnout. Further, age and gender differences in academic engagement and academic grit were likely to be realized.

1.11 Operational Definition of Terms

Absorption: It refers to the students' feeling of enjoyment and undivided attention while dealing with academic work as obtained from their score in the Utrecht work engagement scale for students (UWES-S).

Academic Burnout: Students' feeling of academic disengagement and academic exhaustion generated from the score from Oldenburg academic burnout scale.

Academic Engagement: Students' positive state of mind indicated by vigour, absorption and dedication as obtained from their total score in the Utrecht work engagement scale for students.

Academic Grit: Students' passionate interest and persistent effort in academic as generated from total score that was obtained in academic grit scale.

Consistency of interest: It is the degree at which students continually focus to achieve academic ambitions as from the score they obtained from academic grit scale.

Dedication: Refers to the students' feeling of enthusiasm and inspiration while engaging in academic activities as obtained from the score on UWES-S scale

Perseverance of effort: It is the students' ability to continue engaging in academic activities despite obstacles derived from the score from academic grit scale

Vigour: It is the ability of students to persist on academic work despite facing challenges from the score that was generated from the Utrecht work engagement scale for students (UWES-S)

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The literature reviewed on academic engagement and academic grit in relation to academic burnout has been presented in this chapter. Additionally, studies on prediction of academic burnout from academic engagement and academic grit have been discussed. The summary of the literature reviewed and gap identified has also been presented in this chapter.

2.2 The Relationship between Academic Engagement and Academic Burnout

In China Wang et al. (2021) did a study with an aim of finding out whether students' engagements in academic and psychological capital were predicted by academic burnout. Among the participants were the students pursuing nursing course in colleges. Cross-section descriptive survey design guided the study. The participants of the reviewed research were obtained by use of convenience a method of sampling. A total of 733 students were sampled by the researcher for the purpose of data gathering. Four instruments that were modified from Maslach academic burnout and academic engagement scale were applied for measuring academic burnout and academic engagement constructs respectively. Social demographic questionnaire was used to gather data on gender and age of students pursuing nursing course while psychological capital scale was used to gather data on psychological capital variables. From the analysed data, it was found that academic engagement and psychological capital had a negative association with academic burnout. However, this study used convenience sampling which is prone to biasness in selecting participants whereas the current study aimed to select the participants by the use of simple random sampling.

In a similar work of research in Turkey by Turabik et al. (2019) among students in different faculty in University, the researcher reported that academic engagement had negative relationship with academic burnout. The study was done using a sample size of 472 participants among them 149 male students and 323 female who volunteered to participate for the study. The age bracket for the sample participants was 18 – 42 in terms of years. The research used correlational survey design. Data on academic engagement was collected using students' academic engagement scale while that of burnout was collected by applying Maslach burnout scale. The researcher in attempt to identify the strength of relationship attached to students' academic engagement and burnout, the person correlation coefficient method of data analysis was used for that purpose. The result finding indicated that the correlation between the two variables was negative (r-.45, p=.01). However, the researcher in the reviewed study only included students who volunteered to participate for the research. The current study involved the participants who were sampled randomly.

Upadyaya et al. (2022) in Finland intended to determine the contribution of academic engagement on students' burnout in academic during covid 19 periods by conducting a study. The target students were those studying at university. The researcher used self-determination theory to guide the study. To obtain the participants to be involved in this work, the researcher utilized convenience sampling. The sample size of this study was 4,712 students. Data was collected in three phases that is in April, and December 2020 and April in year 2021. Online questionnaires were sent to the study participants whose responses were sent back to the researcher using the same method. To measure students' academic burnout and academic engagement the researcher adopted burnout and study engagement scales from Salmela-Aro and Read. Linear mixed model was utilized in analyzing the data. Analysed data indicated that academic burnout related negatively with academic burnout. However, the convenience sampling method utilized in the

foregoing reviewed literature can hinder generalization of the result finding. The present study used random sampling methods that are free from biasness when selecting sample participants.

In South Africa, Brittany at al. (2019) did a study with intent to establish the extent to which burnout and engagement in academic relates. The researcher study participants' were university students pursuing courses in the field of social work. The research was descriptive in terms of design. The population in terms of size of the sample was 43 students who were sampled using convenient sampling techniques. The academic burnout construct was measured using Maslach burnout survey scale while the levels of academic engagement that is vigor, absorption and dedication were measured using Utrecht work engagement scale. The result from the analysed data revealed that students who had low level of cynicism had high level of academic dedication and students with high efficacy had high level of academic vigor and absorption. However, the foregoing reviewed study used descriptive design that limits use of statistical test while making inferences but the current study employed correlational research design which permit making of statistical inferences.

In Ethiopia, Kassie and Alene (2017) sought to establish the relationship between academic engagements, locus of control, coping strategies, academic burnout on achievement in academic work. The research was done among students in Gondor University. The researcher utilized correlational survey design in establishing the relationship between variables studied. In addition, the researcher was interested in grouping the students on the basis of their gender and faculty therefore stratified techniques in sampling were used for that purpose. Further, the researcher wanted all the students who were interested in participating in the study to have fair chance for participation and therefore, simple random a method in sampling was deemed fit and later was applied. The reviewed research involved 500 learners during data gathering. Raw data was

gathered by administering self-report questionnaires to the sample participants that is the Maslach burnout and academic engagement scales to measure academic burnout and academic engagement variables respectively. Data collected was analyzed using varied statistical techniques that were suitable and appropriate for the study. The outcome from the analysed data indicated that the relationship that existed between learners' engagement in academics and that of burnout was a negative. However, this study was done among undergraduate students thus it was important to have another study to examine weather similar findings would be realized if academic engagement was correlated with academic burnout and when students in the level of secondary schools were involved.

A study by Kamal et al. (2021) was done to explore the extent to which students' academic engagement relates with academic burnout. The study participants were undergraduate students studying medical courses. Analytical cross-sectional design was used for the purpose of determining the association that existed between variable studied. Proportional sampling was utilized to cater for the appropriate number of learners that were sampled per the category that is from first year to fourth year level of education in Egypt. The sample size utilized in the study was 300 undergraduate students. Students' level in terms of engagement in learning was assessed by the researcher adopting the Utrecht work engagement survey meant for the students while Maslach burnout scale was used to measure students' academic burnout. The researcher used spearman rank method in correlation in determining the strength of relationship that existed among the studied variables. The finding revealed that academic engagement related negatively with students' academic burnout. However, the reviewed study utilized analytical cross-sectional design to gather data from the participants at university unlike in the current study where correlational design was

used in finding the extent to which academic engagement related with academic burnout with participants being learners in level of secondary school.

In Kenya, the study done by Kay and Wanjohi (2015) investigated academic burnout in relation to study engagement among students in selected universities. The researcher utilized cross sectional design whereas the sample involved for the purpose of gathering data was 105 students. Maslach academic burnout scale was adapted to help measure the levels of academic burnout that may have existed among the students. The construct of academic engagement was measured using work engagement scale. Methods of data correlation that were regarded to be appropriate by the researcher for the study were employed in analyzing the data that was collected. The result indicated that the variables that were under study related negatively. The researcher also was interested in finding the correlation that gender would have on academic burnout. It was revealed that female students had high academic burnout in comparison with male students. In addition, the researcher found that academic burnout coping strategies among them academic grit are important in dealing with academic stress and reduced motivation in academic engagement. The reviewed study was conducted using a sample from university students and hence prompting a need to involve students in secondary schools from Kipipiri Sub-county to establish the extent to which academic engagement correlate with academic burnout.

Masila (2022) in a study that was carried in Machokos County in Kenya, sought to establish the relationship between academic engagement, approaches used in learning and academic achievement. The reviewed work was anchored by engagement and socio-cognitive theories. The researcher used 417 students as a sample size. Self –report questionnaires were administered to the sample participants for data collection. The gathered information was coded and later proper

analysis was done. The outcomes from the current study under review revealed that learners who are engaged in academic perform better in academics. However, the foregoing study correlated academic engagement with academic achievement whereas the researcher in current study correlated academic engagement with academic burnout.

2.3 The Relationship between Academic Grit and Academic Burnout

Several researches have linked academic grit to academic burnout. Study conducted in Korea by Kim, (2020), revealed that academic grit in the dimension of perseverance of effort together with consistency of interest among high school students had negative relationship with academic burnout. This correlational study utilized a sample size of 573 students. Academic grit and academic burnout were measured using validated Korean self-report scales. Using structural equation modeling methods that were employed to analyse the data gathered, it was revealed that academic grit significantly and negatively correlated with academic burnout. Academic grit was reported to be a psychological construct with positive role of dealing with academic burnout. However, the reviewed study utilized students from developed country with different educational curriculum systems from the current study population therefore there was a need for study to be conducted in developing country to examine whether similar relationship would be realized in a different context.

In U.S, Reysen et al. (2021) did a study that aimed at determining the association that might have existed between grit, workaholic frequencies and entitlement in academic. These variables were studied in relation to burnout among university students. To select the study sample participants, the researcher used convenience sampling method where 113 students were selected. Data was collected by sending the questionnaires to students via email. The researcher adopted Copenhagen Burnout scale to measure students' academic burnout while academic grit construct was measured

using Duckworth grit scale that comprising of 12-Items. The data that were found after analysis revealed that academic grit correlate negatively with academic burnout. However, this study used convenience sampling that is likely to raise biasness in terms of participants' selection whereas the current study used random sample a method of sampling in selecting sample participants.

In another study by Lee and Kim (2022) descriptive survey design was utilized in finding out the degree to which available social support to learners would increase students' grit and also cushion them from developing academic burnout. The research sample participants were students pursuing nursing course at university. The researcher used convenience sampling to sample 158 participants. The study used Duckworth inventory scale that have 10 question on 7 likert scale to measure academic grit of the students. On the other hand, Maslach burnout scale was utilized to measure students' academic burnout. The researcher used Pearson's correlation coefficient in attempt to examine the levels to which grit and social support would relate with burnout. The outcome revealed that students' grit when correlated with burnout the result were negative. However, the researcher in the foregoing study used descriptive survey design while the current one used correlation research design in determining the relationship available among the construct of interest by the researcher.

Furthermore, Ozhan (2021) studied the responsibility attached to academic self-efficacy and grit in reducing burnout for the students at university level of education in Turkey. The research design of the study was correlational whereas the participants for the study were sampled conveniently using convenience sampling. The sampled students were 390 comprising of both female (307) and male (83) with an average age of between 18-40 years. The information collected was analysed through suitable procedure and techniques. The outcome from this reviewed study revealed that the correlation among academic self-efficacy and grit was indicated to be positive and on the same

it was significant. Contrarily, academic grit when correlated with academic burnout the researcher reported that the outcome was negative. The foregoing study used participants drawn from university with age limit of 18 and 40. This called for another study to be carried in secondary schools with an aim of establishing whether this result is applicable when it comes to students of different ages.

In South Africa, Merwe et al. (2020) studied burnout in relation to its protective factors to students at South Africa University. Resilience as an inherent construct of academic grit was correlated with academic burnout. The study utilized cross-sectional design. The study involved 500 students in medical school as a sample size. Gender of the students in terms of male and female was also examined in relation to resilience and academic burnout. The study made use of self-administered questionnaires for the purpose of collecting information from the participants. Data were analyzed by the help of descriptive methods. The researcher findings' revealed that the correlation was negative in relation to academic resilience and burnout. Male students had low academic burnout due to their high resilience in comparison to female student. In Kenya, documented literatures on academic grit in relation to academic burnout are scarce creating a gap that was intended to be filled by conducting the current study

Chukwunonye et al. (2020) in Nigeria studied academic grit, academic monitoring and their relationship to academic success among undergraduate students. The employed design was correlational which was utilized to examine the relationship that was available among the variables studied. The study also used probabilistic sampling method to obtain 203 sample participants that were used in data collection. The researcher employed academic grit and academic success questionnaires for the purpose of gathering the information from the respondents. Data collected was analysed using different method of data analysis including

multiple regression analysis. The result indicated that academic grit related positively with academic success and negatively with parental monitoring. The reviewed study correlated academic grit with academic success whereas the current study intended to establish the correlation that existed among academic grit and academic burnout variables.

In Kenya, there are sparse studies that correlate academic grit with academic burnout. However, the importance of academic grit can be inferred from the study carried out among Kenyan students who have migrated to United States of America for their studies. For instance, Ndolo (2018) did a study on grit in relation to general life success among Kenyan immigrant in United State. This reviewed study adapted qualitative design. The sample comprised of Kenyans who had completed education and therefore, sampling method was purposive. Interview method through audio recording aided in gathering data from the target respondents. The outcome revealed that most of the respondents had experienced academic setbacks and academic grit helped them to cope with these challenges. However, the study was carried among Kenyan immigrant in United State. In addition, the study used interview as a data collection method and which is prune to subjectivity and biasness. The current study used self-report questionnaires which are easy to code and analyse statistically thus reducing the subjectivity.

Scripa (2022) using correlation research design did a study in Bungoma County in Kenya to establish the extent at which academic grit and alternative care setting variables correlate with academic achievement among street children. The researcher using convenience method of sampling obtained a sample size of 72 participants. The researcher used grit scale which was first translated into Kiswahili language before data collection was done. Data on academic achievement was obtained by the researcher analyzing the academic documents which were obtained from students' school head teachers. The alternative care setting data was collected using living

arrangement questionnaires. The hypotheses that were formulated in the research were tested and the findings interpreted. It indicated that street children who were having academic grit had improved academic achievement. However, the reviewed study correlated academic grit with academic achievement. The current study correlated academic grit with academic burnout among secondary school students.

2.4 Prediction Equation for Academic Burnout from Academic Engagement and Academic Grit

Researches have been carried out on interrelationship among academic engagement, academic grit and academic burnout but not all have correlated all these variables in the same study but inferences can still be made. In China, Nussbeck et al. (2021) did a study with intent to find out whether academic grit, academic engagement and academic achievement relate with academic burnout. The study involved high school students as participants. The sample size comprised of 1,527 both male and female students with age range of 15-19 years. Chinese academic grit scale was used to measure academic grit construct, emotional exhaustion was measured using a sub-scale of academic burnout scale. Conversely, academic engagement construct of the learners was determined by the researcher through use of Utrecht work engagement questionnaires. The finding from the data which was later analysed showed that the sub-domain of academic grit that is consistency of interest together with perseverance of effort gave a positive relationship but when correlated with burnout they depicted a negative relationship. However, the study was conducted in a different geographical setting and cultural context. Therefore, there was a need to have another research in Kenya to allow cross cultural comparison of results.

Fabelico and Afalla (2020) in Philippines sought to determine the interrelationships among grit, self-efficacy and burnout on teachers' performance. The said research was conducted using

descriptive correlational design. This study was carried among teachers in State University who also participated as a sample for the study and therefore, the researcher used Maslach academic burnout a tool that was meant for collecting information regarding to teachers' level of burnout. The teachers' academic grit and self –efficacy was assessed using the short grit scale developed by Duckworth and a Norwegian academic self-efficacy scale respectively. The gathered information was analysed through use of appropriate methods and the meaning of the values achieved were interpreted by the researcher. It was indicated that academic self-efficacy correlated positively with grit and teachers work performance. Further, this study revealed that academic grit and burnout correlated negatively. However, the researcher in the foregoing reviewed study utilized teachers as sample participants and did not include academic engagement among the variables studied. The current study used secondary school students as sample participants in determining whether there are interrelationships between academic burnout, grit and academic engagement variables.

In South Korea, Lee and Jeon (2022) did study that sought to determine the association that exist between academic grit, academic engagement, learning agility and burnout attached to academic. The research was carried among undergraduate students pursuing different courses. The survey design used was Cross-sectional. This was used in determining the relationship among the study variables. The participants sample size was 344 students who were at average age of 21.43 and were from first-year to fourth-year level of education. Data collection was done by students filling self-report questionnaires. Academic grit, burnout and engagement constructs were assessed through the aid of academic grit scale developed by Duckworth, Maslach inventory and learners' engagement scales respectively. Among data analysis methods used was *F* test for ANOVA. The

study finding indicated that academic burnout correlated negatively with academic engagement and academic grit (r= -37,p=.001.

In South Africa, Mason (2021) used mixed method design to explore the intensity to which academic grit related with academic engagement and academic wellbeing. The target population was 405 university students with a sample size of 18 students. Data on academic grit and academic wellbeing was collected using interview method and analysed using thematic analysis. Further, multiple regression of data analysis was used to analyse data on academic grit, academic engagement in relation to academic wellbeing. The findings from analysed data indicated that students with high academic grit reported high academic engagement. In addition, academic grit and academic engagement were positively related to better problem solving and self-worth which are part of academic burnout coping strategies. The reviewed study utilized a sample size of 18 students which was too small to draw generalization on a different population. The current study utilized a relatively larger sample to allow comparison of the findings.

In Kenya, Adhiambo (2017) used coping styles, engagements and burnout in academic constructs to determine their interrelationship. The participants that the researcher used to gather the data were students in high school level of education. The study utilized work engagement theory and the design was descriptive. Students from two classes that are form one and form four made the sample of the study and therefore a total of 900 learners were involved. The study used self-report questionnaires to gather data from the participants. Descriptive as well as inferential are among the methods in statistics that were used in data analysis. Academic engagement indicators in the study were vigor, dedication and absorption while academic burnout indicators were exhaustion, cynicism and efficacy. Further, methods of coping in the study were emotion and problem focused coping styles. The outcome from the analysed data revealed that academic engagement in terms

of absorption and dedication were positive in regards to their relationship with high efficacy and negatively related in regards to their relationship with exhaustion and cynicism. However, the study was carried among learners who were at different classes contrary to current research where the participants involved were sourced from one class who might be having similar educational experiences.

Oyoo (2018) in Homa-Bay County did a study among secondary school students with an intention of determining the predictors of academic burnout and how they relate with achievement in line with academic. Resilience, social support and motivation were the constructs that the researcher correlated with burnout that is attached to academics. The researcher used correlational design to guide the study and a sample size of 714 students. In order to be guaranteed sufficient information in terms of data from the respondents, the study made use of questionnaires in terms of self-reports. Suitable methods and techniques that are used for the purpose of data analysis were employed to have meaningful interpretation of the data. The findings from the analysed data indicated that academic burnout had negative relationship with academic resilience, social support and academic motivation. The current study was carried to establish the interrelationship between academic engagements, grit and burnout in academic.

2.5 Summary of Literature Review and Gaps Identification

The literature reviewed in connection with this chapter related academic engagement, academic grit and academic burnout. Studies reviewed on academic engagement in relation to academic burnout established that the relationship was negative and significant. Considering that most of the studies were done among university students in western countries, this informed the need to conduct a study among high school students in order to add documented literature on the domain of academic engagement in correlation with academic burnout.

Further, literature reviewed in relation to academic grit and academic burnout, academic grit has been reported to relate negatively with academic burnout. In addition, literature reviewed on the relationship between academic grit and academic burnout, academic grit has been shown to be a psychological factor powerful for eliminating academic burnout among students. Despite these, there is scarcity of studies that correlate academic grit with academic burnout in Kenyan context. Finally, literature reviewed on the prediction of academic burnout from academic engagement and academic grit indicates that academic engagement and academic grit have positive significant relationship but they relate negatively with academic burnout. However, there is limited literature on interrelationship of these three variables in a single study. The study therefore, aimed at establishing the association available between academic engagement, academic grit and academic burnout in Kipipiri Sub-county of Nyandarua in Kenya

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The research methods that the researcher used in the study are detailed in this chapter. This includes design as well as methodology. Other methods in this chapter include variables and location of the study. In addition, target population has been presented together with sampling techniques and sample size as part of this chapter. The chapter further discusses the research instruments and their reliability as well as validity. Data collection and their analysis methods also make part of this chapter. Finally, the Logistical and issues related to ethical are also addressed in this section.

3.2 Research Design

The researcher in this study was guided by the correlational design in determining the relationship available among academic engagement, academic grit and academic burnout. The design is deemed appropriate as it enable the researcher to establish the degree to which variables under study are related. This can be done without manipulating them (Frankel et al. 2015). Therefore, this design was used to reveal the degree of association between academic engagement, academic grit and academic burnout.

3.3 Research Methodology

Quantitative techniques were used in this study. According to Muhammad (2016), quantitative research techniques are good in producing results that are not complicated. It produces results that are easy to compare and generalizable. Therefore, simple random sampling in conjunction with

self-report questionnaires was used. In addition quantitative data were analyzed and interpreted using appropriate statistical data analysis methods.

3.4 Variables of the Study

The research involved two predictor variables namely, academic engagement and academic grit. The indicators for academic engagement variable were vigor, dedication and absorption while those for academic grit comprised of perseverance of effort as well as consistency of interest. In addition, the outcome variable was academic burnout. Both predictor variables and outcome variable were measured at interval level of measurement. Gender and age were the moderating variables that were assessed at nominal scale.

3.5 Location of the Study

The locale of the study was Kipipiri Sub-County in Nyandarua County, Kenya. Kipipiri Sub-County was the main focus out of the seven sub-counties. This is due to its consistent poor academic achievement compared to other sub-counties of Nyandarua County as shown in appendix C. The source of low academic achievement in this sub-county may be attributed to many factors among them leadership style adopted by school principals (Gichohi, 2021), students attitude, (Mwihia, 2020), students' social-economic background (Kagigi, 2020). Numerous researches have been done in regards to these factors. However, little seem to have been done on academic burnout which results from pressure to achieve good grades among students by teachers in the final examination without factoring in coping resources such as academic engagement and academic grit. The proposed study therefore, was carried out focusing on these constructs more so on how they may relate to mitigate academic burnout.

3.6 Target Population

The study target population was 1,152 (564 boys and 588 girls) form three students in Kipipiri Sub-County, Nyandarua County. Data obtained from Kipipiri Sub-county education office (SCEO) year 2022, indicated that there are 2 boys' boarding schools with 110 students' whom were form three students, 2 girls boarding schools with a population of 126 form three students, 14 mixed day schools with 630 form three students and 6 mixed boarding schools with a population of 282 form three students. Form three students were selected because a lot of focus is put on these students as a pre-candidate class which may have led to academic pressure that may result to academic burnout. The form one and two classes were not appropriate to be included in this study because their experience in secondary school was relatively new. On the other hand, the form four students were busy revising for their K.C.S.E examination and therefore, they had limited time to participate in filling the research questionnaires.

3.7 Sampling Techniques and Sample Size Determination

3.7.1 Sampling Techniques

A number of sampling methods were utilized in this study. That is purposive, proportionate and simple random. In choosing Kipipiri Sub-county, the researcher was helped by Purposive sampling because of low academic achievement experienced in this sub-county as shown in appendix C. The researcher hypothesizes that the low academic achievement is attributed to students' academic burnout. Also, purposive sampling was utilized for the purpose of selecting students from form three classes. This is because they were more likely to be affected by academic burnout due to academic pressure as the next candidate class and they were expected to score good grades in their final examination. Proportionate sampling was used to guide in determining appropriate number of schools per category that would participate in the study. Using proportional sampling, 1 boys'

boarding and 1 girls' boarding school were sampled. Also, 4 mixed day and 2 mixed boarding schools were sampled. Lottery method was used to select these schools in order eliminate bias. Simple random sampling procedures were used in coming up with the students that were expected to be involved in filling questionnaires.

3.7.2 Sample Size Determination

The researcher was required to have suitable number of students that would make the sample for the research. To achieve this, the researcher used Morgan and Krejcie (1970) sample size determination table shown in appendix F. From the table, a population of 1,152 produces a sample size of 291. This is equal to 11% of the total population which is appropriate in accordance with recommendation that was made by Gorard (2003). The recommendation was that a sample that is more than 10% of the total population is ideal to be used in any particular study. To cater for the non-response participants in this study, the researcher added 58 students which were 20% of the actual sample size (291). This was in line with Draugalis et al. (2008) who recommends that a sample size of 10% to 20% should be added to the exact sample size to cater for the participants who may not be present during collection of data. Therefore, a sample of 349 respondents was regarded to be suitable by the researcher.

According to Kothari (2019) a sample size of 10% or above is ideal to cater for the representativeness of the whole population. Therefore, 8(32%) secondary schools in Kipipiri Sub-County were sampled. Sample size per school category and students in each category of school was determined by use of Kish (1965) proportionate sampling formula ($^{n1}/_{N}\ x$ n). In this formula *n1* is the size of the population of the specific category, *N* is the population in term of total and the *n* is size of the sample. The table that is labeled 3.1 was given to summarize this explanation as follows:

Table 3.1

Sampling Frame

School Category in each	No of Schools of Category	Sample size per Category Schools	Size of the Population Students	Sample Size of
Boys boarding	2	1	110	33
Girls boarding	2	1	126	38
Mixed day	14	4	508	154
Mixed day boarding	6	2	409	124
Total	24	8	1,152	349

Source: Researcher (2022)

Table 3.1 shows 1 boy's (33 participants) and 1 girls' (38 participants) boarding schools were sampled. Four mixed day secondary schools with 154 participants were also sampled. Further, two mixed boarding secondary schools with 124 participants were also sampled for the study. Eight secondary schools were chosen with a population of 349 respondents.

3.8 Research Instruments

The current study adapted three questionnaires: The Utrecht work engagement scale meant for students Shaufeli et al. (2006), the academic grit scale Malecki and Clark, (2017) and Oldenburg burnout academic scale (Demerouti et al. 2003). Below is a brief description of the adapted scales.

3.8.1 The Utrecht Work Engagement Scale for Students (Shaufeli et al., 2006)

The Utrecht work engagement scale for students (Shaufeli et al. 2006; UWES-S) was adapted to measure academic engagement. The permission to use the scale was sought from the author who consented. Vigour, absorption, and dedication are three subscale contained in the Utrecht work engagement scale. The scale has an internal reliability of .84. The subscale internal reliability is

.73, .70 and .76 respectively. The scale is rated on 5-point likert scale that range from 1= never to 5= always. This scale score ranged from 9 to 45. A score between 9-15 indicated low academic engagement while a score of between 16 to 30 indicated moderate academic engagement. Lastly, a score of between 31 to 45 indicated high academic engagement. The summation of the score for all items in this scale was regarded as students' score. The scale is shown in appendix B section II. The permission to use this scale is in appendix G.

3.8.2 The Academic Grit Scale (Malecki and Clark, 2017)

To determine students' academic grit, the researcher adapted Malecki and Clark, (2017) academic grit scale. The authority to utilize this scale was sought and granted by the author. The scale has ten items. They are on likert scale ranging from 1= *not at all like me* to 5= *very much like me* and target adolescent students. It is for this reason the scale was appropriate to be used among students in secondary schools. The scale has an internal reliability of .92. The scores ranged between 10 and 50. Scores between 10 to16 was regarded as high academic grit; scores between 17 to 32 was moderate academic grit while the score ranging between 33 to 50 was regarded as low academic grit. The scale is shown in appendix B, section III. The permission to use the scale is in appendix G

3.8.3 The Oldenburg Academic Burnout Scale (Demerouti et al. 2003)

Oldenburg academic burnout survey by Demerouti et al. (2003) was adopted for this study. It contains 16 items. These items are on 4 points of likert scale and range from 1= strongly agree to 4=strongly disagree. The four point likert scale was used in scoring, with strongly agree scoring being 1 to strongly disagree scoring being 4. The researcher reversed the item number 2, 3, 4, 6, 8, 9, 11 and 12 as per the author of scale recommendations. Scores ranged between 16 and 64.

Score between 16 to 32 pointed low academic burnout while that of between 33 to 64 was an indicator of high academic burnout. This scale is shown in appendix B, section IV.

3.9 Pilot Study

Pilot study was carried out before the actual research. It was done among 36 students (21boys and 15 girls). The respondents were form three students in one of the mixed day secondary school which was randomly chosen in the locale. The pilot study sample size was informed by Connelly (2015) who recommended that 10% pilot sample is appropriate. The analysed result of the pilot aided the researcher in assessing the suitability of research instruments. The participating students during the pilot study were asked to mention items in the questionnaires that they did not comprehend. This also aided the researcher in refining them. In addition, carrying out pilot research was crucial for it improved the researcher ability in figuring out the suitability of research instruments on the bases of their validity and reliability. Further, the methods of data analysis chosen were confirmed to be suitable using the pilot data. Finally, the school where pilot data was collected was not included during final data collection.

3.9.1 Validity of Research Instruments

Content validity was ascertained by consulting an expert in this case the researcher consulted the supervisors who scrutinized the instruments to ascertain their validity. This was in accordance with Taherdoost (2016) who proposed that experts in an area of assessment are important and can help to assess the validity of research instruments. Errors that were noticed were rectified before the actual data collection.

3.9.2 Reliability of Research Instruments

Internal consistency reliability of the adopted tools of measurement was verified by administering these tools to 36 students during pilot study. In addition, Cronbach's alpha coefficient (α) was taken to be fit in determining the correlation of items in the rating scale.

Table 3. 2

Reliability Coefficients

Scale	No. Items	A (Authors)	A (Pilot)
Work Engagement Scale for Students	9	.84	.81
Academic Grit Scale	10	.92	.86
Academic Burnout Scale	16	-	.78

Note: N= 36

Cronbach Alpha coefficient was used to assess the reliability of the research instruments. For work engagement scale, a reliability coefficient of .81 was obtained and the authors obtained a reliability coefficient of .84. The authors of academic grit scale obtained a reliability coefficient of .92 and in the pilot study a reliability coefficient of .86 was obtained. A reliability coefficient of .78 was obtained for the academic burnout scale. All the reliability coefficients were greater than .70 and therefore acceptable as recommended by Beyaztas and Şahin (2018).

3.10 Data Collection Procedure

Sampled schools were visited by the researcher in advance. The advantages of prior visit were that the researcher introduced self to the principals in attempt to create rapport with them. In addition, prior visit helped the researcher and the administrators from chosen school in setting up appropriate days for data collection.

Briefing of participants was done before data collection in order to make instructions clear. The researcher after agreeing with class teacher administered the questionnaires to the participants. After briefing, students were given 45 minutes to respond to research questionnaires. To ensure the confidentiality, the collection of the filled questionnaires was done by the researcher. Finally, the researcher thanked the participants for taking part in data collection.

3.11 Data Analysis

The quantitative data that was collected was later analysed through use of Statistical Package for Social Science (SPSS) version 25. Demographic data that is gender and age was analyzed using appropriate descriptive statistics that included percentages, graphs presentations, frequency distribution among others. Appropriate inferential statistics was used to test the following null hypothesis at $\alpha = .05$

H_{01}: There is no significant relationship between academic engagement and academic burnout.
Statistical test: Pearson's product Moment Correlation Coefficient.

H_{02}: There is no significant relationship between academic grit and academic burnout.
Statistical test: Pearson's Product Moment Correlation Coefficient.

H_{03}: There is no significant equation for predicting academic burnout from academic engagement and academic grit. Statistical test: Multiple regression analysis.

3.12 Logistical and Ethical Considerations

3.12.1 Logistical Considerations

First, the researcher sought authorization from Kenyatta University Graduate School to carry out the study. Thereafter, research authorization was sought from National Commission for Science, Technology and Innovation (NACOSTI). Further, permission sought from County Director of Education Nyandarua County office and later from Kipipiri sub-county education office. Finally,

the researcher made prior visit to the selected schools to familiarize self, seek permission and organize for data collection with the school administrators.

3.12.2 Ethical Considerations

Respondents were explained by the researcher before involving them on actual data collection the reasons for them participating in the study and the benefit that was accrued to it. They were them made to know that their involvement on data collection was out of free will and in case one felt uncomfortable there was in liberty to pull out. Students willing to participate signed a consent form. Further, anonymous codes were given to participants to ensure confidentiality.

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This part of chapter four carries the findings in respect to the objectives of this study. The chapter is organized in sections starting with general as well as demographic information. The other part includes the findings from the academic engagement on how it relates with academic burnout and the finding from academic grit in relation to academic burnout. Finally, the finding of the prediction of academic burnout from academic engagement and grit has been presented.

4.2 General and Demographic Information

The researcher administered 349 questionnaires to students from boys boarding, girls boarding, mixed day, and mixed day and boarding schools. The outcomes from respondent rate of return are presented in table that is labeled 4.1.

Table 4.1

Respondents Return Rate

		QA	QR
	Boys Boarding	33	33(100%)
	Girls Boarding	38	38(100%)
	Mixed Day	154	152(98.7%)
	Mixed day and Boarding	124	122(98.4%)
Total		349	345(98.9%)

Note. QA – Questionnaires administered; QR- – Questionnaires returned; (%) Return rate

Out of the 349 questionnaires administered, 345 were returned giving a return rate of 98.9%. The boys' boarding and girls' boarding schools had each a return rate of 100%, while mixed day schools had a return rate of 98.7%. Mixed day and boarding schools had a return rate of 98.4%. The overall return rate of 98.9% for the questionnaires was considered appropriate for data analysis because it was greater than 70% as recommended by Kothari and Gang (2014).

The demographic information of the students consisted of gender and age as presented in the table indicated 4.2.

Table 4.2

Age and Gender of the Respondents

		Gender		Total
		Male	Female	
Age bracket	14-17	108(31%)	114(33%)	222(64%)
	18-21	46(13%)	46(13%)	92(27%)
	22 Above	10(3%)	21(6%)	31(9%)
Total		164(48%)	181(52%)	345(98.9%)

Note: N= 345

In terms of gender, majority of the respondents (52%) were female while male respondents were 48%. In terms of age, most of the respondents (64%) were aged between 14-17 years, then they were followed by those between age 18-21 at 27%, and lastly those aged 22 and above at 9%.

4.3 Findings on the Relationship between Academic Engagement and Academic Burnout

The findings in this part were based on the first objective that sought to determine the relationship between academic engagement and academic burnout. This relationship was determined by carrying out the following tests.

4.3.1 Descriptive Statistics of Academic Engagement

The researcher obtained descriptive statistics of academic engagement to determine the minimum and the maximum scores, the range, mean as well as standard deviation and the coefficient of skewness together with kurtosis coefficient. The results are indicated in the table labeled 4.3.

Table 4.3

Descriptive Statistics of Academic Engagement

	N	Range	*Min*	*Max*	*M*	*SD*	*Sk*	*Kur*
Academic Engagement	345	34.00	9.00	43.00	28.93	5.49	-.27	.70

Note. $N = 345$

The minimum score was 9 whereas the maximum score was 43 which gave range of 34. The mean score stood at 28.93 with a standard deviation of 5.49. Normality was assessed using the coefficients of skewness and kurtosis, $Sk = -.27$, $Kur = .70$ and the assumption was met. The skewness values were below 2 and kurtosis values below 3, indicating normal distribution of the scores (Bono et al., 2020). The coefficient of skewness was -.27 indicating that academic engagement scores were negligibly skewed. The kurtosis coefficient was .70 indicating a platykurtic distribution. This suggests that few students had extreme low and high academic engagement.

Academic engagement by gender was obtained through use of descriptive statistics to determine if gender differences existed. The outcomes are shown in table labeled 4.4.

Table 4.4

Descriptive Statistics of Academic Engagement by Gender

Gender	*N*	*Min*	*Max*	Range	*M*	*SD*
Male	164	9.00	43.00	34.00	29.46	5.39
Female	181	9.00	43.00	34.00	28.35	5.57
Total	345	9.00	43.00	34.00	28.93	5.49

Note. $N = 345$

The male students obtained minimum and maximum scores of 9.00 and 43 respectively giving a range of 34, a mean score of 29.46, and a standard deviation of 5.39. The female students also obtained a minimum score of 9.00, a maximum of 43.00 giving a range of 34, which were same as those of the female students. The female however had a mean score of 28.35 with a standard deviation of 5.57. This shows that the male students did better than their female counterparts when it comes to engagement in academic.

The descriptive statistics of academic engagement by school type were also obtained and the outcomes are given in table indicated 4.5.

Table 4.5

Descriptive Statistics of Academic Engagement by School Type

Type of school	*N*	Min	Max	Range	*M*	*SD*
Boys Boarding	33	15.00	38.00	23.00	29.29	5.47
Girls Boarding	38	15.00	37.00	22.00	29.15	6.01
Mixed Day	152	9.00	42.00	33.00	28.13	5.17
Mixed day and boarding	122	9.00	43.00	34.00	27.28	5.73

Note. $N = 345$

The boys' boarding schools obtained the highest mean score of 29.29 with a standard deviation of 5.47. Their minimum and maximum scores were 15.00 and 38.00 respectively, giving a range of 23. The girls' boarding schools followed with a mean score of 29.15 with a standard deviation of 6.01. Their minimum score was 15.00 while the maximum was 37.00, giving a range of 22. The mixed day schools followed with a mean score of 28.13 with a standard deviation of 5.17. Their minimum score was 9.00 while the maximum was 42.00, giving a range of 33. The least mean score was obtained by mixed day and boarding schools with a mean score of 27.28 with a standard deviation of 5.73. Their minimum score was 9.00 while the maximum was 43.00, giving a range of 34. This reveals that most students had moderate academic engagement irrespective of their type of school.

Academic engagement by age was obtained using descriptive statistics. The findings are shown in the table indicated 4.6.

Table 4.6

Descriptive Statistics of Academic Engagement by Age

Age Bracket	*N*	Min	Max	Range	*M*	*SD*
14-17	222	9.00	43.00	34.00	28.31	5.43
18-21	92	15.00	43.00	28.00	29.84	5.08
22 Above	31	9.00	42.00	33.00	30.61	6.55
Total	345	9.00	43.00	34.00	28.93	5.49

Note. $N = 345$

Those aged 22 years and above obtained the highest mean score of 30.61 while their standard deviation was 6.55. They also obtained minimum and maximum score of 9.00 and 42.00 respectively that give a range of 33. Those aged between 18-21 years were next obtaining a mean score of 29.84 with a standard deviation of 5.08. Their minimum score was 15.00 while the maximum was 43.00, giving a range of 28. The youngest who were between 14-17 years obtained the lowest mean score of 28.31 with a standard deviation of 5.43. Their minimum score was 9.00 and 43.00 respectively which give a range of 34.

The descriptive statistics of academic engagement by sub domains were also obtained. The table indicated 4.7 have given the outcome.

Table 4.7

Descriptive Statistics of Academic Engagement Sub Scales

	N	Range	Min	Max	*M*	*SD*
Academic Vigor	345	12.00	3.00	15.00	10.89	2.79
Academic Dedication	345	12.00	3.00	15.00	9.32	2.23
Academic Absorption	345	12.00	3.00	15.00	8.84	2.55

Note. $N = 345$

The sub scale of academic vigor recorded the highest mean score of 10.89 with a standard deviation of 2.79. The subdomain had a minimum score of 3 and a maximum score of 15, giving a range of 12. The subdomain of dedication recorded a mean score of 9.32 with a standard deviation of 2.23. The subdomain had a minimum score of 3 and a maximum of 15, giving a range of 12, all similar to those of the vigor subdomain. The mean score on academic absorption was 8.84 with a standard deviation of 2.55. The minimum score was 3 and maximum score was 15 with a range of 12.

The scores for academic engagement among the students were categorized into low, moderate, and high. A score between 9 and 15 indicated low academic engagement while a score of between 16 and 30 indicated moderate academic engagement. Lastly, a score of between 31 and 45 indicated high academic engagement. The frequencies of these levels of academic engagement were obtained and the results are given by the table labeled 4.8.

Table 4.8

Levels of Academic Engagement among the Students Based On the Scores of Academic Engagement

	Frequency	Percent
Low	8	2.3
Moderate	223	64.6
High	114	33.0
Total	345	100.0

Note: N= 345

A majority of the respondents had moderate academic engagement represented by 64.6%, followed by those with high academic engagement at 33%, then those with low academic engagement at 2.3%.

The frequencies of the levels of academic engagement were also obtained by gender. The outcomes are given in the shown table indicated 4.9.

Table 4.9

Levels of Academic Engagement among Students by Gender Based On the Scores of General Academic Engagement

Level of Academic Engagement		Gender		Total
		Male	Female	
	Low	4(1.2%)	4(1.2%)	8(2.4%)
	Moderate	111(32.2%)	112(32.5%)	223(64.6%)
	High	49(14.2%)	65(18.8%)	114(33%)
Total		164(47.5%)	181(52.5%)	345(100%)

Note: N= 345

On the moderate level category, the male and female students were at par with 32.2% and 32.5% respectively, a negligible difference of 0.3%. On the high level category, the female students dominated with a representation of 18.8% with the male students recording a representation of 14.2%. The low level category had both female and male students recording a paltry 1.2% each.

The outcome variable of this research was academic burnout. The scores of academic burnout were analysed using descriptive statistics. The table indicated 4.10 was given to summarize the outcome.

Table 4.10

Descriptive Statistics of Academic Burnout

	N	Range	Min	Max	*M*	*SD*	*Sk*	*Kur*

Academic Burnout	345	31.00	29.00	60.00	40.93	4.05	.41	1.66

Note. N = 345

The minimum score was 29.00 while the maximum score was 60.00 giving a range of 31.00. The mean score stood at 40.93 with a standard deviation of 4.05. Normality was assessed by using the coefficients of skewness and kurtosis, Sk = -.41, Kur = 1.66 and the assumption was met. The skewness value was below 2 and kurtosis value was below 3, indicating normal distribution of the scores (Bono et al., 2020). The coefficient of skewness was -.41 indicating that academic burnout scores were negligibly skewed. The kurtosis coefficient was 1.66 indicating a platykurtic distribution.

Academic burnout by gender was obtained by use of descriptive statistics and the outcomes are given in table that was indicated 4.11.

Table 4.10

Descriptive Statistics of Academic Burnout by Gender

Gender	*N*	Min	Max	Range	*M*	*SD*
Male	164	33.00	58.00	25.00	40.25	3.98
Female	181	29.00	60.00	31.00	41.63	4.10
Total	345	29.00	60.00	31.00	40.93	4.05

Note. N = 345

The female students obtained the highest mean score of 41.63 with a standard deviation of 4.10. Their minimum score was 29.00 while their maximum was 60.00, giving a range of 31. The male students obtained a mean score of 40.25 with a standard deviation of 3.98. Their minimum score

was 33.00 while their maximum score was 58.00, giving a range of 28. This shows that the female students experienced more academic burnout compared to their male counterparts.

The descriptive statistics of academic burnout by school category were also obtained. The findings are shown in Table 4.12.

Table 4.11

Descriptive Statistics of Academic Burnout by School Category

Type of school	*N*	Min	Max	Range	*M*	*SD*
Boys Boarding	33	34.00	53.00	19.00	40.12	4.16
Girls Boarding	38	33.00	50.00	17.00	40.64	4.25
Mixed Day	152	31.00	49.00	18.00	41.81	3.56
Mixed day and boarding	122	29.00	60.00	31.00	42.03	4.49
Total	345	29.00	60.00	31.00	40.93	4.05

Note. $N = 345$

The mixed day and boarding schools obtained the highest mean score of 42.03 with a standard deviation of 4.49. Their minimum score was 29.00 while their maximum score was 60.00, giving a range of 31. The mixed day schools followed with a mean score of 41.81 with a standard deviation of 3.56. Their minimum score was 31.00 while their maximum was 49.00, giving a range of 18. The girls' boarding schools followed with a mean score of 40.64 with a standard deviation of 4.25. Their minimum score was 33.00 while their maximum was 50.00, giving a range of 17. The least mean score was obtained by boys' boarding schools with a mean score of 40.12 with a standard deviation of 4.16. Their minimum score was 34.00 while their maximum was 53.00, giving a range of 19.

Scores for academic burnout among the students were categorized into low, and high. Score between 16 to 32 indicated low academic burnout while that of between 33 to 64 indicated high academic burnout. The frequencies of these levels of academic burnout were obtained and table 4.13 was given to show the result.

Table 4.12

Levels of Academic Burnout

	Frequency	Percent
Low	98	28.4
High	247	71.6
Total	345	100.0

Note: N=345

A majority of the respondents (71.6%), had high academic burnout. Those with low academic burnout scored 28.4%.

4.3.2 Hypothesis Testing

In regards to the objectives that make this study, the objective number one was intended to determine the relationship between academic engagement and academic burnout. The hypothesis that was formulated is as follows:

H_{01}: There is no significant relationship between academic engagement and academic burnout among form three students.

This hypothesis was tested by use of bivariate correlation analysis that employed the Pearson Product Moment Correlation Coefficient. The table labeled 4.14 shows the outcome from the analysis.

Table 4.13

Correlation between Academic Engagement and Academic Burnout

		Academic Burnout
Academic Engagement	Pearson Correlation	-.68**
	Sig. (2-tailed)	.00
	N	345

Note: N =345

The results presented in Table 4.14, show that there was a strong, negative, and statistically significant relationship between academic engagement and academic burnout, r (345) = -.68, p < .05. These results indicate that an increase in the level of student academic engagement resulted in a significant decrease in students' academic burnout. This was not in agreement with the null hypothesis, and as such, the null hypothesis was rejected because the p obtained was less than the set level of significance (.05). It was therefore concluded that academic engagement was significantly related to students' academic burnout.

Further, the relationship between the three sub domains of (academic engagement vigor, academic engagement dedication and academic engagement absorption) and academic burnout were examined. The product moment correlation was utilized for this function and the findings are shown from the table labeled 4.15.

Table 4.14

Correlation between Academic Engagement Sub Domains and Academic Burnout

		Academic Burnout
Ac. Eng –Vigor	Pearson Correlation	-.67**
	Sig. (2-tailed)	.00
	N	345
Ac. Eng_Dedication	Pearson Correlation	-.78**
	Sig. (2-tailed)	.00
	N	345
Ac. Eng_Absorption	Pearson Correlation	-.62**
	Sig. (2-tailed)	.00
	N	345

Note. Ac.Eng – Academic engagement

As indicated in Table 4.15, academic engagement vigor score had a strong, negative and significant relationship with academic burnout, r (345) = -.67, p< .05. The results suggest that the higher the academic engagement vigor, the lower the academic burnout. Regarding the sub domain of academic engagement dedication, there was a strong negative and significant relationship with academic burnout, r (345) = -.78, p< .05. Similarly, academic engagement absorption depict strong negative and significant relationship with academic burnout, r (345) = -.62, p< .05. The results show that students with high levels of academic engagement vigor, high level of academic engagement dedication and high level of academic engagement absorption suffered less academic burnout. Having confirmed that there exists a significant relationship between academic engagement sub domains and academic burnout, the prediction values of academic engagement

vigor, academic engagement dedication, and academic engagement absorption on academic burnout were computed. The outcomes are as per the given table 4.16.

Table 4.15

Model Summary for Prediction of Academic Burnout from Academic Engagement Sub Domains

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.79[a]	.62	.62	2.49

a. Predictors: (Constant), Ac_Eng_Absorption, Ac_Eng_Dedication, Ac_Eng_Vigor

b. Dependent Variable: Academic Burnout

As shown in Table 4.16, R square value was 0.62 which indicates that 62% of the variance in academic burnout among form three students in Kipipiri Sub-county, Kenya is jointly influenced by academic engagement vigor, academic engagement dedication and academic engagement absorption. The rest may be explained by other factors that were not considered in this study. The multiple regression coefficients were .79 which indicates a high correlation between academic engagement vigor, academic engagement dedication and academic engagement absorption and academic burnout.

ANOVA test was used to determine if this joint influence of academic burnout by the three academic engagement sub domains was significant. Table 4.17 presents the results as follows

Table 4.16

ANOVA in the Prediction of Academic Burnout

Model	Sum of Squares	*Df*	Mean Square	*F*	Sig.

	Regression	3525.82	3	1175.27	188.82	.00[b]
1	Residual	2122.51	341	6.22		
	Total	5648.33	344			

a. Dependent Variable: Academic Burnout

b. Predictors: (Constant), Ac_Eng_Absorption, Ac_Eng_Dedication, Ac_Eng_Vigor

The results in table 4.17 reveals that three academic engagement sub domains had a joint significant relationship with academic burnout of form three students in Kipipiri Sub-county, Kenya, F (3, 341) = 188.82, $p < .05$. This implies that academic engagement vigor, academic engagement dedication and academic engagement absorption significantly predict academic burnout.

The predictive values for the three academic engagement sub domains on academic burnout were obtained by carrying out regression analysis. The table that is labeled 4.18 has been given to summarize the result.

Table 4.17

Regression Coefficients for the Prediction of Academic Burnout

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	54.71	.61		90.48	.00
	Ac_Eng_Vigor	-.50	.18	-.34	-2.65	.01
	Ac_Eng_Dedication	-1.61	.13	-.88	-12.31	.00
	Ac_Eng_Absorption	-.75	.19	-.47	-3.93	.00

Note: N =345; a. Dependent Variable: Ac_Burnout

From Table 4.18, the results reveal that academic engagement vigor had a negative and significant predictive value of academic burnout among form three students in Kipipiri sub county (β = -.50, t (345) = -2.65, p < .05). This implies that a unit increase in engagement vigor decreases academic burnout by 0.50. Secondly, the academic engagement dedication had a negative and significant predictive value on academic burnout (β = -1.61, t (345) = -12.31, p< .05). This implies that a unit increase in academic engagement dedication decreases academic burnout by 1.61. Thirdly, academic engagement absorption had a negative and significant predictive value on academic burnout (β =- .75, t (345) = -3.93, p < .05). This means that a unit change in academic engagement absorption causes a decrease of 0.75 in academic burnout. The prediction equation is as follows;

$$\hat{Y} = 54.74 - 0.50 \text{ (Ac Eng Vigor)}. - 1.61 \text{ (Ac Eng Dedication)} - 0.75 \text{ (Ac Eng Absorption)} \ldots\ldots(1)$$

4.3.3 Post Hoc Tests

Post-hoc test was carried out to determine if there exist significant differences in academic burnout between the different levels of academic engagement (low, moderate, and high). Table 4.19 presents the descriptive statistics of these different levels.

Table 4.18

Level of academic Engagement and Academic Burnout

Ac_Eng_Levels	*N*	Academic burnout Mean	Std. Deviation
Low	8	44.125	12.26
Moderate	223	42.44	2.82
High	114	37.75	3.10
Total	345	40.93	4.05

Note: N = 345

From Table 4.19, the students with low level of academic engagement had the highest mean score of 44.13 (*SD* = 12.26) followed by those with moderate level with a mean score of 42.44 (*SD* = 2.82), then those with high level with a mean score of 37.75 (*SD* = 3.10). To determine if there exists significant differences between the groups (that is, between low and moderate, low and high, and moderate and high), the ANOVA test was carried out. The results are in the table indicated 4.20.

Table 4.19

ANOVA for Academic Burnout and AE Levels

	Sum of Squares	*Df*	Mean Square	*F*	Sig.
Between Groups	1739.40	2	869.70	76.09	.00
Within Groups	3908.93	342	11.43		
Total	5648.33	344			

Note: N = 345

The results as per table indicated 4.20 indicates that the mean differences were statistically significant, F (2, 342) = 76.09, $p < .05$).This implies that the differences between the categories that is between low and moderate together with low and high and finally among moderate and high

were statistically significant. The results suggest that the level of academic engagement significantly determine the academic burnout a student experiences.

Table 4.20

Tukeys HSD for Academic Burnout and AE Levels

(I) Ac_Eng_Levels	(J) Ac_Eng_Levels	Mean Difference (I-J)	Std. Error	Sig.
Low	Moderate	1.69	1.22	.35
	High	6.37*	1.24	.00
Moderate	Low	-1.69	1.22	.35
	High	4.69*	.39	.00
High	Low	-6.37*	1.24	.00
	Moderate	-4.69*	.39	.00

Note: N = 345

The results in Table 4.21 were conducted as a follow up to the ANOVA test. This is in order to reveal the source of significant differences between the groups. A pairwise analysis indicates that the mean differences were found to be statistically significant between low and high levels of academic engagement, and between moderate and high levels of academic engagement, but were not statistically different between moderate and low levels of academic engagement.

4.3.4 Discussion of the Results

The researcher in the first objective of this study intended to establish the relationship that existed between academic engagement and academic burnout among form three students in Kipipiri Sub-County. It was found that the two variables had negative and significant relationship. This

translates that increases in the level of student academic engagement result in a significant decrease in students' academic burnout. From the descriptive statistics, the mean score of 28.93 leaned towards the maximum score of 43 than it did towards the minimum score of 9. The descriptive statistics for academic burnout revealed a mean score of 40.93 which was near average. This revealed that a considerable number of students were experiencing academic burnout. There is a need therefore for the students to balance between classwork and other social activities to address the issue of academic burnout. When the relationship between the sub domains of (academic engagement vigor, academic engagement dedication and academic engagement absorption) and academic burnout were examined using product moment correlation, it was established that academic engagement vigor score had a strong, negative and significant relationship with academic burnout, r (345) = -.67, p< .05.

These results suggest that when academic engagement vigor becomes higher, the academic burnout tend to decline and vice versa. In respect to the sub domain of academic engagement dedication, there was a strong negative and significant relationship with academic burnout, r (345) = -.78, p< .05. This suggests that when there is higher academic engagement dedication, lower academic burnout is experienced and vice versa. Similarly, in respect to the last sub domain of academic engagement absorption, there was a strong negative and significant association with academic burnout, r (345) = -.62, p< .05. This result suggests that when the academic engagement absorption rises, the academic burnout become lower and vice versa. This means that students with high levels of academic engagement vigor, raised academic engagement dedication and high level of academic engagement absorption suffered less academic burnout and vice versa. The three sub domain results confirm that there exists a significant relationship between academic engagement and academic burnout.

The predictive values of academic engagement vigor, academic engagement dedication and academic engagement absorption on academic burnout were significant. The outcomes in terms of findings embedded in this study are supported by work engagement theory by Shaufeli et al. (2002), who proposed that in line with psychological point of view, activities that are done by students including attending classes are considered as work. This is considered in the sense that academic work is goal oriented towards exceling in examinations.

Work engagement theory by Shaufeli et al. (2002) has engagement divided into three aspects namely, vigor, dedication and absorption which have been used in this study. To begin with, vigor as described in work engagement theory refers to increased energy that enable one to work for more hours without getting exhausted. In academic field and in this study, refers to willingness of a student to exert effort in academic activities, and their persistence in the face of challenges during their studies. The study hypothesized that students with vigor would have low level of academic burnout as they would be believed to approach learning activities positively and with mental resilience. The outcomes attached in this study have worked as reinforcement for this. Secondly, dedication refers to one being focused in work and being inspired to work even if facing challenges.

In the academic field and in this study, students with dedication have been considered likely to be self- inspired and to have a sense of enthusiasm for engaging in studies, which would reduce their eve of academic burnout. This too has been supported by the study results. Lastly, absorption in work engagement theory means one's ability to be engrossed in work to the extent of finding difficult to detach from it. In the academic field and in this study, students with dedication have been considered as those likely to be self-inspired and also having a sense of enthusiasm for engaging in studies. Further, students with absorption were hypothesized to be able to fully

concentrate in their academic activities. Such students are expected to have less academic burnout. This too has been supported by the outcomes that have been revealed in the current study.

The study results also are in line with Mae et al. (2022) who in support of work engagement theory explained that students' academic engagement has a rewarding power towards better academic performance and alleviation of academic boredom and burnout. Similarly, the study results agree with findings from research work in Kenya by Kay and Wanjohi (2015) which investigated academic burnout in relation to study engagement among 105 students sampled from selected universities. The findings revealed that academic engagement and academic burnout had a negative correlation.

From the foregoing, the evidence has revealed that the existing literature from past research has demonstrated that academic engagement enables students to get deeply absorbed in learning activities when interacting with learning materials, with the teachers and with their peers. This engagement draw student into deep thinking by involving themselves in activities like deducing meaning through analyzing and understanding concepts and rationalizing procedures (Amerstorfer & Kistner, 2021). Students who are highly academically engaged are subsequently noted to face less academic burnout. This has been clearly supported by the outcome of the findings in the current research. It is important that education stakeholders and policy makers engage and implement these findings to address the issue of academic burnout in secondary schools. This will enable them to develop strategies that promote high level of academic engagement among students in learning institutions in order to get better learning outcomes.

4.4 Findings on the Relationship between Academic Grit and Academic Burnout

The establishment of the relationship between academic grit and academic burnout formed the second objective of this study. This was achieved by carrying out the following tests.

4.4.1 Descriptive Statistics of Academic Grit

The minimum and the maximum scores as well as the range, mean score and the standard deviation were determined by the researcher conducting an analysis of descriptive statistics. The coefficient of skewness together with kurtosis coefficient was also included in the said descriptive statistics. The result were tabled as shown in the table indicated 4.22.

Table 4.21

Descriptive Statistics of Academic Grit

	N	Range	Min	Max	*M*	*SD*	*Sk*	*Kur*
Grit	345	38.00	11.00	49.00	34.99	6.94	-.59	.44

Note. $N = 345$

The minimum and maximum score was 11 and 49 respectively and thus giving a range of 38. The mean score achieved was 34.99 with a standard deviation of 6.94. Normality was assessed using the coefficient values of skewness and kurtosis, Sk = -.59, Kur = .44 and the assumption was met. The skewness values were below 2 and kurtosis values below 3, indicating normal distribution of the scores (Bono et al., 2020). The coefficient of skewness was -.59 indicating that academic grit scores were moderately skewed. The negative value of skewness means that more students had low scores than those who scored high scores. The kurtosis coefficient was .44 indicating a platykurtic distribution; few students scored extreme low and high scores in grit.

The Academic grit by gender was obtained by the researcher carrying out descriptive statistics to verify if gender differences existed. The outcome of this analysis is presented in the given table that is labeled 4.23.

Table 4.22

Descriptive Statistics of Academic Grit by Gender

Gender	*N*	Min	Max	Range	*M*	*SD*
Male	164	11.00	46.00	35.00	35.59	6.98
Female	181	11.00	49.00	38.00	34.32	6.85
Total	345	11.00	49.00	38.00	34.99	6.94

Note. $N = 345$

From Table 4.23, female students scored a mean of 34.32 ($SD = 6.85$). Their minimum score stood at 11 while the maximum was 49 giving a range of 38. The male students obtained a mean score of 35.59 ($SD = 6.98$). Their minimum score was 11 while the maximum was 46, giving a range of 35. The male students were better in academic grit than female students. The descriptive statistics of academic grit were also obtained by school category to determine if there exist mean differences among the various categories. The outcomes are presented in Table 4.24.

Table 4.23

Descriptive Statistics of Academic Grit by School Type

Type of school	*N*	Min	Max	Range	*M*	*SD*
Boys Boarding	33	18.00	46.00	28.00	35.79	6.89
Girls Boarding	38	13.00	47.00	34.00	34.72	8.07
Mixed Day	152	11.00	47.00	36.00	33.82	6.32

Mixed day and boarding	122	11.00	49.00	38.00	33.78	7.27
Total	345	11.00	49.00	38.00	34.99	6.94

Note. $N = 345$.

The boys boarding schools obtained the highest mean score of 35.79 with a standard deviation of 6.89. Their minimum score was 18.00 while their maximum was 46.00, giving a range of 28. The girls' schools followed with a mean score of 34.72 with a standard deviation of 8.07. Their minimum score was 13.00 while their maximum score was 47.00, giving a range of 38. The mixed day schools followed with a mean score of 33.82 with a standard deviation of 6.32. Their minimum score was 11.00 while their maximum score was 47.00, giving a range of 36. The least mean score was obtained by mixed day and boarding schools with a mean score of 33.78 with a standard deviation of 7.27. Their minimum score was 11.00 while their maximum was 49.00, giving a range of 38.

The descriptive statistics of academic grit by sub domains were also obtained. The results are given as per table that is labeled 4.25.

Table 4.24

Descriptive Statistics of Academic Grit Sub Domains

	N	Range	Min	Max	*M*	*SD*
Grit Perseverance	345	19.00	6.00	25.00	17.32	3.97
Grit Consistency	345	20.00	5.00	25.00	17.64	3.81

Note. $N = 345$

The subdomain of consistency obtained the highest mean score of 17.64 with a standard deviation of 3.81. The subdomain had a minimum score was 5 and a maximum was 25, giving a range of 20. The subdomain of Perseverance obtained a mean score of 17.32 with a standard deviation of 3.97. The subdomain had a minimum score was 6 and a maximum was 25, giving a range of 19.

4.4.2 Hypothesis Testing

The objective that followed the initial objective in this study was determining the relationship between academic grit and academic burnout. This helped in formulating the hypothesis as follows:

$H_{02:}$ There is a significant relationship between academic grit and academic burnout among form three students in Kipipiri Sub-county. Linear regression analysis and Pearson product moment correlation were used to determine the relationship. First, the association between the two sub domains of academic grit (perseverance and consistency) and academic burnout were examined using product moment correlation in order to test this hypothesis. The findings are as indicted in the table labeled 4.26.

Table 4.25

Correlation between Academic Grit and Academic Burnout

		Academic Burnout
Grit	Pearson Correlation	-.76**
	Sig. (2-tailed)	.00
	N	345
Grit –Perseverance	Pearson Correlation	-.70**

	Sig. (2-tailed)	.00
	N	345
	Pearson Correlation	-.73**
Grit – Consistency	Sig. (2-tailed)	.00
	N	345

Note: N = 345

From Table 4.26, a strong, negative and significant relationship was found between academic grit and academic burnout, r (345) = -.76, p< .05. The results suggest with academic grit becoming higher, the academic burnout lowers. Regarding the sub domain of grit perseverance, there was a strong negative and significant relationship with academic burnout, r (345) = -.70, p< .05. Similarly, grit consistency depicted that when it is correlated with academic burnout the result was strong and significant but negative r (345) = -.73, p< .05. The results show that learners with high levels of academic grit perseverance, and high level of academic grit consistency suffered less academic burnout.

Having confirmed that there exists a significant relationship between academic grit sub domains and academic burnout, the prediction values of grit consistency, and grit perseverance on academic burnout were computed. The results are shown in the table labeled 4.27.

Table 4.26

Model Summary for Prediction of Academic Burnout from Academic Grit Sub Domains

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.76[a]	.58	.58	2.62

Note: N = 345

a. Predictors: (Constant), Grit_Consistency, Grit_Perveverance

b. Dependent Variable: Academic Burnout

As shown in Table 4.27, R square value was 0.58 which indicates that 58% of the variance in academic burnout among form three students in Kipipiri Sub-county, Kenya is jointly influenced by grit consistency, and grit perseverance. The multiple regression coefficients were .76 which indicates a high correlation between grit consistency, and grit perseverance and academic burnout. ANOVA test was used to determine if this joint influence of academic burnout by the two grit sub domains was significant. Results are given in table labeled 4.28

Table 4.27

ANOVA in the Prediction of Academic Burnout

Model		Sum of Squares	*Df*	Mean Square	*F*	Sig.
1	Regression	3287.52	2	1643.76	238.12	.00[b]
	Residual	2360.81	342	6.90		
	Total	5648.33	344			

Note: N = 345

a. Dependent Variable: Ac_Burnout

b. Predictors: (Constant), Grit Consistency, Grit_Perveverance

The results in Table 4.28 reveal that the two grit sub domains had a joint significant relationship with academic burnout of form three students, F (2, 342) = 238.12, $p < .05$. This implies that grit consistency, and grit perseverance significantly predicts academic burnout. The predictive values

for the two grit sub domains on academic burnout were obtained by carrying out regression analysis. The results are shown in Table 4.29.

Table 4.28

Regression Coefficients for the Prediction of Academic Burnout

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		B	Std. Error	Beta		
	(Constant)	55.67	.69		80.64	.00
1	Grit_Perveverance	-.34	.06	-.33	-5.78	.00
	Grit_Consistency	-.51	.06	-.48	-8.41	.00

Note: $N = 345$

a. Dependent Variable: Academic Burnout

The results reveal that grit perseverance had a negative and significant predictive value on academic burnout among form three students in Kipipiri sub county ($\beta = -.34$, $t\ (345) = -5.78$, $p < .05$). This implies that a unit increase in grit perseverance decreases academic burnout by 0.34. Secondly, grit consistency had a negative and significant predictive value on academic burnout ($\beta = -.51$, $t\ (345) = -8.41$, $p < .05$). This implies that a unit increase in grit consistency decreases academic burnout .51. The prediction equation is as follows;

$\hat{Y} = 55.67 - 0.34(\text{Grit Perseverance}) - 0.51\ (\text{Grit Consistency}) \ldots\ldots\ldots\ldots (1)$

4.4.3 Post Hoc Tests

Post-hoc test was carried out to determine if there exist significant differences in academic burnout between the different levels of grit (low, moderate, and high). Table 4.30 presents the descriptive statistics of these different levels.

Table 4.29

Level of Grit and Academic Burnout

Grit_Levels	N	Academic Burnout Mean	SD
Low	10	44.70	10.85
Moderate	255	42.11	2.61
High	80	36.68	3.41
Total	345	40.93	4.05

Note. N = 345, *SD* – Standard Deviation

As shown in Table 4.30, the students with low level of academic grit had the highest mean score of 44.70 (*SD* = 10.85) followed by those with moderate level with a mean score of 42.11 (*SD* = 2.61), then those with high level with a mean score of 36.68 (*SD* = 3.41). To verify if there exist significant differences among the groups that is between low and moderate and between low and high and finally between moderate and high, the test of ANOVA was done. The table 4.31 has indicated the outcomes as follows:

Table 4.30

ANOVA for Academic Burnout and Grit Levels

	Sum of Squares	*Df*	Mean Square	*F*	Sig.
Between Groups	1939.34	2	969.67	89.41	.00
Within Groups	3708.99	342	10.85		

Total	5648.33	344

Note: N = 345

The Table labeled 4.31 indicates the result that show that difference between the mean were statistically significant, F (2, 342) = 89.41, $p < .05$).This implies that the differences between the categories (between low and moderate, low and high, and moderate and high) were statistically significant. The results suggest that the level of grit significantly determine the academic burnout student experiences.

To determine the real source of the significant differences between the groups, a *Tukeys HSD* test was carried out. Table labeled 4.32 has been given to show the results.

Table 4.31

Tukeys HSD for Academic Burnout and Grit Levels

(I) Grit_Levels	(J) Grit_Levels	Mean Difference (I-J)	Std. Error	Sig.
Low	Moderate	2.58*	1.06	.04
	High	8.01*	1.10	.00
Moderate	Low	-2.58*	1.06	.04
	High	5.42*	.42	.00
High	Low	-8.01*	1.10	.00
	Moderate	-5.42*	.42	.00

Note: N= 345

The results in Table 4.32 are conducted as a follow up on the ANOVA test. This was in order to reveal the exact source of the significant differences between the groups. A pairwise analysis indicates that the mean differences were found to be statistically significant between low and high levels of academic grit, and between moderate and high levels of academic grit, but were not statistically different between moderate and low levels of academic grit.

4.4.4 Discussion of the Results

The second objective of this study was to establish the relationship between academic grit and academic burnout. It was established that there exists a negative and significant relationship between grit and academic burnout. The meaning of this is that when the level of academic grit increases, the academic burnout decrease and vice versa. When the relationship between grit sub domains (grit perseverance together with grit consistency) and academic burnout was tested, it was established that both sub domains coexisted in relationship that was negative and significant with academic burnout. It thus established that both the sub domains had each negative and significant predictive value on academic burnout. This means that if a student develops an increased level of grit perseverance and grit consistency this student will experience less suffering in terms of academic burnout and vice versa. From the results, it was established that grit perseverance had a negative and significant predictive value of academic burnout among form three students in Kipipiri sub county (β = -.34, p < .05). This means that a unit increase in grit perseverance decreases academic burnout by 0.34 while in grit consistency the predictive value was negative and significant on academic burnout (β = -.51, p< .05). This can be concluded that if grit consistency increases with one unit there is a decrease in academic burnout at about .51.

The prediction equation is as follows;

$\hat{Y}$ = 55.67 - 0.34(Grit Perseverance) – 0.51 (Grit Consistency) ……. (1)

Post-hoc test was carried out to determine if there exist significant differences in academic burnout between the different levels of grit (low, moderate, and high). The results posted significant statistical differences among the different categories. This can be used to implies that students who

possesses high levels of grit perseverance and high level of grit consistency suffered less academic burnout and vice versa.

These findings are supported by Duckworth (2006), grit theory, which explains why some people are successful while others fail or they are not successful. In this theory, Duckworth discusses that success is pegged on persistence, interest, ability to overcome setbacks and being aware that you are the one who drives your own motivation as opposed to the ability to learn faster, good luck, the physical fitness or intelligence quotient. Applying this in the academics, the study hypothesized that academic resilience, perseverance of effort in academics, consistence of academic interest all being the constructs of academic grit will help students to overcome the problem of academic burnout. These results from the current researcher support these assertions. Also agreeing with the findings of this study, Steinmayr et al. (2018) explained that grit is a personality construct that enables students to maintain interest and effort amid academic setbacks. The researchers argued that students with higher persistence effort and strong consistency of interest are regarded as having higher power of learning and are less prone to academic burnout.

Furthermore, the findings of this study agree with existing research which opines that individuals with high grit levels inclines to working harder and longer and tends to be engaged in more deliberate practices with an aim of enhancing performance or success (Hogan & Wong, 2013). Similarly, Ericsson (2006) and Duckworth et al. (2011) posits that performance is limited by factors that are innate in conjunction with cognitive skills and therefore, a person requires be having deliberate efforts so as to change or improve certain characteristics of performance. Similarly, individuals with high level of grit are more persistent and diligent, not discouraged by setbacks or failure, more focused on a project or goal, and more likely to complete tasks. This implies that they experience less academic burnout. In contrast, individuals with lower levels of

grit fails to be persistent and diligent and as such they become easily distracted by upcoming new ideas or projects and therefore it become a bit hard for them to set long-term goals. They lack motivation and focus for long-term projects Bazelais et al. (2016). This implies that such individuals experience high levels of burnout in relation to academic. It is equally important that education stakeholders and policy makers engage and further interrogate these findings on the importance of academic grit. This will enable them to develop strategies that will promote high level of academic grit in students in our learning institutions in order to get better results from our education system for the benefit of our country.

4.5 Findings on the Prediction Equation for Academic Burnout from Academic Engagement and Academic Grit

4.5.1 Hypothesis Testing

In regards to the third objective, the research sought to establish a prediction equation for academic burnout from academic engagement and academic grit. The null hypothesis was formulated as follows:

$H_{03:}$ There is no significant prediction equation for academic burnout from academic engagement and academic grit among form three students in Kipipiri Sub-county.

4.5.2 Test for Assumptions of Regression Analysis

Normality Test Results

The test for assumption of regression analysis was determined by carrying out three tests including normality test results, heteroscedasticity and homoscedasticity, and multi-collinearity and singularity. The results for each are discussed below. To determine the distribution of data for

academic engagement and academic grit, the coefficient of skewness and kurtosis coefficient were obtained for each. Table 4.33 presents the results.

Table 4.32

Normality Results

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Ac_Engagement	345	-.27	.13	.70	.26
Grit	345	-.59	.13	.44	.26

Note: N = 345

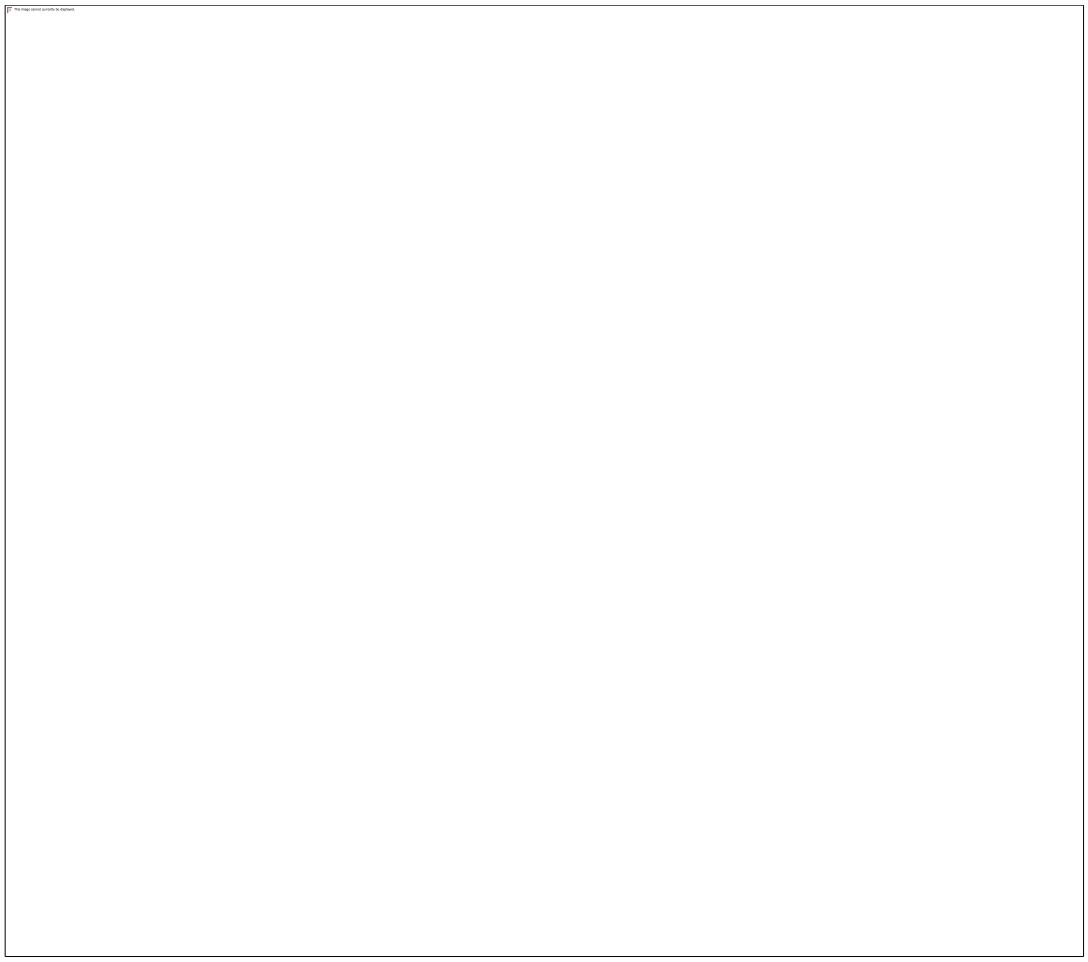
On academic engagement, the coefficient of skewness was .27 indicating a distribution that is near normal. The kurtosis coefficient was .7 which shows that the distribution was platykurtic. On grit, the coefficient of skewness was -.59 showing a moderately skewed data distribution. The kurtosis coefficient was .44 indicating a platykurtic distribution. The results indicate that academic engagement scores and grit scores were near normal distribution. This follows the finding by Bono et al. (2020) that skewness values below 2.0 and kurtosis values below 3.0 are indicators of a normal distribution.

The assumption on heteroscedasticity and homoscedasticity was tested using normal p-p plot of regression standardized residual.

From Figure 4.1, the points are almost the same distance from the line indicating that the homoscedasticity rule was not violated. This confirms that the predictive values were reliable and accurate for making an informed conclusion.

Figure 4. 1

Heteroscedasticity and Homoscedasticity



Using VIF test as one of the accepted ways of testing for multicollinearity, (Shrestha 2020), the researcher tested for the multi-collinearity and singularity to determine whether independent variables were highly correlated. Table 4.34 presents the results.

Table 4.33

Tolerance and VIF

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Academic Engagement	.31	3.23
	Grit	.31	3.23

Note. *VIF* – Variance Inflation Factor

Table 4.34 shows that the tolerance values for academic engagement and grit are not less than 0.1 and their VIF values were less than 10. This indicates that the academic engagement and grit were not highly correlated (James et al., 2013)

Table 4.35 presents model summary results from linear regression analysis.

Table 4.34

Model Summary[b]

Model	*R*	*R* Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	*F* Change	*df1*	*df2*	Sig. F Change
1	.77[a]	.59	.59	2.61	.59	244.93	2	342	.00
2	.77[b]	.59	.59	2.61	.00	.03	1	341	.86
3	.77[c]	.590	.59	2.61	.00	.51	1	340	.47

Note: N = 345

From the above model summary table, it is evident that gender and age do not affect change in R in the prediction of academic burnout from academic engagement and grit. The model thus explains 59% of variance in academic burnout with or without consideration of gender and age.

Table 4.35

ANOVA[a] For the Prediction of Academic Burnout

Model		Sum of Squares	*Df*	Mean Square	*F*	Sig.
1	Regression	3326.14	2	1663.07	244.93	.00[b]
	Residual	2322.18	342	6.79		
	Total	5648.33	344			
2	Regression	3326.35	3	1108.79	162.83	.00[c]
	Residual	2321.97	341	6.81		
	Total	5648.33	344			
3	Regression	3329.85	4	832.46	122.08	.00[d]
	Residual	2318.48	340	6.82		
	Total	5648.33	344			

a. Dependent Variable: Ac_Burnout
b. Predictors: (Constant), Grit, Academic Engagement

c. Predictors: (Constant), Grit, Academic Engagement, Gender

d. Predictors: (Constant), Grit, Academic Engagement, Gender, age

The results in Table 4.37 reveal that both grit and academic engagement had a joint significant relationship with academic burnout of form three students, F (2, 342) = 244.93, p< .05.

Table 4.36

Regression Coefficients for the Prediction of Academic Burnout

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.17	.77		74.13	.00
	Ac_Engagement	-.11	.05	-.149	-2.39	.01
	Grit	-.37	.04	-.639	-10.27	.00
2	(Constant)	57.24	.85		67.07	.00
	Ac_Engagement	-.11	.05	-.15	-2.39	.02
	Grit	-.37	.04	-.64	-10.24	.00
	Gender	-.05	.28	-.01	-.18	.86
3	(Constant)	57.36	.87		65.77	.00
	Ac_Engagement	-.11	.05	-.15	-2.33	.02
	Grit	-.37	.04	-.64	-10.21	.00
	Gender	-.04	.28	-.01	-.14	.89
	Age	-.16	.22	-.03	-.72	.47

Note: N = 345

Table 4.37 shows that both grit and academic engagement had negative and significant predictive values on academic burnout among form three students in Kipipiri Sub County. This is given by β = -.11, p < .05 for academic engagement which implies that a unit increase in academic engagement decreases academic burnout by 0.11. Secondly, grit was having a predictive values that were negative and significant on academic burnout (β = -.37, p< .05). This can be said that whenever there is a unit increase in grit there is a decrease in academic burnout by .37. Thirdly, when academic engagement, grit and gender are considered together, academic engagement remains to be having effect that is negative and significant on academic burnout (β = -.11, p < .05) , grit remains with a negative and significant effect on academic burnout (β = -.37, p< .05), while gender's effect is insignificant (β = -.05, p> .05). Fourthly, when academic engagement, grit, gender and age are considered together, academic engagement remains with a negative and significant effect on academic burnout (β = -.11, p < .05), grit remains with a negative and significant effect on academic burnout (β = -.37, p< .05), while gender (β = -.04, p> .05) and age (β = -.16, , p> .05) had insignificant effects. This implies that gender and age do not affect the prediction of academic burnout from academic engagement and grit.

The prediction equation for academic burnout is as follows:

$\hat{Y}$ = 57.17 - 0.11(Academic Engagement) – 0.37 (Grit) …….. (2)

The equation shows that academic engagement and grit were statistically significant contributors to the prediction of propensity for academic burnout. Grit had the highest predictive value on academic burnout, which was negative and significant (β = -.37, t (345) = -10.27, p< .05).

Academic engagement came second with a negative and significant value on academic burnout which was negative and significant (β = -.11, t (345) = -.2.39, p < .05).

Equation (2) implies that academic burnout decreased by .37 and .11 points for every standard deviation increment in grit and academic engagement respectively.

4.4.4 Discussion of the Results

The third objective of this study was to establish a prediction equation for academic burnout from academic engagement and academic grit. It was established that both grit and academic engagement had a joint negative and significant predictive value on academic burnout among form three students in Kipipiri Sub County. It was further established that gender and age do not have any significant predictive value on academic burnout when considered together with academic engagement and grit. The negative predictive values of academic engagement and grit on academic burnout imply that academic burnout decreased with increase in academic engagement and vice versa. Similarly academic burnout decreases with increase in grit and vice versa.

On academic engagement and as seen earlier, these results agree with work engagement theory as discussed by Shaufeli et al. (2002), and by Mae et al. (2022) who while considering academic activities as work proposed that students with high academic engagement had a positive power towards better academic performance and minimization of boredom and burnout. The study results agree with the findings of a study conducted in China by Wang et al. (2021) with the aim to establish whether academic engagement and psychological capital relates with academic burnout. The study which sampled 733 students in colleges who were pursuing nursing courses found that academic engagement and psychological capital had a negative association with

academic burnout. Also, the results agree with a Kenyan study by Kay and Wanjohi (2015) whose findings revealed that academic engagement and academic burnout had negative correlation.

Other studies that agree with the current study findings include (Jacobs & Dodd, 2003) which found that school engagement is a significant factor to cushion the problem of burnout which is thought to be a major problem that affect majority of students in university, as well (Virtanen, Kiuru, Lerkkanen, Poikkeus, and Kuorelahti 2016) which reported similar results in their studies in secondary schools. Similarly, Özdemir (2015) and Kaya (2017) also asserted that there was a negative and high degree of relationship between academic engagement and burnout in the studies they carried out involving students in high schools.

On grit, these findings are supported by Duckworth (2006), grit theory, which explains that success is pegged on persistence, interest, ability to overcome setbacks and being aware that you are the one who drives your own motivation as opposed to the ability to learn faster, good luck, the physical fitness or intelligence quotient. Applying this in the academic field, grit is viewed as academic resilience, perseverance of effort in academics, consistence of academic interest, and are considered highly effective in helping students to overcome the problem of academic burnout. Also, Steinmayr et al. (2018) explained that grit enables students to maintain interest and effort amid academic setbacks whereby students with higher persistence effort and strong consistency of interest are regarded as having higher power of learning and are less prone to academic burnout.

The results also agree with findings from another study conducted in Korea by Kim (2020), among a sample of secondary school students which revealed that academic grit in the dimension of perseverance of effort and consistency of interest had negative relationship with academic burnout. The study results also agree with those of another study conducted among medical school students in South Africa by Merwe et al. (2020) which investigated how resilience, as an inherent construct

of academic grit was correlated with academic burnout. The study revealed that high academic resilience and academic burnout were negatively correlated. In addition, the results agree with those from another South African study conducted by Mason (2021). The findings indicated that high academic grit and high academic engagement were positively correlated and both were negatively correlated with academic burnout. In spite of using a small sample size of 18, the study results have been supported by this current study which used a larger sample size of 346. The study results also agree with the results of another study by Scripa (2022) carried out in Bungoma Kenya. The study involved street children to establish the extent to which academic grit and alternative care setting variables correlate with academic achievement. The study findings indicated that street children who were having academic grit had improved academic achievement. The study however did not correlate academic grit with academic burnout.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter five in this study presents the summary in terms of findings, conclusions and recommendations.

5.2 Summary of the Findings

The first objective by the researcher in the present study was to determine the relationship between academic engagement and academic burnout among form three students in Kipipiri Sub-county. It was established that there exists a significant negative relationship between academic engagement and academic burnout. This was indicative that an increase in the level of student academic engagement resulted in a significant decrease in students' academic burnout. When the relationship between the sub domains of (Academic engagement vigor, academic engagement dedication and academic engagement absorption) and academic burnout were examined using product moment correlation, it was established that, the academic engagement vigor score was having a strong but negative and significant relationship with academic burnout. These results suggest that when academic engagement vigor is higher, the academic burnout become lower and vice versa. In respect to the sub domain of academic engagement dedication, there was a strong negative and significant relationship with academic burnout.

This result suggests that having the academic engagement dedication on a higher level, one will experience lower academic burnout and vice versa. Similarly, in respect to the last sub domain of academic engagement absorption, there was a strong negative and significant relationship with academic burnout, suggesting that an increase in academic engagement absorption will lead to

lower academic burnout and vice versa. This means that students with high levels of academic engagement vigor, high level of academic engagement dedication and high level of academic engagement absorption suffered less academic burnout and vice versa. The three sub domain results confirm that there exists a significant relationship between academic engagement and academic burnout. The predictive values of academic engagement vigor, academic engagement dedication and academic engagement absorption on academic burnout were significant.

The researcher as per the second objective intended to examine the relationship between academic grit and academic burnout. It was established that there exists a negative and significant relationship between grit and academic burnout, suggesting that when academic grit is at a higher level, the academic burnout reduces into lower level and vice versa. When the relationship between grit sub domains (grit perseverance together with grit consistency) and academic burnout was tested, it was established that both sub domains had a negative and significant relationship with academic burnout. It thus established that both the sub domains had each negative and significant predictive value on academic burnout. This can be deduced that students with levels of grit perseverance that is high and increased level of grit consistency suffered less academic burnout and vice versa. From the results, it was established that grit perseverance had a negative and significant predictive value of academic burnout among form three students in Kipipiri Sub County. This implies that an increase in grit perseverance decreases academic burnout and vice versa. Grit consistency was established to be having a negative and significant predictive value on academic burnout. This implies that an increase in grit consistency decreases academic burnout and vice versa. Post-hoc test carried out to determine if there exist significant differences in academic burnout between the different levels of grit (low, moderate, and high), posted significant statistical differences among the different categories. The results showed that students with high

levels of grit perseverance, and high level of grit consistency suffered less academic burnout and vice versa.

In regards to the third objective, the researcher intension was to establish a prediction equation for academic burnout from academic engagement and academic grit. It was established that both grit and academic engagement had a joint negative and significant predictive value on academic burnout among form three students in Kipipiri Sub County. It was further established that gender and age do not have any significant predictive value on academic burnout when considered together with academic engagement and grit. The negative predictive values of academic engagement and grit on academic burnout imply that academic burnout decreased with increase in academic engagement and vice versa. Similarly academic burnout decreases with increase in grit and vice versa. From the results, the following prediction equation for academic burnout from academic engagement and academic grit was established:

$$\hat{Y} = 57.17 - 0.11(\text{Ac Engagement}) - 0.37\ (\text{Grit})$$

The equation shows that academic engagement and grit were statistically significant contributors to the prediction of propensity for academic burnout. Grit had the highest predictive value on academic burnout, which was negative and significant (β = -.37, p< .05). Academic engagement came second with a negative and significant value on academic burnout which was negative and significant (β = -.11, p < .05).

Equation (2) implies that academic burnout decreased by .37 and .11 points for every standard deviation increment in grit and academic engagement respectively.

5.3 Conclusions

The first objective of this research was to determine the relationship between academic engagement and academic burnout among form three students in Kipipiri Sub-county. From the results, the study concludes that there exists a significant negative relationship between academic engagement and academic burnout. This result suggests that an increase in academic engagement would lower academic burnout and vice versa. After examining the relationship between the sub domains of (academic engagement vigor, academic engagement dedication and academic engagement absorption) and academic burnout, the study concludes all the three had a strong, negative and significant relationship with academic burnout. This result suggests that an increase in either of them would lower academic burnout and vice versa. The three sub domain result reaffirms that the correlation that is available between academic engagement and academic burnout is significant.

The study in its second objective intended to establish the relationship between academic grit and academic burnout. It was found that there exists a relationship that is negative and significant among these variables. This implied that increased grit in academic will help lower the academic burnout and vice versa. From the results of studying the relationship between grit sub domains (grit perseverance and grit consistency) and academic burnout, study concludes that both sub domains related negatively and significantly with academic burnout. This implies that students who have increased levels of grit perseverance, and high level of grit consistency suffered less academic burnout and vice versa. From Post-hoc test carried out to determine if there exist significant differences in academic burnout between the different levels of grit (low, moderate, and high), the study concludes that students with high levels of grit perseverance, and high level of grit consistency suffered less academic burnout and vice versa.

The third objective in this research was to establish a prediction equation for academic burnout from academic engagement and academic grit. From the study results, it is concluded that both grit and academic engagement had a joint negative and significant predictive value on academic burnout among form three students in Kipipiri Sub County. This implies that, academic burnout decreased with increase in academic engagement and grit and vice versa. Further, it was concluded that gender and age do not have any significant predictive value on academic burnout when considered together with academic engagement and grit. An appropriate prediction equation for academic burnout from academic engagement and academic grit was established as follows:

$\hat{Y} = 57.17 - 0.11(\text{Ac Engagement}) - 0.37\ (\text{Grit})$

The equation implies that academic burnout decreased by .37 and .11 points for every standard deviation increment in grit and academic engagement respectively.

5.4 Recommendations

The following recommendation were made based on the objectives of this study

5.4.1 Practice Recommendations

i. The Ministry of Education should use the results of this study to enhance schools' programs that promote academic engagement in order to deal with academic burnout among students in secondary schools.

ii. Members in guidance and counseling department together with other teachers in secondary schools should come up with guidance and counseling programs that can help to boost academic grit among students in order to decrease academic burnout

5.4.2 Recommendations for Further Research

i. The study used questionnaires only to collect data from the students. For in-depth understanding of academic burnout, the researcher recommends for a similar study to be conducted using mixed research where both quantitative and qualitative data will be collected in other counties in Kenya. This will help to bring out more issues on academic burnout that cannot be measured using questionnaires.

ii. The study participants were learners in form three in Kipipiri Sub-county in Nyandarua County and therefore there is need for similar studies in other counties involving students in primary, college and university to enhance generalization of the findings. This will go a long to address the issue of academic burnout among students in different levels of learning.

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APPENDICES

APPENDIX A: CONSENT FORM

Dear Participants,

I am a student at Kenyatta University pursuing Masters' Degree in Educational Psychology. I am carrying out research on academic engagement and Academic Grit as Correlate of Academic Burnout among Students in Public Secondary in Nyandarua County. I humbly request you to respond to the questionnaires items honestly. The information given will be treated with highest confidentiality. Your sincere responses will help in building up the stock of knowledge on alleviating academic burnout and ultimately improve academic outcomes.

Sign……. date……. (I agree to this study)

Thank you

David Gichomo

Masters student, (Educational Psychology) Kenyatta University.

APPENDIX B

THE QUESTIONNAIRES FOR STUDENTS

Instructions

Kindly fill in your responses honestly .The information you will provide will be treated with confidential and shall only be used for this study purpose. Please fill the spaces and put a tick(✓) where necessary**.**

Section I: Background information

Kindly fill by using a tick in the spaces provided where appropriate

1. Your Type of school

   Boys boarding [ ]

   Girls boarding [ ]

   Mixed day [ ]

   Mixed boarding [ ]

2. Indicate your gender

   Male [ ]

   Female [ ]

3. Indicate your age bracket

   14-17 [ ]

   18-21 [ ]

   22– above [ ]

Section II: Academic Engagement

Read the following statements and Please TICK (✓) in the space provided as represented by the numbers as shown.

1= Never, 2 = Sometimes 3 = Occasionally, 4 = Usually, 5 = Always

Items	**Statements**	1	2	3	4	5
	Vigor					
1	When I'm doing my work as a student, I feel bursting with energy					
2	I feel energetic and capable when I'm studying or going in class					
3	When I get up in the morning, I feel like going in class					
	Dedication					
4	I am enthusiastic about my studies					
5	My studies inspire me					
6	I am proud of my studies					
	Absorption					
7	I feel happy when am studying intensely					
8	I am immersed in my studies					
9	I get carried away when am studying					

Section III: Academic Grit Scale

Please put a tick (✓) in the space provided after the statements as represented by the numbers as shown. The statement only represents your feelings on academic grit

1 = Not at all like me; 2 = Not much like me; 3 = somewhat like me; 4 = Mostly like me;

5 =Very much like me

Item No	Statement	1	2	3	4	5
1	I push myself to my personal best in school					
2	I work toward my academic goal no matter how long they take to reach					
3	Even when I could do something more fun, I give academic work my best effort					
4	I complete my school work no matter how difficult it is					
5	I am determined to give my best effort in my academic work					
6	Once I set goals in school, I try to overcome any challenge that arise					
7	I am able to balance working hard in my academic with other hobbies and interest					
8	Even if am struggling in my academics, I keep trying my best					
9	When it comes to completing work in school, I always try my hardest					
10	In school, I work hard to achieve challenging academic goals					

Section IV: Academic Burnout Questionnaire

The statements below describe the general feeling experienced by students. Please respond by indicating your feeling by use of a tick ((✓) in spaces provided. Give only one answer.

1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree

Items	**Statements**	**1**	**2**	**3**	**4**
	Academic Disengagement				
1	It happen more and more often that I talk about my studies in negative way				
2	I find my studies to be positive challenge				
3	Over time, one can become disconnected from this type of study				
4	I feel more and more engaged in my studies				
5	When I study, I usually feel energized				
6	After class or after studying, I tend to need more time than in the past in order to relax and feel better				
7	After a class or after studying, I usually feel workout and weary				
8	While studying, I often feel emotionally drained				
	Academic Exhaustion				
9	After a class or after studying, I have enough energy for my leisure activities				
10	Lately, I tend to think less about my academic task and do them almost mechanically				
11	I can tolerate the pressure of my studies well				

12	Sometimes I feel sickened by my studies				
13	This is the only field of study that I can imagine myself doing				
14	There are days when I feel tired before I arrive in class or start studying				
15	I can usually manage my study-related workload well				
16	I always find new and interesting aspects in my studies				

APPENDIX C: K.C.S.E PERFORMANCE IN NYANDARUA COUNTY, YEAR 2019-2021

Sub-counties			
Year	**2019**	**2020**	**2021**
Nyandarua North	4.687	3.871	3.681
Nyandarua west	3.902	4.763	3.483
Nyandarua central	4.374	3.924	3.717
Kipipiri	3.202	3.891	3.553
Nyandarua South	4.024	3.962	3.606
Kinangop	4.130	4.904	3.937
Mirangine	4.503	3.902	3.841
MEAN SCORE	**4.117**	**4.173**	**3.687**

APPENDIX D: MORGAN AND KREJCIE SAMPLE SIZE DETERMINATION TABLE

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

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

APPENDIX E: PERMISSION FOR QUESTIONNAIRES

Request to Use Academic Grit Scale
2 messages

Kelly Clark <kellyclark@lsu.edu> Mon, Aug 29, 2022 at 11:55 PM
To: davidgichomo14@gmail.com <davidgichomo14@gmail.com>

Hello,

Thank you for your interest in the Academic Grit Scale. Please find the measure attached. The measure is free to be used for its intended purposes with no fees at this time. Please let us know if there is anything else with which we can help you.

We do ask that you consider sharing your Academic Grit Scale data with demographic characteristics at the conclusion of your study so that we may add the data to our psychometric database. Further, if you are translating the measure into another language we would appreciate if you would consider sharing your translated version.

Thank you for your interest and good luck with your research,

Kelly Clark

Kelly N. Clark, Ph.D., NCSP
Assistant Professor
School Psychology Program
Department of Psychology
Louisiana State University
kellyclark@lsu.edu

Who are School Psychologists?

David Gichomo <davidgichomo14@gmail.com> Mon, Aug 29, 2022 at 11:59 PM
To: Kelly Clark <kellyclark@lsu.edu>

Thanks so much appreciated.
[Quoted text hidden]

Permission to use The Utrecht work engagement scale for students(UWES-S
1 message

Schaufeli, W.B. (Wilmar) <w.schaufeli@uu.nl> Sun, Sep 11, 2022 at 12:10 PM
To: David Gichomo <davidgichomo14@gmail.com>

Dear David,

Thank you very much for your interest in my work.

You may use the UWES free of charge, but only for non-commercial, academic research. In case of commercial use, we should draft a contract.

Please visit my website (address below) from which the UWES can be downloaded, as well as all my publications on the subject.

Good luck with your research.

With kind regards,

Wilmar Schaufeli

Wilmar B. Schaufeli, PhD / Full Professor of Work and Organizational Psychology / *Social, Health & Organizational Psychology* | Utrecht University|P.O. Box 80.140, 3508 TC Utrecht, The Netherlands |Phone: (31) 6514 75784 | Site: www.wilmarschaufeli.nl |citations|

Van: David Gichomo <davidgichomo14@gmail.com>
Datum: maandag 29 augustus 2022 om 11:47
Aan: Wilmar Schaufeli <w.schaufeli@uu.nl>
Onderwerp: Permission to use The Utrecht work engagement scale for students(UWES-S

APPENDIX F: RESEARCH AUTHORIZATION

KENYATTA UNIVERSITY
OFFICE OF THE EXECUTIVE DEAN GRADUATE SCHOOL

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

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Our Ref: E55/CE/NKU/20528/2020 DATE: 27th April 2023

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

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. DAVID GITA GICHOMO – REG. NO. E55/CE/NKU/20528/2020

I write to introduce Mr. David Gitta Gichomo who is a Postgraduate Student of this University. He is registered for M.Ed. degree programme in the **Department of Educational Psychology.**

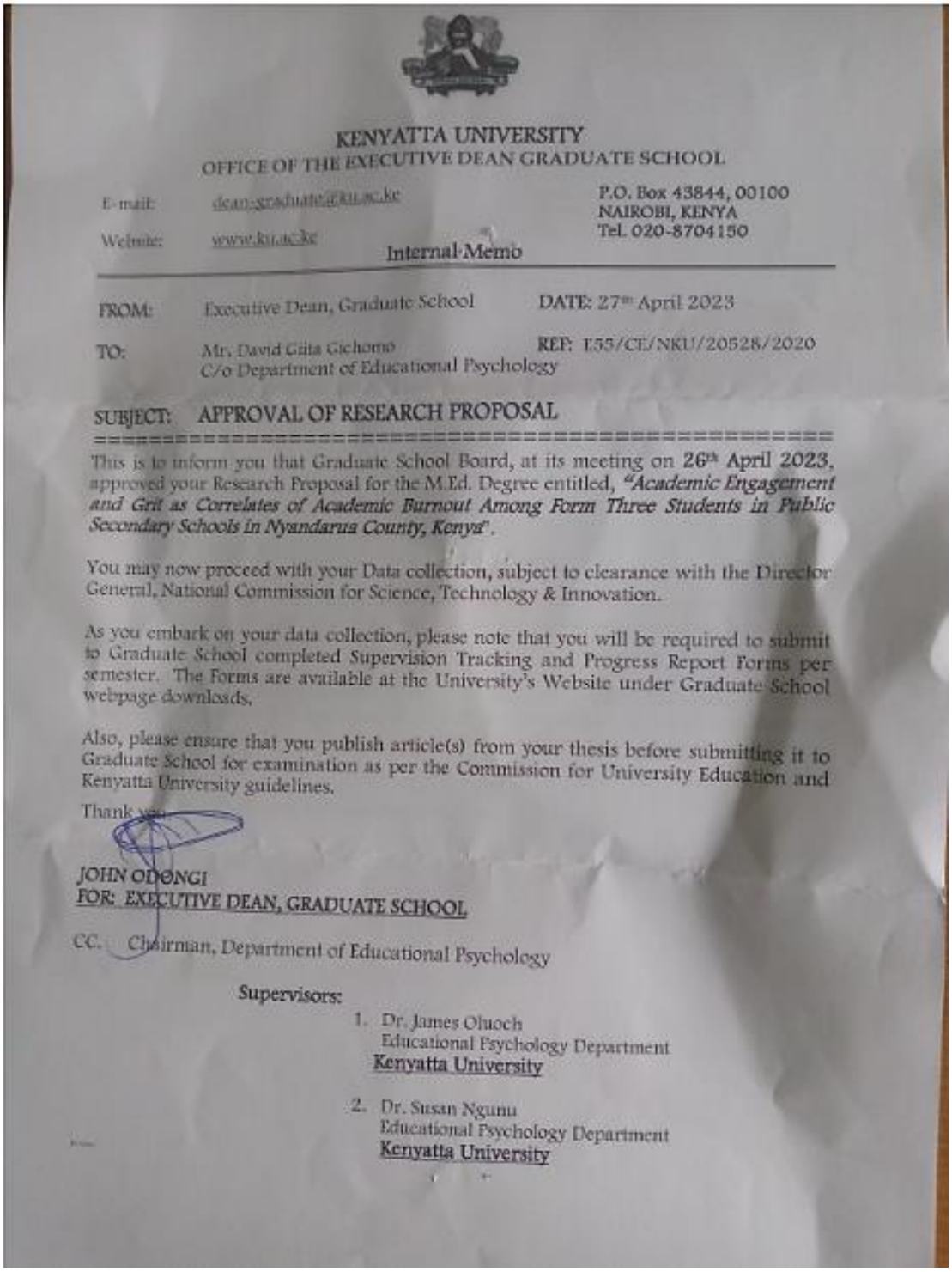
Mr. David Gitta Gichomo intends to conduct research for a M.Ed. Thesis Proposal entitled, "*Academic Engagement and Grit as Correlates of Academic Burnout Among Form Three Students in Public Secondary Schools in Nyandarua County, Kenya*".

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

APPENDIX G: RESEARCH APPROVAL



KENYATTA UNIVERSITY
OFFICE OF THE EXECUTIVE DEAN GRADUATE SCHOOL

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

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 27th April 2023

TO: Mr. David Gaita Gichomo
C/o Department of Educational Psychology

REF: E55/CE/NKU/20528/2020

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting on 26th April 2023, approved your Research Proposal for the M.Ed. Degree entitled, *"Academic Engagement and Grit as Correlates of Academic Burnout Among Form Three Students in Public Secondary Schools in Nyandarua County, Kenya"*.

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

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

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

JOHN ODONGI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

CC. Chairman, Department of Educational Psychology

Supervisors:

1. Dr. James Ohuoch
   Educational Psychology Department
   Kenyatta University

2. Dr. Susan Ngunu
   Educational Psychology Department
   Kenyatta University

APPENDIX H: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 235969

Date of Issue: 24/May/2023

RESEARCH LICENSE

This is to Certify that Mr.. DAVID GITA GICHOMO of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nyandarua on the topic: Academic Engagement and Grit as Correlates of Academic Burnout among form three students in Public Secondary Schools in Nyandarua County Kenya for the period ending : 24/May/2024.

License No: NACOSTI/P/23/25940

235969

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 I: MAP OF NYANDARUA COUNTY