GENDER DIFFERENCES IN THE RELATIONSHIP BETWEEN SELECTED PSYCHOLOGICAL FACTORS AND STUDENTS' PERFORMANCE IN FORM FOUR CLUSTER EXAMINATIONS IN SECONDARY SCHOOLS IN NYAKACH SUB-COUNTY, KENYA

BY

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DECLARATION

DECLARATION BY CANDIDATE

I declare that this thesis is my original work and has not been submitted to any other university for the award of a degree.

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DEDICATION

This work is dedicated to my dear mother Mrs. Martha Ayomo, my husband Mr. Joseph Odongo Yugi, my son Mark Odongo and the entire Ayomo's family for their encouragement and inspirations.

ABSTRACT

Countries world over have endeavoured to achieve gender equality in education given that it is central in propelling national growth and development. Psychology provides a basis for understanding the teaching and learning process in education. Good academic performance opens up opportunities for career development. In the Kenyan system of education, Form Four examination predetermines the professional or academic path the students follow thereafter. The students' mean performance in Form Four examination for Nyakach Sub-County in 2015 was 4.8828, much lower than those of neighbouring Sub-Counties of Muhoroni and Nyando whose mean scores in the same year were 5.5773 and 6.4275, respectively. The purpose of this study was to establish gender differences in the relationship between selected psychological factors and students' academic performance in Nyakach Sub-County. The study sought to: establish gender differences in students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance; establish the relationship between students' attitude towards learning and academic performance and establish gender differences in the relationship between students' attitude towards learning and academic performance. The conceptual framework captured the two main variables in the study namely psychological factors and academic performance with gender as the intervening variable. Correlational survey design was used in the study. The study population consisted of 3400 Form four students, 53 Principals and one Sub-County Director. The sample consisted of 352 (227 male and 125 female) students selected by using Yamane formula (1967), six Principals and one Sub-County Director of Education selected by purposive sampling. Questionnaires and interview schedules were used to collect data. Quantitative data from closed ended items in the Questionnaires were analysed using both descriptive and inferential statistics. The validity and reliability of the instruments were considered through involvement of university appointed supervisor using Cronbach's alpha coefficient method. In particular, frequencies, graphs and percentages were used as descriptive statistics. SPSS Version 16.0 was used to aid in statistical data analysis. Chi-square and correlation were used as inferential statistics. Qualitative data were organized into themes and sub-themes before interpretation. Findings indicated that as much as the relationship between the selected psychological variables and academic performance were not statistically significant ($p>.05$), the nature of relationships differed across gender. More specifically, gender differences in performance were most pronounced when attitude towards learning was negative, at high levels of test-anxiety, at low levels of locus of control and at high levels of self-concept. It became clear from the findings that attitude may just be a cover up to reasons for poor academic performance in examinations whereas peer pressure was identified as a major challenge as it leads to absenteeism and early pregnancies among girls. It is recommended that in order to bridge the gender gap in academic performance, students' attitude towards learning should be positive, their levels of test-anxiety should be low, levels of self-concept and their levels of locus of control should be high. The findings have implications for classroom teaching.

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LIST OF ABBREVIATIONS AND ACRONYMS

CCTV	-	Closed Circuit Television
EIF	-	Education Improvement Funds
ICT	-	Information Communication Technology
KCSE	-	Kenya Certificate of Secondary Education
KNEC	-	Kenya National Examinations Council
KNUT	-	Kenya National Union of Teachers
KUPPET	-	Kenya Union of Post Primary Education Teachers
SCDE	-	Sub County Director of Education
SES	-	Socio-economic Status
SMASE	-	Strengthening of Mathematics and Science Education
TSC	-	Teachers Service Commission
TPAD	-	Teacher Performance Appraisal and Development

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Gender related disparities have characterized Kenyan education system at the national and regional levels from primary to university in favour of males. This has been in the form of better performance in favor of boys at all levels (UNESCO 2015). Over the years, the top one hundred candidates at national, provincial, county, district level has been dominated by male candidates. It's only in a few districts where the performance has been in favour of girls' (KNEC, 2011).

People normally confuse gender and sex but the two are different in that gender refers to the economic, social, political and cultural attributes and opportunities, associated with being male or female. It is noted that, all societies have implicit conceptions of gender, or stereotypes, which they use to differentiate the treatment of girls and boys (Global Monitoring Report, 2002). Accordingly, while women in most societies take primary responsibility for caring for the family, men tend to be associated with the work outside the home. Gabelko (2012) notes that, the assignment of roles and development of skills is defined socially and culturally on the basis of sex. From an early age, children develop behavior that is appropriate to their sex roles by imitation of parents and other role models. The term sex refers to the biological and physiological characteristics that define men and women. The biological perspective on sex differences and cognitive performance considers social factors to be trivial or subordinate to biological factors like brain structure.

Gender differences are social constructs, inculcated on the basis of a specific society's particular perceptions of the physical differences and the assumed tastes, tendencies and capabilities of men and women (Gabelco, 2012). Gender relations are accordingly defined as the specific mechanisms whereby different cultures determine the functions and responsibilities of each sex. They also determine access to material resources, such as land, credit and training, and more ephemeral resources, such as power. The implications for everyday life are many, and include the division of labour, the responsibilities of family members inside and outside the home, education and opportunities for professional advancement and a voice in policy-making. For so long when discussing gender issues, the focus has been on women and their subordination to men in all aspects of life.

According to a study by Hilke and Conway (1994), gender equity means fairness of treatment for women and men, boys and girls, according to their respective needs. This may include equal treatment or treatment that is different but which is considered equivalent in terms of rights, benefits, obligations and opportunities. In education this means the recognition by policy makers and educators of the inherent differences of both girls and boys in terms of ability and circumstances and acting accordingly to ensure that no one is left behind or is disadvantaged. The study asserts that the imperative for gender equity can be seen in a number of lights. Firstly there is a moral reason to ensure that one of the sexes is not disadvantaged compared to the other. The disadvantage may be the end result of many years of treatment based on culture, religion and tradition. The second imperative to raising the performance of one of the sexes to be similar to the other is the concomitant increase in economic and social benefits that this will bring.

Students' psychological factors are vital since success in academic performance and learning processes, which entail the student work fully depend on them. A student's attitude, perception or self-concept towards learning can be referred to as a set of evaluations of his academic performance which constitutes motivation, feelings, belief and attachment to the process of learning. Psychological factors are conceptualized as relatively stable constructs comprising attitude, locus of control, motivation and other behavioural components.

Olantunde (2010) conducted a research on students' self-concept and mathematics achievement which showed that students who have a positive self-concept of themselves performed well in mathematics. The child who views himself and his abilities positively is the one who can maximally benefit and achieve good results in school learning experiences. The study also found out that there is a direct link between students' attitude towards mathematics and their outcomes, hence, students who have a poor attitude towards mathematics will show a high degree of inconsistency in their action. No single factor can explain the reason why academic performance differs from one student to another and from one region to another as (Gabelko, 2012) observes. This was the motivation behind this study to establish gender differences in relation to selected psychological factors and students' academic performance in Form Four examinations in Secondary Schools in Nyakach Sub-County, Kenya

According to Mukhtaq and Khan (2012), test anxiety has a debilitating effect on academic achievement of students. This position is shared by Omar (2010) who in his research associated high test anxiety with low achievement. He also observed that children with high test anxiety had significantly lower scores. Likewise Tayabba (2005) found that test anxiety yielded differences

in student learning outcomes and that high test anxious students were unable to benefit directly from organized instruction did increase students motivation to attend future classes. In Canada the attitude of students were studied and found to be mostly negative and were determined by emotional intelligence, self-efficacy, age and grade level. They further established that there was a relationship between students' academic performance, attitude, and self-efficacy among students. The study also found out that those students whose attitudes were low had low academic performance in their national examination. Further, students in lower classes seem to have more positive attitudes than students in upper classes. The current study used questionnaires and interview schedules to supplement, validate and ascertain the responses in the questionnaires. Nyagosia (2013) concurs that using both questionnaires and interview schedule is the best method of accessing the valid information since it ensures validation and triangulation of the findings.

A study in USA by Carrie (2013) sought to find out the extent to which test anxiety was related to standardized test score using a correlation research design. A sample of 50 fourth grade students were involved in the study. The instruments used to collect data were test anxiety questionnaire together with pulse rates which was used to measure anxiety level of each level of the 4th grade students just before administering the standardized test. The results of this study showed that there was significant negative relationship between test anxiety and academic performance in standardized science test. In the study the researcher used a sample of 50 participants, which is very prone to great error margins whereas in the present study a sample of 352 participants was used, hence lowering the error margins in computation of data results. The study by Fulton (2016) used fourth grade learners who are relatively younger unlike the present

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study involving form four students who are assumed can have accurate perceptions on motivational variables having taken four years in secondary school. In addition, the extent to which test anxiety affects performance in standardized examination was not considered in the above study compared to the current study which focused on the extent to which test anxiety affects academic performance in all form four subjects in KCSE Examinations.

A study by Putwain and Symmes (2011) in the UK established how achievement goals mediated the relationship between competence beliefs and test anxiety. The study used a total of 275 participants in post compulsory education process in A-level psychology. Competence beliefs were inversely related to the worry and tension components of test anxiety, both directly and indirectly through a performance avoidance goal orientation. The reviewed study was based on general academic performance whereas this study focused on form four cluster examination to fill the gap in literature. Furthermore, the reviewed study was A-level of education unlike the present study which was carried out in secondary schools.

In Ghana, the attitude of the students are mostly negative as evident from various studies. A study by Adu (2005) found out that students had negative attitude towards learning. The students were not willing to take up cluster examinations or performed poorly. Another study by Ayodele (2014) indicated that students have negative attitudes towards science subjects. Further, female students had more negative attitude towards science subjects than male students. He therefore recommended that the government of Nigeria should introduce cluster examination in all schools before national examination. Therefore, to improve academic performance of students', all these

aspects have to be dealt with in a reasonable manner, otherwise, the educational goals may not be achieved.

In South Africa, students expressed negative attitudes towards their examinations due to various factors as is explicit in several studies. Ayodele (2014) found out that students had negative attitudes towards implementation of the inclusion in the classroom. They established that male students had more negative attitude than female students. Similarly, students who were in upper classes had more negative attitudes than those in lower classes. The study concluded that refusal of parents to get involved in the education of their children significantly contributed to poor academic performance among students. Since most of developing countries vary in their educational policies, studies from them cannot be applied generally to all developing countries in Africa, Asia, and Latin America. Thus, need for a study to investigate the influence of psychological factors on students' academic performance in secondary schools in Nyakach Sub-County, Kenya.

In Kenya, the attitude of students attracted attention as early as the arrival of formal education. There have been debates about students' attitude as triggered by poor performance in national examination in recent years. This has resulted in studies that have associated the students' attitudes to various factors. Nyagosia, Waweru and Njuguna (2013) found out that attitudes of students' in private secondary schools were more negative compared to those in public secondary schools, and asserted that such attitudes affects students' academic performance. The study maintained that the commitment of students in their academic work depends entirely on

their attitude. Thus, enhancing students' attitude improves students' commitment in academic programs that improved their performance.

Table 1.1 Cluster Results for Nyakach Sub County Secondary Schools

Category of Grades	Years		
	2014	2015	2016
C+ TO A	1390	1470	728
E TO C	1622	1679	2765
% Quality grades	46.15%	46.70%	20.84%
% Poor grades	53.85%	53.30%	79.16%
ENTRY	3012	3148	3493

Source: Sub County Director's Office, Nyakach Sub-county 2017

Table 1.1. shows that in 2014, 2015 and 2016 the quality grades were 46.15%, 46.70% and 20.84% respectively. In 2014, 2015 and 2016 the poor grades were 53.85%, 53.30% and 79.16% respectively. This significant drop in 2016 might have been attributed to stringent measures put in place by Cabinet Secretary to curb examination cheating like putting the principals and the deputy principals to be in charge of examination centres as centre managers and also for the principals to be collecting the examination themselves. However, in 2014 and 2015 statistics continued to show below average performance.

Table 1.2 KCSE Mean Score for Nyakach Sub County Schools for the year 2014-2016

YEAR	ENTRY	MEAN SCORE	NO OF SCHOOLS
2014	3012	4.9463 C-	50
2015	3148	5.1993 C	50
2016	3493	4.9078 C-	51

Source: Sub County Director's Office Nyakach District and KNEC Library (2017)

Table 1.2 shows the mean score of the whole sub county schools for the year 2014-2016. The mean scores just reflect average performance. What emerges when comparing Nyakach to

neighbouring sub counties like Muhoroni and Nyando. Nyakach Sub County has persistently performed poorly over the last four years. The latter is illustrated by the Table 1.3, where Nyakach Sub County consistently has the least mean score compared to the other Sub-Counties in Kisumu County.

Table 1.3 Sub Counties Yearly Mean Score   2013-16

Source: Sub County Directors' Office- Nyakach, Nyando, Muhoroni, Seme, Kisumu Central,

SUB COUNTY	SEME	KISUMU CENTRAL	KISUMU WEST	KISUMU EAST	MUHORONI	NYANDO	NYAKACH
2013	4.971	6.723	5.812	5.542	6.221	5.589	4.558
2014	5.213	6.554	6.002	5.826	6.573	5.811	4.946
2015	5.413	6.143	5.654	6.782	7.125	8.871	5.1193
2016	5.123	6.528	6.211	5.983	5.791	5.038	4.9078

Kisumu West, Kisumu East and KNEC Library (2017)

1.2 Statement of the Problem

Literature indicates that academic performance in Cluster Examinations in Secondary Schools in Kenya increased from 6.534 to 8.723 in the year 2013-2015 which was immediately after the introduction of cluster examinations which is a standardized examination that predicts the outcome in K.C.S.E at the end of form four. The current performance nationally in these examinations is at 8.823 which is a positive reflection of the achievement of cluster examination. These examinations have been administered in secondary schools in Kenya for many years and have been a bench mark for KCSE performance. However, according to data from Nyakach Sub-county education office the students' academic performance in form four cluster examinations still lags behind compared to the neighbouring sub counties of Nyando and Muhoroni despite the effort and resources that parents, teachers and students put into the preparations for these examinations. Compared to Nyando and Muhoroni sub-counties which posted combined mean

scores of 5.5773 and 6.4275 during 2013-2015 period, Nyakach Sub County's mean stood at 4.8828. Comparatively, such dismal performance looked at vis-à-vis others like Nyando, Seme, Kisumu West, Kisumu Central, and Kisumu East and Muhoroni impacts negatively on students' prospect of joining higher institutions of learning and future job placement. Given the importance of education to the country and commitment of funds to education programs in the country, students who do not perform well are a drawback to the country's move towards vision 2030. It is of concern to highlight that the trend in performance in cluster examination in Nyakach Sub-county does not reflect a trend towards attainment of good grades for career development. It is assumed that by introducing cluster examination, secondary schools students' performance will improve in National examinations. Similarly, the cluster examinations being a standardized examination would be used by Principals for planning in getting teaching/learning materials needs among others, required by the teachers and students in the teaching/learning process. Earlier studies by Mahmood and Rana (2010) on psychological factors revealed that there is a correlation between academic performance and some psychological correlates such as learners' attitude, text anxiety and self-concept. Therefore this study seeks to establish the extent of student's personal psychological factors like learner's attitude, text anxiety and self-concept on students' academic performance in form four cluster examinations in secondary schools in Nyakach Sub-County.

1.3 Purpose of the Study

The purpose of this study was to establish gender differences in the relationship between selected psychological factors and students' academic performance in Secondary Schools in Nyakach Sub County, Kenya.

1.3.1 Objectives of the Study

The objectives of this study were:

i. To establish students' level in the selected psychological variables and academic performance.

ii. To determine gender difference in students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance.

iii. To examine the relationship between students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance.

iv. To establish gender difference in the relationship between the selected psychological variables and academic performance.

1.3.2 Research Questions

The following Research Questions guided the study:

i. What is the students' level in the selected psychological variables and academic performance?

ii. What are the gender differences in students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance?

iii. What is the relationship between students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance?

iv. What is the nature of relationship between the selected psychological variables and academic performance across gender?

1.4 Scope of the Study

The study was carried out within public secondary schools in Nyakach Sub County in Kenya. Only form four students of the year 2018 participated in the study, which suits the study because their length of stay in the school accorded them the ability to make informed opinion and views as compared to other colleagues in other forms/classes. The study was limited to only four psychological variables because a study by Mahmood and Rana (2010) on Psychological Correlates of Academic Achievement among Adolescents suggested further research on more variables like self-concept, motivation, locus of control, test anxiety and attitude towards learning.

1.5 Limitations

Various factors were envisaged to possibly hinder the achievement of research objectives in this study. Due to competing activities and heavy workload, sometimes the Principals and Sub-County Directors of Education may not be available for interviews. To overcome such possible limitations the researcher chose to collect data during the official work breaks instead of official working hours. The researcher dropped the questionnaires for students and left them to be filled when they had sufficient time. This however increased the study period making the researcher take a longer time to complete the study. To counter this challenge, the researcher reminded and encouraged them to take the shortest time possible and gave reasonable deadlines. Another limitation was fear of victimization. Some respondents were afraid of their seniors in giving negative responses about their school. To mitigate this challenge the researcher explained to them that the study was for academic purpose only and assured them of their privacy. The psychological correlates were not easily understood by the respondents, to counter this challenge the researcher had to explain in detail.

1.6 Assumptions of the Study

The assumptions of the study were:

i. All students covered the same syllabus,

ii. The teachers in all the schools have similar academic/professional qualifications,

iii. All students come from families with similar economic strength, and

iv. The education managers provide the necessary support to teachers for effective implementation of teaching

1.7 Significance of the Study

The significance of this study is that it would offer reference point to teachers with regards to factors that influence learner preparation and performance towards KCSE examinations, Ministry of Education the Government and stakeholders who are responsible for education and policy implementation. By considering the three domains, the cognitive (intellectual) domain, affective (emotional) domain and the psychomotor (physical) domain. Curriculum planners can define the learning outcome more clearly.

The findings in this study would offer suggestions that the Ministry of Education could adopt when designing policies governing cluster examinations in secondary schools in the country. Education Quality Assurance officers would find it a useful tool for advice on how to conduct cluster examinations at their centres and basis for monitoring performance of examinations at the same time. From this study, learners would be informed of the real issues behind their positive or negative academic performance leading to KCSE examinations.

1.8 Conceptual Framework

Conceptual Framework is a tool of research analysis with a number of variations and contexts that is used to make conceptual distinctions and for organizing ideas by capturing something real and presenting it in a way that is easy for understanding and applying appropriately. It

represents a researchers' understanding of how the research variables in the study connect with each other. This study sought to find out how the students' personal psychological factors (independent variables) like, student's attitude, locus of control, text anxiety, and self-concept would predict academic performance (dependent variable) in cluster examinations among secondary school students in Nyakach Sub-County. To better underscore the interplay of variables in the foregoing description of the problem to be investigated in this study and theoretical guidelines to the study, a conceptual framework was developed by the researcher. The framework shows that there exists a relationship between psychological factors and students' academic performance in KCSE Cluster examinations. Indeed it was hypothesised that, when the learner has low self-esteem, high levels of anxiety and thinks that they belong to a lesser gender their academic performance dwindles. The conceptual framework for the study is presented in Figure 1.1.

Independent variable   **Dependent variable**

Psychological factors

Attitude towards learning
- Score on attitude scale.

Test anxiety
- Score on Test-anxiety

Locus of control
- Score of LOC scale.

Self-concept
- Score on Self-concept scale.

Academic performance

Cluster examination mean score of students

Intervening variables

- Gender
- Learner entry behavior
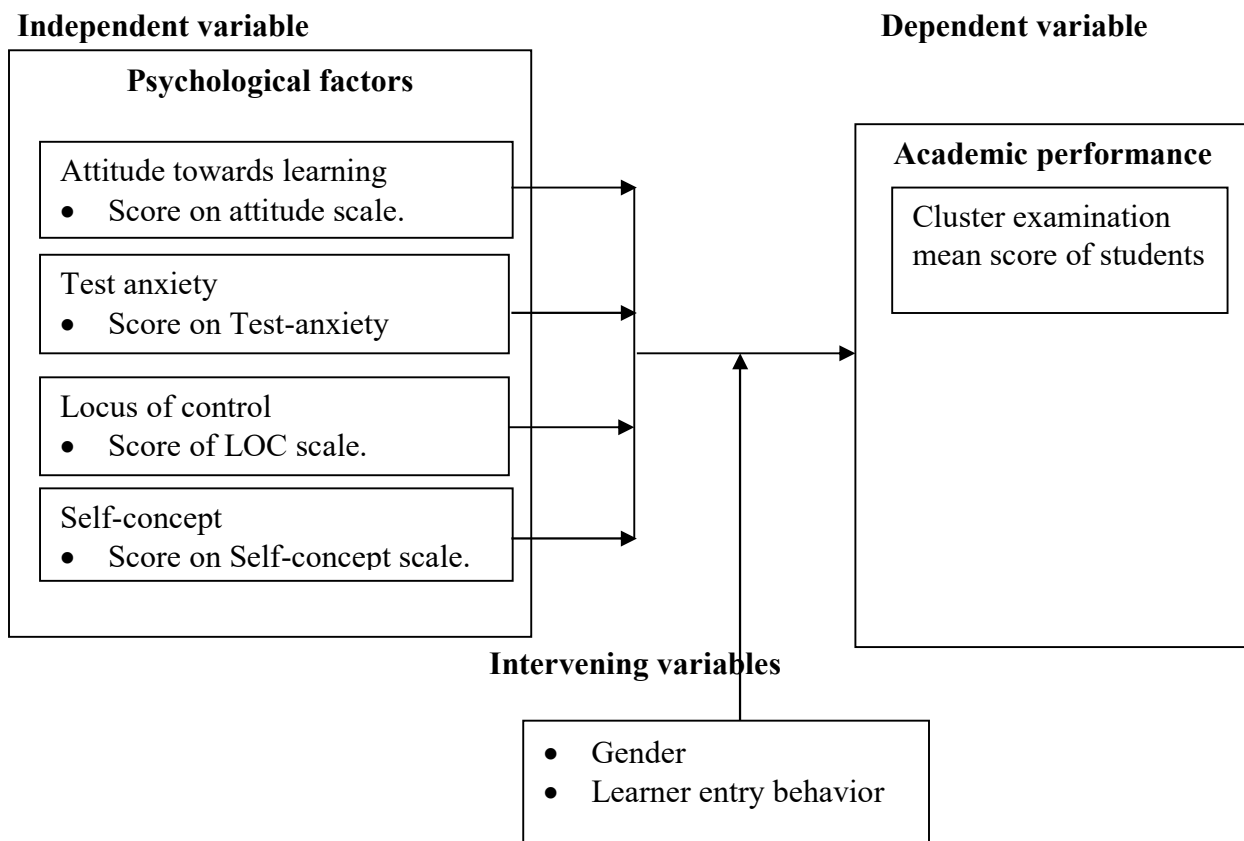
Figure 1.1 Framework on Relationship between Selected Psychological Factors and Academic Performance.
Source: Researcher, 2018

From the conceptual framework in Figure 1.1, selected psychological factors were students' attitude, locus of control, anxiety, and self-concept. This is because psychology provides a basis for understanding the teaching and learning process in education. This position is supported by studies carried out in Nigeria by Chukwu (2014) in which he studied the relationship among test anxiety, academic achievement and interest of senior secondary school students in geometry and also a study by Alake et al (2014) in which they investigated students' variables as predictor of secondary school students' academic achievement in science subjects . Therefore, collectively the variables were regarded as the independent variables in the study and it was conceptualized that each influence academic achievement in form four cluster examination directly, independently, as well as jointly. Academic achievement in cluster examination is the dependent variable in this study and this is conceptualized in form of mean grades or mean scores from the form four cluster examination. However, the study also acknowledged the relationship of independent and dependent variables and how they may have been affected by intervening variables which though not component of students' personal psychological factors and not included in the study, they impact on academic performance. In the present study, the intervening variables are learners' gender and school entry behaviour. The intervening variables in Figure 1.1 were controlled through randomization which is a process of making something random where participants are assigned by chance, rather than by choice.

1.9 Operational Definition of Terms

Academic Disparity: The condition of being unequal in the academic performance in   this case between boys and girls and in the context of this study, the performance   difference between male and female students in KCSE examinations

Attitude: Refers to individual inclination either for or against something that is academic performance. In this context it refers to how a student's inclination has affected the academic performance.

Cluster Examination: Refers to joint assessment uniform for a given unit or sub-unit in education setting. In this study it refers to end of second term form four joint standardized examination that predicts K.C.S.E outcome at the end of Form Four.

Gender Stereotype: These are generalizations about the gender attributes and differences that often an individual or a group are subjected to.

Locus of Control: It is the degree to which people believe that they have control over the outcome of events in their lives as opposed to external forces beyond their control and in this study it refers to a student's self-confidence as being able to   take care of themselves and their performance.

Performance in Cluster examination: The mean score which a student attains in all subjects at the terminal level of school. The mean score of between A to B+ is   above average, between B- to C- is average, D+ to E is below average.

Sub County: The newly introduced administrative units in Kenya. In this context it refers to Nyakach Sub County.

Student personal psychological factors: In this study it refers to students' attitude towards learning, locus of control, test anxiety, and self-concept.

Test Anxiety: It is a fear that one feels before or while taking an important examination. It prevents one from performing as well as he/she could on the examination. In the present study, test anxiety was measured based on cognitive, behavioural and physiological signs or symptoms that the students exhibited before, during and after cluster exams.

CHAPTER TWO:

LITERATURE REVIEW

2.1 Introduction

This section discussed past studies and contributions so far made on the student relative to educational performance. The chapter is sub-divided into different sections, each dealing with different aspects relative to the research topic. The sub topics identified and discussed in this section included the Psychological factors that are likely to affect student performance within the school. The chapter ends with a summary that provides an overview and identifies the research gap.

2.2 Students Personal Psychological Factors Influencing Academic Performance

Schools, colleges and universities have no worth without students. Students are the most essential assets for educational institutions. According to Mushtaq and Khan (2012) the social and economic development of a country is linked to the student academic performance. They contend that students may have different views about themselves in three areas. First, they have universal beliefs regarding their academic capabilities and performance. Secondly, they have general thoughts about their potential to narrate with other people, especially with their peers, and three, they have universal beliefs about their ability to connect in co-curricular activities such as sports and out-door games. These beliefs will have effects on students' attitude and their participation in co-curricular activities.

Sikhwari (2014) has documented how psychological processes can shape students' perception of the academic environment and affect their intellectual performance; For instance, two children, with the same level of ability, confronted with the identical objective of failure, can respond in a

completely different way due to differences in their psychological functioning. Students with low self-efficacy—those who doubt their ability to succeed in school—or students who believe that their level of intelligence is affixed quality, are more likely than their peers to give up, persevere less in effective strategies, experience negative emotions, and fail to return to their original performance level following failure. By contrast, students with high self –efficacy, or those who believe that intelligence is malleable quality that expands in practice, are more likely to view a situation as a challenge, try harder, entertain novel strategies, and return to and even exceed their original performance level. Similarly, humanistic learning theory of self-actualization, whose main proponents are Abraham Maslow and Carl Rogers proposed that human motivation is based on hierarchy of needs, like basic psychological needs, safety needs, love and belonging needs, self-esteem needs, knowing and understanding needs and self-actualization. These needs have implications to teaching and learning. A child whose basic needs like love or esteem are not met may not be interested in acquiring knowledge.

Olantunde, (2010) showed in a research conducted on student's self-concept and mathematics achievement that students who have a positive self-concept of themselves performed well in mathematics. The child who views himself and his abilities positively is the one who can maximally benefit and achieve good results in school learning experiences. This study also revealed that there is a direct link between students' attitude towards mathematics and their outcomes, hence students who have a poor attitude towards mathematics will show a high degree of inconsistency in their performance. This was the motivation behind this study, establishing the influence psychological factors have on students' academic performance in secondary schools in Nyakach Sub-County, in Kenya and to find out why in Nyakach Sub-County even with the

introduction of Cluster Examination and various Government interventions performance in Cluster Examinations still remains low as compared to other Sub-Counties.

2.2.1 Students' Attitude towards Learning

According to Olantunde (2010), psychological factors is the mode of thinking that occurs when the desire for harmony in a decision making overrides a realistic appraisal of alternatives. Attitude refers to the set of beliefs that the learner holds towards members of the target group and also towards his own culture. Language attitude is an important concept because it plays a key role in language learning. For example, research conducted by Ombui (2012) about attitudes and motivation showed a correlation with linguistic performance of learners, emphasizing the role of attitudes and motivation as determinant factors in language learning. It is also generally agreed among researchers that positive attitudes facilitate the learning process, though attitude does not determine the behaviour. In education, attitudes are considered both input and output.

A study carried out in Malaysian medical school observed that each year, about 10-15% of students find it difficult in completing their medical course in time due to cognitive and non-cognitive factors. The factors that influenced student performance were increased student attendance, student extracurricular activities, peer influence and course assessment as well as demographic factors. Others included; attitude towards study, study habits, strategic learning, psychological characteristics, learner background and finally teachers' role (Makworo et al, 2014).

In Kenya, the attitude of students attracts attention right at the inception of their formal education. Poor performance in national examination which has turned for the worse lately is by and large attributed to non-conforming students' attitude. The latter has triggered studies most of

which have associated the students' attitudes to various factors with students 'wayward attitude' taking the lion's share. This study also found out that the attitude of students toward matters academic were more negative in private schools as compared to public schools adding that such attitudes affect students' academic performance. Akhtar (2017) asserts that the commitment by students to their academic work depends entirely on their attitude. Thus, enhancing students' attitude improves their commitment to academic programs which ultimately imparts positively on their performance. Therefore studies indicate that students' academic performance whether good or bad is determined by several factors. A wholesome approach that considers all plausible factors would be the ideal. While several studies have been done to investigate the variables influencing students' attitude towards work, very limited study is available on the role psychological factors play on students' academic performance, with special reference to Nyakach Sub County in particular.

Attitudes are the predispositions that individuals have towards something. They can be positive in which the person likes something or negative in which the learner dislikes something. Kochhar (2012) states that the child's readiness to learn is determined by his/her attitudes to school and school subjects. When students have a positive attitude to school or school subjects, they will be willing to spend time and efforts in achieving success. Teachers should also have positive attitudes to school and to school subjects in order for them to transfer the positive attitudes to their students. In favour of this, Shiundu and Omulando (2012) say that learning is influenced by the individuals past experiences, attitudes and values. This is because each individual brings along with him/her a unique personality and characteristics that have developed from prior experiences.

In another study, Ombui (2012) argues that attitude of students towards a subject have an implication on their academic achievement. The study indicates that if a student has a positive attitude towards a subject then there are high chances of them performing well in that subject. He says that attitude influences behaviour and that students learning a second language like Kiswahili can be influenced by the attitude they have towards a subject.

A study by Suter and Busienei (2013) reveals that teacher's attitude towards a particular subject also affected students attitude. A study carried out in Elgeyo Marakwet district in Kenya showed that teachers did not have a favourable attitude towards teaching and learning of Kiswahili Literature (Fasihi) which in turn impacted negatively on students' attitude resulting in poor performance in the subject. They blamed this on the failure by Universities to teach Oral literature in Kiswahili during their degree programs which puts teachers in an awkward position. Most of the students use vernacular in communication while at school. They also observed that very little time is allocated for Kiswahili hence poor implementation of Kiswahili curriculum leading to poor performance of the subject at the national examinations.

2.2.2 Locus of Control and Students' Academic Performance

Locus of control has been extensively investigated using Rotter's scale that identifies respondents as either "internals" or "externals". Internals believe that events primarily result from their own behaviour. For example, success on an exam is attributable by internals to their effort. Externals believe that outcomes are primarily the result of chance or someone else's actions. In an academic context, an external would likely consider failure on an exam to be the result of an unfair test (teachers fault), the state of the laboratory, and lack of proper library

among other external factors. By itself, locus of control can have important implications. Fulton (2006) for instance, found that college freshmen who were identified as internals obtained significantly higher GPAs and that internals showed significantly lower academic procrastination, debilitating test anxiety, and reported higher academic achievement than externals. Furthermore, Shute, Howard and Steyaert (2004) justified in their findings that locus of control was firmly related to academic achievement; he mentioned that more than 40 studies had investigated the relationship between perceptions of locus of control and students' academic achievement. Although the results were somewhat inconsistent, internal perception of control tends to be positively correlated with academic achievements. Shute *et al* (2014) in their study posit that both internal and external locus of control are important predictors of academic achievement. They define this sense of control or locus of control as the extent to which an individual believes that he or she has control over an outcome. The study also reported that there is a significant influence of locus of control on secondary school students' performance in mathematics and that locus of control is a significant factor in students' classroom learning especially in spatial subjects like mathematics. The study further revealed that students' with an internal locus of control performed significantly better than those with external locus of control. Many other studies have identified significant relationships between locus of control and academic achievement satisfaction. Studies conducted by Shute *et al* (2014) examined locus of control, interest in schooling and self-efficacy as predictors of academic achievement of Junior Secondary School Students. The results indicated that locus of control, interest in schooling and self-efficacy jointly and relatively contribute significantly to the prediction of academic achievement of the Junior Secondary School Students. Abe (2013) found out that there was no direct effect of locus of control on students' achievement in social studies in his study of the

casual linkages between academic achievement and some socio-psychological variables using a sample of 624 junior secondary school class three students in 30 secondary schools in Oyo state. But there was an indirect effect of locus of control through attitude towards social studies; and another composite indirect effect through attitude and study habit

2.2.3 Test Anxiety and Students' Academic Performance

Fulton (2016) in a study carried out in USA sought to find out the extent to which test anxiety was related to standardized test score using a correlation research design. A total sample of 50 4th grade students were involved in the study and their standardized test scores. The instruments used to collect data were test anxiety questionnaire together with pulse rates which was used to measure anxiety level of each level of the 4th grade students just before administering the standardized test. The result showed that there was significant negative relationship between test anxiety and academic performance in standardized science test in a study that involved a sample of 50 participants, which is very prone to great error margins. The present study however used a large sample of 352 secondary school students drawn from Nyakach Sub-County, hence lowering the error margins in computation of data with more representative results. In addition, the study in USA by Futon (2016) used fourth grade learners who are relatively younger unlike the present study involving form four students who are assumed can have accurate perceptions on motivational variables having taken four years in secondary school.

Nunez-Pena (2016) conducted study in USA to establish gender differences in test anxiety among medical students. A total of 150 medical students (75 males and 75 females) with ages ranging between 17-24 years. Purposive sampling techniques was used to obtain the sample. The

study adopted survey research design. Data was gathered using Test Anxiety Inventory (TAI) and document analysis used to obtain previous academic grades. Results indicated that there was significant relationship between test anxiety and academic performance. The reviewed study was conducted on medical students while the present study involved secondary school students and specifically focused on how psychological factors impact on students' academic performance in KCSE examinations.

Fulton (2016) conducted study in USA which was to find in-depth differences in test anxiety on high-stakes standardized achievements testing and low-stakes testing among elementary school children based on No Child Left Behind (NCLB) achievement testing and classroom testing. A total of 335 participants drawn from grade 3 through 5 were involved in the study. Data was collected by use of questionnaires that accessed test anxiety following NCLB testing and typical classroom testing. Results from the study showed that students had more overall test anxiety in relation to high-stakes testing verses classroom testing. The reviewed study was conducted in USA based on general academic achievement unlike the present study that was conducted in Kenya and focused on the subjects tested in form four cluster examinations an a way to improving performance of students in KCSE examinations.

A study by Weng (2011) in UK was to establish how achievement goals mediated the relationship between competence beliefs and test anxiety. The study used a total of 275 participants in post compulsory education process in A-level psychology studies. Competence beliefs were inversely related to the worry and tension components of test anxiety, both directly and indirectly through a performance-avoidance goal orientation. A mastery-avoidance goal

orientation offered and indirect route from competence beliefs to worry only. The reviewed study was based on general academic achievement unlike the present study which focused on form four cluster examinations leading to KCSE examinations.

A study by Islande and Fonseca (2017) in Costa-Rica focussed on mathematics anxiety on college students and how it related with academic achievement and socio- demographic variables. A total of 472 students registered for a mathematics course were sampled using purposive sampling technique. Analysis of data was done using SPSS. The results indicated that there was a significant negative correlation between mathematics anxiety and academic achievements in mathematics. The reviewed study was conducted on mathematics achievements among college students unlike the current study that focused on achievement on form four cluster examination among secondary school students.

Shakir (2014) in India conducted a study to find out the extent to which test anxiety influenced academic achievement. A random sampling technique was used to obtain a total of 35 participants for the study and data collection was use of standardized Anxiety Scale. Data collected was analysed using both descriptive and inferential statistics. Research findings indicated that there was a significant differences which was found between the academic achievement of high and low academic anxiety groups of students, between high and low academic anxiety groups of males between high and low academic anxiety of females, between high academic anxiety groups of male and female and also between low academic anxiety groups of male and female students. However, the reviewed study was based on general academic achievements unlike the present study which will focus on form four cluster examination in secondary schools to fill the gap in literature.

A study in Nigeria by Ayodele (2014) investigated how the variables emotional intelligence test anxiety, stress, academic success and attitude towards were correlated with achievements in electrochemistry topic in chemistry among high school students. A correlation research design was adopted and 60 senior secondary schools, three chemistry students from 24 secondary schools were selected through stratified random sampling technique. Data was collected from the participants by administering both students' emotional intelligence, stress and test anxiety questionnaire (SISTAQ) and electrochemistry achievements test. Research indicated a low significant relation between test anxiety and academic success. However, the reviewed study was based on chemistry performance and not on all subjects in secondary school which the present study sought to address.

Another study by Amula (2016) in Nigeria was conducted among nursing students in Makurdi Metropolis, Benue state in order to establish the extent to which cognitive test anxiety predicted academic achievement. A total sample 375 who were randomly sampled participated in the study. In order to collect data, the study used questionnaire which was un-adapted and modified cognitive test anxiety scale which had a reliability co-efficient of 0.82 and achievement tests on both English and mathematics was used to measure academic achievement. 375 copies of the instruments were administered to the respondents through research assistants. Data was analysed using both descriptive and inferential statistics by using regression analysis technique. The result showed that there was negative correlation between both English ($r=-.057$) and mathematics ($r=-.273$) with cognitive test anxiety.

In Kenya a study by Aloka, Kaula and Ndeke (2014) in selected secondary schools in Langata was carried out to investigate the relationship that existed between anxiety levels and academic achievements among students. An ex-post facto design was adopted for the study and a sample size of 180 secondary school students (90 boys and 90 girls) was involved in the study. A personality anxiety self-examination and an anxiety examination were administered to participants. Data was analysed using both descriptive and inferential statistics. The results showed a presence of high personality levels at 79% while the test anxiety indicated a relatively low-normal anxiety level of 27%. The study found out that there was a correlation between anxiety levels and academic achievement, and that high anxiety levels had a negative impact on the quality of academic results recorded by the students. The study also established that students encountered some high anxiety causing challenges which affects their ability to perform effectively, and girls were found to be more prone to high anxiety levels as compared to boys. However, in according to the study in Kenya by Aloka and Ndeke (2014) only questionnaires were used and this didn't provide participants' feelings motivational beliefs related to academic achievement in Chemistry. The current study used both questionnaires and interviews and both complemented each other than when either is used on its own. In addition, the reviewed study was on general anxiety and academic achievement. The present study focused on form four cluster examination achievement among boys and girls in secondary schools to fill the literature gap.

In addition, in South Africa, students expressed negative attitudes towards their examinations due to various factors found out by several studies. Through a survey, Suki, Thania, Mira and Sclecher (2011) found out that students had negative attitudes towards implementation of the

inclusion in the classroom. They established that male students had more negative attitude than female students. Similarly, students who were in upper classes had more negative attitudes than those in lower classes. A similar situation was reported in Liberia by Gbollie and Harriet (2016), where the students' attitude had been found to be the strongest barriers to the implementation of various academic policies to promote academic performance in secondary schools.

2.2.4 Self – Concept and Academic Performance

A person's self-concept may change with time, possibly going through turbulent periods of identity crisis and reassessment. Besides, the self-concept involves not only past selves but also the future selves. Future selves or "possible selves" represent individuals' ideas of what they might become, what they would like to become and what they are afraid of becoming. (Huque & Islam, 2010).

The concept of self is essential to any account of man's social nature on the socialization process. Human beings characteristically act with self-awareness, exercise self-control, exhibit conscience and guilt, and in the great crises of life make decisions with reference to some imagery of what they are, what they have been, and what they hope to be. A person's self is the combination of the individual beliefs, goals, values, interests and dispositions. Self-concept is one's sense of the self as a separate individual who possesses a unique set of characteristics. There are several components of self-concept such as physical, academic, social, transpersonal etc. The physical aspect of self-concept relates to that which is concrete: What we look like, our sex, height, weight etc. What type of clothes we wear, what type of car we drive; what kind of home we live in; and so forth. Our academic self-concept relates to how well we do in school or

how well we learn. Two levels of academic self-concept are general academic self-concept and self-concepts in specific content related areas such as Math, Science, Language, Arts etc. The social self-concept describes how we relate to other people and the transpersonal self-concept describes how we relate to the supernatural or unknowns. Haque et al (2010) also believe that the self-concept has three different components: The view you have of yourself (Self-image), how much value you place on yourself (Self-esteem or self-worth), what you wish you were really like (Ideal self).

Students' psychological factors are vital since success in academic performance and learning processes, which entail the student work fully depend on it. A student's attitude, perception or self-concept towards learning can be referred as a set of evaluations of his academic performance which constitutes motivation, feelings, beliefs and attachment to the process of learning according to Alake and Agbaye (2014). Psychological factors are conceptualized as relatively stable constructs comprising attitude, locus of control, motivation and other behavioural components. Oluoch (2014) points out that students' academic achievement depends on psychological factors such as attitude and motivation. For this reason, the argument that student's academic performance is influenced by the students' attitude should be taken seriously. As a result, student psychological factors has been a major concern of many countries as indicated by Tugan (2015). After examining various studies around the world, it becomes obvious that students' psychological factors are mostly negative and this is not favourable to students' academic performance in schools. This necessitated research into a variety of students' psychological factors that influence students' academic performance in cluster examination.

Researchers have supported the belief that there is a persistent and significant relationship between self-concept and academic achievement and the change in one seems to be associated with a change in other Marsh (1992). Olantunde (2010) showed that students who have positive self-concept of themselves performed well in mathematics. Studies have also shown that better self-concept is associated with better scholastic achievement test and has a significant relationship with academic achievement.

2.2.5   Gender and academic performance

People normally confuse gender and sex but the two are different. The term gender refers to the economic, social, political and cultural attributes and opportunities, associated with being male or female. It is noted that, all societies have implicit conceptions of gender, or stereotypes, which they use to differentiate the treatment of girls and boys (Global Monitoring Report, 2002). While women in most societies take primary responsibility for caring for the family, men tend to be associated with the work outside the home. Haque et al (2010) contend that the assignment of roles and development of skills is defined socially and culturally on the basis of sex. From an early age, children develop behavior that is appropriate to their sex roles by imitation of parents and other role models. The term sex refers to the biological and physiological characteristics that define men and women. The biological perspective on sex differences and cognitive performance considers social factors to be trivial or subordinate to biological factors like brain structure.

Gender defines traits forged throughout the history of social relations. Gender differences are social constructs, inculcated on the basis of a specific society's particular perceptions of the physical differences and the assumed tastes, tendencies and capabilities of men and women.

Gender relations are accordingly defined as the specific mechanisms whereby different cultures determine the functions and responsibilities of each sex. They also determine access to material resources, such as land, credit and training, and more ephemeral resources, such as power. The implications for everyday life are many, and include the division of labour, the responsibilities of family members inside and outside the home, education and opportunities for professional advancement and a voice in policy-making (Economic and Social Development Department, 2001). For so long when discussing gender issues, the focus has been on women and their subordination to men in all aspects of life.

Of late gender issues have become very sensitive for example Kenyan government took up the gender issue very positively in 2007 and issued a ministerial policy document: The Gender Policy to formalize the rights of girl- gender issues in education in order to achieve Education for all by 2015 which aims at bringing gender equality Gender equality refers to the notion of boys and girls experiencing the same advantages or disadvantages in attending school, delivery and teaching methods, curricula, and academic orientation, and producing equal learning achievement and subsequent life opportunities. The concept of gender equality may also be taken to primarily refer to the full equality of men and women, boys and girls to enjoy the complete range of political, economic, civil, social and cultural rights, with no one being denied access to these rights, or deprived of them, because of their sex. The Government of Kenya is a signatory to international protocols relating to education and human rights of women and girls, including the Universal Declaration on Human Rights (1948), Convention on the Elimination of all Discrimination against Women [CEDAW] (1979) and the Convention on the Rights of the child [CRE] (1989). All these documents reiterate the need to eliminate all forms of discrimination,

enhance the right to education, and promote girl-gender equality particularly in education. The Government of Kenya developed strategies and implemented a variety of initiatives to address girls Education. Girl- gender issues are addressed in all programmes like The National Plan of Action on EFA 2003 -2015, the Report of the Education Sector Review 2003, the Ministry of Education Strategic Plan (2006 – 2011) and service Charter, Sessional Paper No. 1 of 2005, and the Kenya Education Sector Support Programme (KESSP) 2005 – 2010.

The Ministry of Education established a National Task force for Gender and Education, a Ministerial Task force on Girls' Education, and a Gender Desk. Republic of Kenya (2007). In order to address girls' challenges at secondary education level, the Ministry implemented the following strategies among others: expansion of boarding facilities for girls; affirmative action in bursary allocation for secondary schools; appointment of qualified girls education managers; gender – balanced intake of pre-service teacher trainees; gender responsive deployment of teachers; re-admission of girls who become pregnant while in school; gender parity- based recruitment and deployment of teachers and Managers; engendering of the curriculum; capacity building for school managers, teachers and quality assurance officers on gender issues; gender sensitization, advocacy and Mainstreaming HIV and AIDS education in the Secondary curriculum Republic of Kenya (2007).

In order to move beyond parity we must focus more on gender equality in learning outcomes and in the effects of school resources, 'understanding the reasons for differences in student performance might be considered the first step for designing effective educational policies to address quality and equity concerns' (Sideeg, 2015). It has been argued that recent shifts in

teaching approaches may have increased gender differences in achievement and that 'because of the differences in how girls and boys learn, it can be difficult to create educational environments that are suitable for both groups'. It is therefore crucial that we have a clear understanding of the factors influencing student achievement. In terms of improving this understanding the development and use of proficiency levels alongside mean scores are important. They provide greater insight into the nature of the gender differences and 'may facilitate differentiated teaching to meet the needs of male and female students (sideeg, 2015)

Research has consistently shown that girls have lower mathematics self-concept than boys (Tugan, 2015). The research further states that when compared with boys, "girls lacked confidence, had debilitating causal attribution patterns, perceived mathematics as a male domain, and were anxious about mathematics". The research carried out by this author in Ghana, showed that boys had more positive attitudes towards mathematics than girls. Also Yasmin et al. (2012) in a study with North American students found significant gender differences in eighth grade students' attitudes towards mathematics. American boys showed more interest in mathematics than girls, but girls perceived mathematics as more important than boys. Girls also presented higher scores on items with regard to difficulties with mathematics. School environment, developmental changes in gender identity, and teacher and parent attitudes and beliefs towards mathematics are factors that may contribute to the differences identified between boys and girls in their attitudes towards mathematics.

According to the Scholastic Aptitude Test (SAT), an international Test, originating from USA, a larger percentage of male students score within the top three distribution categories. In the top

two categories, the ratio of males to females is 2:1. As with SAT scores, questions arise as to why girls do not achieve high scores in the same proportion as males. In most developing countries gender differentials in education appear to be more pronounced both in terms of participation and internal efficiency and in cognitive performance with girls being the most affected (Onsomu, 2005). In addition according to the authors, in Kenya, there has been growing discontent along gender lines on boys performing better than girls, especially in science-oriented courses with gender and socioeconomic factors being some of the major factors affecting learning achievements in education.

Many researchers have demonstrated the existence of different attribution patterns in boys and girls such that while girls tend to give more emphasis to effort when explaining their performance boys appeal more to ability and luck as causes of their academic achievement. According to the OECD (2009) an analysis of the (Trends in international Mathematics and Science study) TIMSS countries (of which Kenya was not included), in terms of performance, international assessments of primary school students show significant gender differences in reading in favor of girls. On the other hand, there are few gender differences apparent in Mathematics and Science. At the secondary school level, girls had higher average achievement than boys in both Mathematics and Science. Graduation rates are also higher for girls in these countries, the questions then arise, are these findings also reflective of Kenya? Are there disparities in subjects' performance at KCSE level? From the a foresaid questions therefore there was need to establish gender differences in the relationship between selected psychological factors and students' academic performance in form four cluster examination in Secondary Schools in Nyakach Sub County, Kenya.

2.2.6 Chapter summary

This chapter has reviewed empirical literature suitable to answer the research questions under study. The chapter has also discussed the fundamental variables guiding this study. The literature reviewed further relates to the constructs or variables of the model guiding this research. In this chapter, each variable in the model was defined and discussed in terms of the factors measured in this research.

The chapter presented a review of the literature pertaining to the relationships among these variables. The chapter also delved deeper into the research objectives and questions, clearly articulating what the researcher seeks to achieve. Some of the studies reviewed have linked one, two or three, of the aforementioned variables, however, no studies were found to have linked all the four selected variables and this is the gap that this study sought to bridge. By reviewing relevant selected empirical studies, knowledge gaps that the study sought to address were presented.

CHAPTER THREE:

METHODOLOGY

3.1 Introduction

The aim of this chapter is to explain in detail the methodology that was employed in the research in order to realize the stated objectives. Subsequently, objectives are highlighted, the methods to be used are detailed and the research process and design clarified. The sampling technique used is also explained, as is the justification of the construction and usage of questionnaire and interview schedules in the data gathering process. This chapter also explains the data analysis process.

3.2 Research Design

A research design is the structure within which research is conducted or a blue print of data collection, measurement and analysis Kothari (2015). A research design gives a detailed outline of how the study was undertaken including how data was collected, the instruments employed and how they were used and the means for analysing data collected. This study used correlational survey research design by analysing cluster examination mean scores against student's psychological factors.

3.3 Area of Study

The research was carried out in secondary schools in Nyakach Sub County, Kisumu County. The area lies on Latitude: 0º 20' 00" S, Longitude 34º 55' 00" E (http:/latitude.2/maps/co.ke). To the North is Nyando Sub County, to the South Homabay and to the East Kericho Counties

respectively. The researcher chose Nyakach Sub-County as the preferred area of study due to its proximity to her work station and also because of her vast experience in working with the schools in the sub-county. It was also selected based on the comparative result that included other neighbouring sub-counties during the period 2013-16 as illustrated in Table 1.3. From this table, it is shows that Nyakach sub-county performed successively poorly in KCSE examinations which is below the National average of 8.823.

3.4 The Study Population

The target population in this study included 3400 form four students of 2018 selected from across the participating schools, one Sub-County Director of Education (SCDE) and fifty three (53) Principals from the (53) selected schools. Form four students were targeted in this study because they are the candidates meant to sit for KCSE examinations, and also the category of learners targeted by the cluster examinations in secondary schools across the country.

3.5 Sample size and Sampling Techniques

Sampling is the process of obtaining information about an entire population by examining only part of it. Kothari (2015) explain that sampling is the act, process, or technique of selecting a suitable sample, or representative part of a population for the purpose of determining parameters or characteristics of the whole population. In this study simple random sampling procedure was used to identify 6 schools out of 52 schools for this study whereas purposive sampling was employed to identify the Principals and the SCDE since they form a smaller population. Kothari (2015) describes purposive sampling as a strategy in which particular settings, persons or events are selected deliberately in order to provide important information that cannot be received from

other choices. Individuals selected are deemed 'experts' in aspects of what is going on in their own community by virtue of living there and/or socializing with a particular group of people.

Sample size determination

The sample size for the study was determined by use of Taro Yamane formula (1967).   The calculation formula of Taro Yamane is presented as follows.

$$n = \frac{N}{1 + N(e)^2}$$

 Where :

n= sample size required

N = number of people in the population

e = allowable error (%)

From the study population N and e is the probability of error (within the desired precision of 0.05 for 95% confidence level). Target population of 3400 thus generated a sample of 352. Yamane (1967) formula was used because it is the best scientific formula for calculating the sample size in this study (Mason, 2010).

 Table 3.1 Target Population, Sample Size and Percentages

S/NO.	Category of Respondent	Total population	Sample Size	Percentages
1.	Sub County Director	1	1	100
2.	Principals	53	6	18.87
3.	Form four students	3400	352	10.53
	N	3454	359	10.39

Source: County Director of Education Kisumu, (2017)

Simple random sampling procedure was used to identify 6 schools out of 52 schools for this study with purposive sampling being employed to identify the Principals and the SCDE since

they form a smaller population. As for the students, proportionate sampling procedure was used in order to select the male and female population since their numbers varied in every school.

3.6 Instruments for Data Collection

Data was collected by use of questionnaires and interview schedules. The questionnaire had both open ended and closed ended questions to enable for the collection of quantitative and qualitative data. The questionnaires were designed and divided into sections representing the variables for the study that include closed structured and open-ended questions that seek the attitude, opinions and views from the respondent. The questionnaires were distributed to respondents through identification. Both qualitative and quantitative data was collected by the two questionnaires.

3.6.1 Interview Schedule for Principals

In the study, the researcher developed interview schedule for principals in order to collect qualitative data (see Appendix B). The proposed study employed semi-structured interview for the principals to enable the researcher to have a deeper understanding of the respondents' beliefs, opinions and assumptions on the various elements of student's psychological factors. According to Alake and Agbaye (2014), in a semi structured interview, the interviewer uses an interview guide with specific questions that are organized by topics but are not in a specific order. This implies that it is the flow of the interview, rather than the order in the guide, that determines how and when a question is asked. Specifically they were required to give their perceptions about correlates of student's psychological factors during and after cluster examination. All the interview information was first to be recorded in writing, and then transcribed for analysis. It helped the researcher in obtaining underlying beliefs in psychological factors. A total of 6 purposively selected Principals were interviewed. This was good because the researcher had an

opportunity to establish rapport with the respondents, explain meaning of items that were unclear thus gathering information was quick (Alake & Agbaye, 2014). The researcher allocated each Principal one hour for the interview. The schedule contained questions such as; how does the locus of control towards learning affect students' academic performance in your institution? How does attitude towards learning affect the students' academic performance in your institution?

3.6.2. Interview Schedule for Sub county Director

There was an interview schedule for the Sub County Director. This was for the Nyakach Sub County Director (see Appendix C). In the study, the researcher developed interview schedules for the Sub-County Director in order to collect qualitative data. The study adopted semi-structured interview with Sub-County Director to gather data. This enabled the researcher to have a deeper understanding of the respondents' beliefs, opinions and assumptions on the various elements of student's psychological factors. Specifically, the Sub-county Director was required to give his general perceptions about correlates of student's psychological factors during and after cluster examination. All the interview information were first recorded in writing, and then transcribed for analysis. It helped the researcher in obtaining underlying beliefs in psychological factors. Sample questions included; what role as the Sub-County Director of Education would you play in ensuring that the academic performance is improved in your area of jurisdiction? The SCDE also allowed the researcher one hour for the interview.

According to (Gomm, 2008), in a semi structured interview, the interviewer used an interview guide with specific questions that are organized by topics but are not in a specific order. This implied that it is the flow of the interview, rather than the order in the guide, that determined how and when a question is asked.

3.6.3 Questionnaire for Students

The questionnaire for students was used to collect data from 352 students (227 male and 125 female) on the participant demographic characteristics and the four psychological correlates which include; attitude, test anxiety self-concept, and locus of control which had a response format of five point Likert scales. A total of 352 students were considered for this study. In order to achieve this the questionnaire was divided into four sections. Section one was on demographic characteristics of the participants, Attitude Scale (AS). Section consisted of Test Anxiety Scale (TAS), section three contained Locus of Control while section four captured Self-Concept Scale (SCS) respectively to measure the variables. A questionnaire was used for students because it covers a wider scope than the interview schedule which best serves to support information, clarify gaps and add insight, Mugenda and Mugenda (2007). The questionnaire contained both open ended and closed-ended questions. Closed ended questions were easier to code, respond to and to analyse. Each of the instruments for data collection is described in the next section.

3.6.3.1 Test Anxiety Inventory (TAI)

Items to measure test anxiety were adopted from Test Anxiety Inventory (TAI) previously constructed and validated by Spielberger (1980). The items in the questionnaires was based on a five point Likert scale ranging from strongly disagree to strongly agree with ratings as: Strongly Disagree (SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5. The scoring of this subscale was done by adding scores from each item. Reverse scoring was applied to negative statements in the subscale. Sample test questions on Likert measure included; I panic before taking examinations, I spend sleepless night before examinations and continuous assessment tests enhance my academic performance as shown in part two of the appendix.

3.6.3.2 Attitude Scale (AS)

Items to measure attitude were adapted from attitude questionnaire (AQ) previously used by Glynn and Koballa (2005). In using AQ for this study, the items from attitude beliefs studied were rephrased to specifically align to Kenyan Educational context to ensure that the students participated in the survey item and responded appropriately and also to suit secondary school cluster examination for it had previously been used in college students. The questionnaire had items for attitude orientation and was based on a five point Likert scale ranging from Strongly Disagree to Strongly Agree with ratings as: Strongly Disagree (SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5

3.6.3.3 Self-Concept Scale (SCS)

Items to measure self-concept were adapted from self-concept questionnaire (SCQ) previously used by Glynn and Koballa (2005). In using CQ for this study, the items from self-concept beliefs were rephrased to specifically align to Kenyan Educational context. The questionnaire had items for self-concept orientation and was based on a five point Likert scale ranging from Strongly Disagree to Strongly Agree with ratings as: Strongly Disagree (SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5.

3.6.3.4 Locus of Control Scale (LCS)

Items to measure locus of control was adapted from locus of control questionnaire (LCQ) previously used by Glynn and Koballa (2005). The items from locus of control used in the study were rephrased to specifically align to Kenyan Educational context. The questionnaire had items

for locus of control orientation and was based on a five point Likert scale ranging from Strongly Disagree to Strongly Agree with ratings as: Strongly Disagree (SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5.

3.7 Scoring of Instruments

The instruments for data collection were scored as follows:

Attitude towards Learning: 7 - <21…. Negative; 21 - 35…. Positive

Test Anxiety: 8 - <19…. Low; 19 - <30…. Moderate; 30 - 40…. High

Locus of Control: 8 - <19…. Low; 19 - <30…. Moderate; 30 - 40…. High

Self-Concept: 9 - <21…. Low; 21 - <33…. Moderate; 33 - 45…. High

Gender: 0=Male; 1=Female

According to the current Kenya National Examinations Council (KNEC) requirements, Students' KCSE academic performance score is obtained as follows: In any subject a student can obtain the highest grade A which is equivalent to 12 points, followed by A minus (11 points), B plus (10 points), B plain (9 points), C plus (7 points), C plain (6 points), C minus (5 points), D plus (4 points) D plain (3 points) D minus (2 points) and finally grade E, which is 1 point. Every student who participated in this study had his or her corresponding KCSE results taken for the sake of correlation with their responses that depicted different components of motivational beliefs and this was possible by use of a checklist for entry of the grades and points.

3.8 Reliability and Validity of Research Instruments

3.8.1 Validity of Instruments

Validity according to Perakyla (2014) is a degree to which an instrument measures what it is supposed to measure while Punch (2014) defines it as the accuracy and meaningfulness of

inferences or the degree to which data analysis results explain the study phenomenon. It also refers to the degree to which results obtained from analysis of data actually represent the phenomenon under study (Mugenda and Mugenda, 2003). The study determined two main types of validity of the instruments, that is, content and face validity.

According to Perakyla (2014), content validity entails determining if the content the instrument contains is sufficient. In this study, content validity was achieved by the help of two experts from Maseno University who went through the items to ascertain their adequacy.

Face validity refers to whether the measure appears at face value to measure what it is designed to measure, and that it involves the judgement of whether, given the theoretical definition of the variable, the measure appear to in reality measure such variables (Gomm, 2008). In this study face validity was judged by the researcher and the two experts from Maseno University.

3.8.2 Reliability of Instruments

Perakyla (2011) defines reliability as the degree to which a given test is capable of consistently yielding the same results or scores each time the test is administered to the same individuals. Pilot testing was used by the researcher to distribute 36 questionnaires and 3 interview schedules in the secondary schools in the sub county which is 10% of the study population (Mugenda and Mugenda, 2003).

According to (Gomm, 2008) a reliable instrument is one which shows a consistent performance. Using Pearson's Chi-square analysis for reliability of Likert items, the internal consistency of the three questionnaires was determined.

According to (Orodho, 2009), reliability is the ability of a test instrument to produce consistent results over a number of repeated trials. Test reliability means the extent to which a measure is stable or consistent and produces similar results when administered repeatedly (Shushil & Verma, 2010). A pilot study was conducted in order to pre-test the questionnaire for the purposes of determining their validity and reliability. Reliability is the degree of a measuring to yield consistent results after repeated trials (Mugenda & Mugenda, 1999). Connelly (2008) suggests that a pilot study sample should be 10% of the sample projected for the larger parent study. According to (Mohsen, 2011) internal consistency describe the extent to which all items in a test measure the same context and therefore it is connected to the inter-relatedness of the items within the test. Cronchbach alpha calculates a number of commonly used measures of scale reliability and also provides information about the relationship between individual items in the scale.

3.9 Data Collection Procedures

Before proceeding for data collection, an approval from the supervisors was obtained to proceed for field work. The researcher sought permission to collect data from the National Council for Science and Technology through the School of Graduate Studies at Maseno University. There was also notification to the County Director and Sub-County Director office of intent to collect data from selected schools under his jurisdiction.

An appointment with the Principals was made for data collection. Then the researcher went to the participants on the agreed days in order to administer the questionnaires. Before any data collection the respective participants were informed of the purpose of the study and assured of the confidentiality of the information given by him/her. Once consent was obtained, the interview guides and questionnaires were administered by the researcher herself which enabled

her to ensure that all participants were fully informed of their rights and the purpose of the study. An interview was also conducted with the selected Principals and the sub county director.

3.10 Methods of Data Analysis and Presentation

Data was analyzed quantitatively and qualitatively. Quantitative data was analysed using descriptive statistics which included the use of mean and standard deviation and also inferential statistics which included Pearson Chi-square to test the strength of the relationship between selected psychological factors and students' performance. The use of Pearson Chi-square was justified since the study data was interval scale where five-point Likert scale was used to rank respondents views on students' performance. The Pearson product moment correlation was used when measuring the strength of the correlation between variables and one of the assumption was that the variables must be either in interval or ratio measurement scales. In order to establish the relationship that exist between the variables the scores for each independent variable were generated and correlated with each of the student's scores in cluster examination by use of statistical software (SPSS) version 16.0 as seen in the extract of raw data attached as Appendix D.

Qualitative data from interviews with principals and sub-county directors were transcribed, coded and analysed using thematic analysis. Thematic analysis involves identifying, analysing and reporting patterns (Themes) with data (Punch, 2014). It minimally organizes and describes data set in details. He adds that it goes further than this to interpret various aspects of research topic.

Thematic analysis was considered appropriate for the current study because it works with a wide range of research questions, from those about respondents' experiences or understandings to those about the representation and construction particular phenomena in particular contexts.

3.1.1 Chapter Summary

Research methodology helps to guide a study, it indicates how the study should be conducted, and indicates which data collection methods are compatible with which methodology and how such data, when collected, can be analyzed and interpreted. So, it is important that when conducting a study, the research methodology should be carefully chosen in order for the investigation to reach reliable and valid conclusions. It can be concluded that learner performance and achievement in examinations is of utmost importance and therefore all stakeholders should be involved in this process to ensure its success. The following chapters discuss the results of this investigation.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter begins with the response rate for the study followed by sample distribution of students by gender. Next are findings on the students' level of academic performance as well as psychological variables under study. This is followed by gender differences in the levels of variables under study, the relationship between the selected psychological variables and academic performance, and lastly, gender differences in the relationship between the selected psychological variables and students' academic performance. The findings are discussed in each section before conclusion and recommendations are made.

4.2 Response Rate

Morgan (2006) posits that a 50% return rate is adequate, 60% is good enough while the return rate of above 70% is very good. In this study, a total of 352 questionnaires were distributed to the target group. Out of this number, 308 were returned. Thus, the response rate was 87.7% which very good. In addition, the Sub-county Director and all the six Principals in the sample were interviewed giving a response rate of 100%.

4.3 Sample distribution of students by gender

Table 4.1 shows the sample distribution of students by gender. Out of the 352 male and female students who participated in the study, 227 (64.5%) were males and 125 (35.5%) were females.

The researcher used proportionate sampling technique to arrive at the above proportions. Hence the majority of students in the sample were males as in the Table 4.1 below.

Table 4.1 Sample distribution of students by gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	227	64.5	64.5	64.5
Female	125	35.5	35.5	100.0
Total	352	100.0	100.0	

4.4 Students' Measured Levels for the Variables under Study

The study sought to investigate level of psychological variables as well as their performance in cluster examinations. Table 4.2 shows the findings.

The scoring of performance:

Table 4.2 Students' Level of psychological variables and academic performance

	Attitude towards Learning	Test Anxiety	Locus of Control	Self-Concept	Performance
N	342	319	350	349	352
Missing	10	33	2	3	0
Mean	25.8	20.3	31.3	32.8	4.4
Std. Deviation	5.99	7.43	6.50	5.70	1.92

Table 4.2 shows that the students' mean Attitude towards Learning was 25.8. Therefore the students displayed a positive Attitude towards Learning. The students' mean level of test-anxiety was 20.3. This indicates that they had a moderate level of test anxiety.

Locus of Control had a mean score of 31.3 which indicates that the students had a high level of Locus of Control. The students recorded a mean of 32.8 for Self-Concept indicating a moderate level for this variable.

In addition, most of the students in Nyakach Sub-County did not perform well in Form Four cluster examination in 2018 as reflected by a mean score of only 4.4 compared to the National Examination results which was 8.823. This is further amplified by information in Figure 4.1 which is a bar chart for the distribution of cluster examination grades (n=352). The distribution of grades is positively skewed, indicating that the majority of candidates performed poorly in the cluster examination. It is worth noting that no candidate got a mean grade of A or A- in the entire sample of 352 candidates. The distribution of grades is also bimodal, suggesting that the sample basically consisted of a smaller group of candidates who displayed average performance (n=166) and a larger group of candidates who displayed below average performance (n=177). This finding supports the records held at the office of the County Director of Education in Nyakach which showed that the Sub-County recorded comparatively lower academic grades in cluster examinations compared to other sub-counties in Kisumu County in the previous five years.
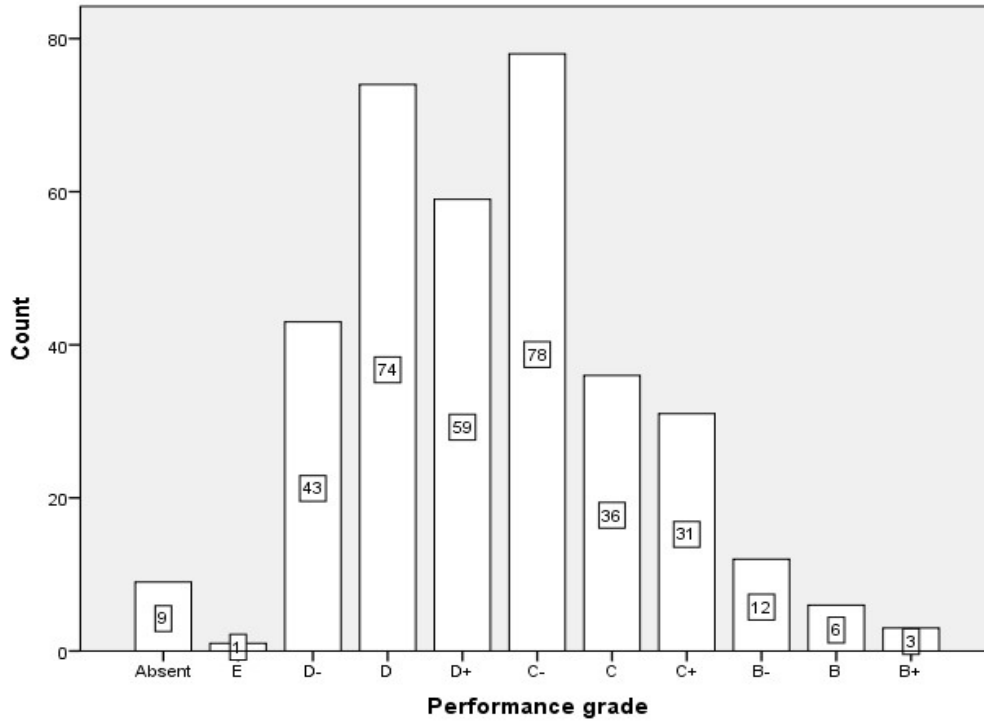
Figure 4.1: Distribution of cluster examination grades (*n*=352).
4.5 Gender Differences in the Variables under Study

Findings on gender differences in the variables under study are reported in this section. Table 4.2 contains this information in the form of means and standard deviations for each of the variables across gender.

The findings indicate that males had higher values than females in all the variables under study. It shows that males had a higher mean performance level than females in the cluster examination, a more positive attitude towards learning, a higher level of test anxiety, a higher level of locus of control and a higher level of self-concept.

Table 4.3: Means and standard deviations for the variables under study

		N	Mean	Std. Deviation
	Attitude towards Learning	218	26.04	6.029
	Test Anxiety	196	20.45	7.809
Male	Locus of Control	226	31.35	6.295
	Self-Concept	224	33.11	5.498
	Academic Performance	227	4.56	1.926
	Valid N (list wise)	181		
	Attitude towards Learning	124	25.29	5.925
	Test Anxiety	123	19.95	6.792
Female	Locus of Control	124	31.33	6.874
	Self-Concept	125	32.29	6.024
	Academic Performance	125	4.10	1.883
	Valid N (list wise)	118		

Whereas males outscored females in all the five variables under study, it is important to establish if the mean differences were statistically significant or not at the 95% confidence interval. The findings are reported in the following sub-sections.

4.5.1 Gender Difference in Attitude towards Learning

Table 4.4 below shows the results of the independent samples *t*-test for two groups comparing attitude towards learning for males and females.

Table 4.4: Independent samples *t*-test for gender difference in attitude towards learning

		Levene's Test for Equality of Variances		T-test for equality of means		
		F	Sig.	*t*	*df*	Sig. (2-tailed)
Attitude towards learning	Equal variances assumed	.045	.833	1.11	340	.266

Levene's test for equality of variances indicates that assumption for equality of variances necessary for conducting *t*-test was not violated at α=.05 (*F*=.045, *p*=.833).

Further, with equal variances assumed, the mean difference in attitude towards learning for males and females was found not to be statistically significant at the 95% confidence interval (*t*=1.11, *df*=340, *p*=.266). Descriptively the level of students' attitude was measured and the study revealed that most students in Nyakach Sub County had positive attitude towards learning. The principals who were interviewed also alluded to the fact that there is no significant relationship between attitude and academic performance. A number of principals gave peer influence, absenteeism, and unwanted pregnancies as ingredients of attitude that lead to poor performance in cluster examination, and one of them had this to say:

> "Attitude may just be a cover up to reasons for poor academic performance in cluster examination but the major challenges that affects most students is peer pressure that in most cases leads to absenteeism and early pregnancies among girls"

Another principal supported absenteeism as a factor that leads to poor performance by saying this: "Two male students in form four failed in cluster examination after constantly being absent from school."

The Sub-county Director of Education on his part asserted that there is no significant relationship between attitude and academic performance. He had this to say:

> "Most reported cases of poor performance by most schools in the sub-county to me are as a result of absenteeism leading to poor class attendance hence little knowledge on syllabus coverage or content for examination"

According to the Ministry of Education, EMIS unit (2015) Nyanza Region recorded the lowest performance in form four cluster examination of 33.2% against the national which was 39.1%. Additionally, attitude is not considered to be in any relationship with poor academic performance but absenteeism because each school cycle is taken as an entity which should be attended in totality if the student is to reach some level of competency.

4.5.2 Gender Difference in Test Anxiety

Table 4.5 below shows the results of the independent samples t-test for two groups comparing test anxiety for males and females. Levene's test for equality of variances indicates that assumption for equality of variances necessary for conducting t-test was violated at $\alpha=.05$ ($F=4.267$, $p=.040$). However, t-test is known to be robust even in situations where equality of variances is violated.

Table 4.5: Independent samples *t*-test for gender difference in test anxiety

		Levene's Test for Equality of Variances		T-test for equality of means		
		F	Sig.	*T*	*df*	Sig. (2-tailed)
Test Anxiety	Equal variances assumed	4.267	.040	.58	317	.561

Further, with equal variances assumed, the mean difference in test anxiety for males and females was found not to be statistically significant at the 95% confidence interval (*t*=.58, *df*=317, *p*=.561). This means that the mean difference in anxiety towards learning performance between male and female students was not a true difference in the population from which the sample was obtained.

Most of the Principals said that there was no relationship between test anxiety and academic performance. Some of the reasons they gave for poor performance included failing to attend classes regularly especially in day schools, lack of money to pay other school levies a part from tuition paid by government, pregnancies among others. A principal from one day school in the sub-county had to say this about test anxiety and academic performance: "Only one girl has been performing poorly in my school and when I traced I found that in a week she misses school even three times due to medical complications as a result of early pregnancy."

Another principal had this to say about those who had performed poorly in cluster examination:

> I remember exactly the numbers that students who always fail in form cluster examination are mostly absentees so far but what I know is that they are not many due to free secondary education. But pregnancies and peer pressure have noticed I a major

challenge in performance in cluster examination as a result of missing lessons and even exams.

Sub-county director also concurred and said this: "One of my principal reported that there is problem of female student's pregnancies and number of other cases reported to this office and this has led to their poor performance due to absenteeism."

According to Matuga (2010), performance in cluster examination in Kenya university education as a whole has significantly contributed to unequal performance to education, decreased quality of education, but also manifested alarming aspect of poor performance is as a result of absenteeism within the educational system (Republic of Kenya, 2009). It is also in agreement with Matuga (2010) also viewed poor performance as caused by absenteeism and peer pressure influence since it leads to missing lessons and even examinations.

4.5.3 Gender Difference in Locus of Control

Table 4.6 shows the results of the independent samples t-test for two groups comparing locus of control for males and females. Levene's test for equality of variances indicates that assumption for equality of variances necessary for conducting t-test was not violated at $\alpha=.05$ ($F=2.476$, $p=.117$). Thus, the assumption of equal variances was upheld.

Further, with equal variances assumed, the mean difference in locus of control for males and females was found not to be statistically significant at the 95% confidence interval ($t=.02$, $df=348$, $p=.984$). This means that the mean difference in locus of control between male and female students was not a true difference in the population from which the sample was obtained.

Put differently, the mean difference in locus of control between males and females was an outcome of chance or sampling error.

Table 4.6: Independent samples *t*-test for gender difference in locus of control

		Levene's Test for Equality of Variances		T-test for equality of means		
		F	Sig.	*T*	*df*	Sig. (2-tailed)
Locus of Control	Equal variances assumed	2.476	.117	.02	348	.984

Both Principals and Sub-county director agreed that there was a relationship between gender and performance. He alluded that most boy schools in the sub-county post better results as compared to girls every year. That performance of males in cluster examination at form four is above average in most cases. He also observed that most of the male students who make it to form four finally do cluster examination performs better than their female counterpart as he had this sentiments:

Most of the students in the sub-county hails from mixed schools except in very few cases, for instance, this years the sub-county male performance was 71% compared to female 36% in form four cluster examination. This was unfortunate because with much teaching and marking from trained teachers the variation still exist.

Republic of Kenya (2014) which donate that form four cluster examination performance rates between males and females in Kenya are encouraging at 52.1% for males and 36.3% for females

agrees with the finding of the researcher for the male and female candidates which are 50.7% and 36.9%% representing an a disparity of 13.8%.

4.5.4 Gender Difference in Self-Concept

Table 4.7 shows the results of the independent samples *t*-test for two groups comparing self-concept for males and females. Levene's test for equality of variances indicates that assumption for equality of variances necessary for conducting *t*-test was not violated at α=.05 (*F*=3.165, *p*=.076). Thus, the assumption of equal variances was upheld.

Table 4.7: Independent samples *t*-test for gender difference in self-concept

		Levene's Test for Equality of Variances		T-test for equality of means		
		F	Sig.	*T*	*df*	Sig. (2-tailed)
Self-concept	Equal variances assumed	3.165	.076	1.29	347	.198

Further, with equal variances assumed, the mean difference in self-concept for males and females was found not to be statistically significant at the 95% confidence interval (*t*=1.29, *df*=347, *p*=.198). This means that the mean difference in self-concept between male and female students was not a true difference in the population from which the sample was obtained. Put differently, the mean difference in self-concept between males and females was an outcome of chance or sampling error.

4.5.5 Gender Difference in Academic Performance

Table 4.8 shows the results of the independent samples *t*-test for two groups comparing academic performance for males and females. Levene's test for equality of variances indicates that assumption for equality of variances necessary for conducting *t*-test was not violated at α=.05 (*F*=.134, *p*=.714).

Table 4.8: Independent samples *t*-test for gender difference in academic performance

		Levene's Test for Equality of Variances		T-test for equality of means		
		F	Sig.	*T*	*df*	Sig. (2-tailed)
Academic Performance	Equal variances assumed	.134	.714	2.14	350	.033

Further, with equal variances assumed, the mean difference in academic performance for males and females was found to be statistically significant at the 95% confidence interval (*t*=2.14, *df*=350, *p*=.033). This means that the mean difference in academic performance between male and female students was a true difference in the population from which the sample was obtained. Put differently, the mean difference in academic performance between males and females was not an outcome of chance or sampling error.

4.6 Relationship between Psychological Factors and Students' Academic Performance

The relationship between psychological factors and students' academic performance is presented in the section. In particular, the section provides findings on attitude towards learning, test anxiety, locus of control as independent variables and academic performance as the dependent variable.

4.6.1 Relationship between Students' Attitude towards Learning and Academic

Performance

To establish the relationship between students' Attitude towards Learning and Academic Performance, the Chi-square statistic was used. Table 4.8 is a cross-tabulation for Attitude towards Learning by Academic Performance. Out of the 333 students who participated in the study, 77 (23.1%) had negative attitude towards learning, while 256 (76.9%) had positive attitude towards learning. Thus, the majority of students had a positive attitude towards learning.

Table 4.9: Cross tabulation for Attitude towards Learning by Academic

Performance

		Academic Performance			Total
		Below average	Average	Above average	
Attitude towards Learning	Negative	39	34	4	**77**
	Positive	134	117	5	**256**
Total		**173**	**151**	**9**	**333**

The study also revealed that out of the 77 students who had negative attitude towards learning, 39 (50.6%) performed below average and 34 (44.2%) were average. Only 4 (5.2%) were above average. In a similar manner, out of the 256 students who had positive attitude towards learning, 134 (52.3%) performed below average, 117 (45.7%) were average and only 5 (2.0%) were above average. From these findings, the low number of students performing above average is consistent regardless of the students' level of Attitude towards Learning. This therefore shows that attitude alone cannot be a cause of students' poor academic achievement. It is however influenced by other factors such as peer pressure, absenteeism among others.

In order to establish whether the relationship between students' Attitude towards Learning and Academic Performance is statistically significant, a χ^2 test was performed. The results in table

4.9 shows that there was no statistically significant relationship between Attitude towards Learning and Academic Performance (χ^2 =2.366, p=0.306, df=2).

Table 4.10:   Chi-square test for relationship between Attitude towards Learning and Academic Performance

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.366[a]	2	.306
Likelihood Ratio	2.043	2	.360
Linear-by-Linear Association	.473	1	.492
N of Valid Cases	333		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.08

4.6.2 Relationship between Students' Test Anxiety and Academic Performance

Table 4.11 is a cross tabulation for Test Anxiety by Academic Performance. Out of the 311 students who responded to the questionnaire, 160 (51.4%) had low level of test anxiety, 103 (33.1%) had moderate level of test anxiety, while 48 (15.4%) had high levels of test anxiety.

Table 4.11: Cross tabulation for Test Anxiety by Academic Performance

		Academic Performance			Total
		Below average	Average	Above average	
Test anxiety	Low	85	70	5	**160**
	Moderate	58	43	2	**103**
	High	21	26	1	**48**
Total		**164**	**139**	**8**	**311**

Out of the 160 students who had low level of test anxiety, those whose performance was below average were 85 (53.1%), 70 (43.8%) were average and only 5 (3.1%) were above average. Out of the 103 students who had moderate levels of test anxiety, the performance of 58 (56.3%) was below average, 43 (41.7%) average and 2 (1.9%) above average. Notably, out of the 48 students who had high levels of test anxiety, the performance of 21 (43.8%) was below average, 26 (54.2%) average and only 1 (2.0%) above average. Table 4.11 shows chi-square test results for the relationship between Test Anxiety and Academic Performance.

Table 4.12: Chi-Square test for relationship between Test Anxiety and Academic Performance

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.579[a]	4	.631
Likelihood Ratio	2.568	4	.633
Linear-by-Linear Association	.288	1	.592
N of Valid Cases	311		

a. .3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.23.

There was no statistically significant relationship between Test Anxiety and Academic Performance among Form Four students in Nyakach Sub-County (χ^2 =2.579, p=0.631, df=4). Comparatively, this finding can be affirmed from a study by Fulton (2016) as appears in the literature review.

4.6.3 Relationship between Students' Locus of Control and Academic Performance

Table 4.13 is a cross-tabulation for Locus of Control by Academic Performance. Out of the 340 students who responded to the questionnaire, 16 (4.7%) had low Locus of Control, 90 (26.5%) had moderate Locus of Control and 234 (68.8%) had high Locus of Control. Out of the 16

students who had low Locus of Control, 9 (56.3%) were below average in terms of academic performance, 7 (43.8%) were average and none of them was above average.

Table 4.13: Cross-tabulation for Locus of Control by Academic Performance

		Academic Performance			Total
		Below average	Average	Above average	
	Low	9	7	0	**16**
Locus of Control	Moderate	49	38	3	**90**
	High	118	110	6	**234**
Total		**176**	**155**	**9**	**340**

Out of the 90 students who had moderate Locus of Control, 49 (54.4%) were performing below average academically, 38 (42.2%) average and only 3 (3.3%) above average. Those who had high Locus of Control were 234, out which 118 were performing below average, 110 were average and 6 were above average.

Table 4.14 below shows chi-square test results for the relationship between Test Anxiety and Academic Performance.

Table 4.14: Chi-Square Tests for Locus of Control and Academic Performance

	Value	*df*	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.197[a]	4	.879
Likelihood Ratio	1.610	4	.807
Linear-by-Linear Association	.496	1	.481
N of Valid Cases	340		

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 42.

There was no statistically

significant relationship between Locus of Control and Academic Performance among Form Four

students in Nyakach Sub-County (χ^2 =1.197, p=0.879, df=4). This finding is contrary to the findings of Amadi (2010) and Araromi (2010) in which locus of control had a significant relationship with academic achievement. Adeniyi (2011) equally holds a similar position maintaining that locus of control, interest in schooling and self-efficacy jointly and relatively contribute to prediction of academic achievement of secondary school students.

4.6.4 Relationship between Students' Self -Concept and Academic Performance

Table 4.15 is a cross-tabulation for Locus of Control by Academic Performance. Out of the 340 who participated in the study, 7 had low self-concept, 145 had moderate self-concept and 188 had high self-concept. The study also revealed that out of the 7 students who had low self-concept, 3 students performed below average and 4 were average. None of the students performed at the above average level.

Table 4.15: Cross tabulation for Self-Concept by Academic Performance

		Academic Performance			Total
		Below average	Average	Above average	
	Low	3	4	0	7
Self-Concept	Moderate	80	61	4	145
	High	94	89	5	188
	Total	**177**	**154**	**9**	**340**

Out of the 145 students who had moderate self-concept, 80 performed below average, 61 were average and only 4 were above average. Also noteworthy is that out of the 188 students who had high self-concept, 177 performed below average, 154 were average while only 9 were above average.

Table 4.16: Chi-Square Self-Concept and Academic Performance

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.453[a]	4	.835
Likelihood Ratio	1.631	4	.803
Linear-by-Linear Association	.394	1	.530
N of Valid Cases	340		

Data in Table 4.16 above indicate that there was no statistically significant relationship between self-concept and academic performance ($\chi^2 = 1.453, p=0.835, df=4$).

Table 4.17: Performance grade cross tabulation

		Performance grade			Total f (%)
		Below average	Average	Above average	
Gender	Male	102 (46.2%)	102 (50.7%)	7 (3.2%)	221 (64.4%)
	Female	75 (61.5 %)	45 (36.9 %)	2 (1.6 %)	122 (35.6 %)
Total		177 (51.6%)	157 (45.8%)	9 (2.6%)	343 (100.0%)

The mean score of males was 4.56 (SD=1.935, n =227) and that of female was 4.10 (SD=1.88, n=125). It showed that males outperformed females in the cluster examination. Gender performance grade cross tabulation showed that out of 221 males 102 were below average which is 46% compared to 75 females which accounted for 61.5%. 112 (50.7%) males had average performance compared to 45 (63.9%) females. 7 male students scored above average which is 3.2% compared to females 2 students at 1.6%. The results from the square analysis in the

selected variables showed that there was no statistically significant relationship between the variables and academic.

4.7 Gender Difference in the Relationship between Psychological Variables and Academic Performance

Gender differences in the relationship between selected psychological variables and academic performance is presented in this section. More specifically, this includes gender differences in the relationship between attitude towards learning and academic performance, test anxiety and academic performance, locus of control and academic performance as well as self-concept and academic performance.

4.7.1 Gender Difference in the Relationship between Attitude towards Learning and Academic Performance

Figure 4.2 shows gender difference in the relationship between attitude towards learning and academic performance.
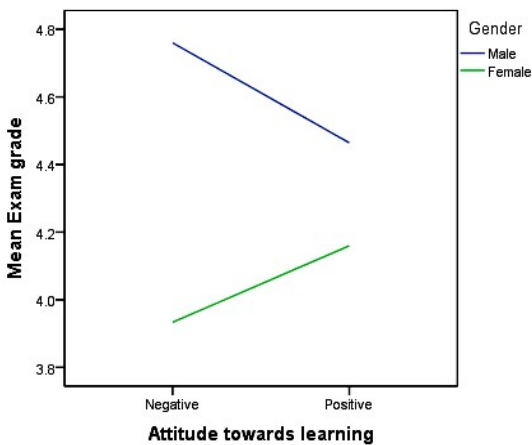
Figure 4.2: Gender difference in the relationship between attitude towards learning and academic performance.

Gender difference in academic performance manifested more when attitude towards learning was negative. The gender gap in academic performance was smaller when attitude towards learning was positive. It is therefore imperative that for the gender gap to be minimized, students' attitude towards learning should be improved.

4.7.2 Gender Difference in the Relationship between Test Anxiety and Academic Performance

Figure 4.3 shows gender difference in the relationship between test anxiety and academic performance.

Figure 4.3 Gender difference in the relationship between test anxiety and academic performance.

Figure 4.3 shows that there exists a disparity between male and female students with regards to test anxiety. Test anxiety is reportedly higher in male students than in female students. The largest difference in academic performance between males and females was recorded under moderate levels of test anxiety with males outperforming females at that level. The smallest difference in academic performance between males and females was recorded under low levels

of test anxiety. This finding is in concurrence with the position of Yasmin and Splelberger (2012) in a study conducted in USA to establish gender differences in test anxiety among medical students. Therefore the level of test anxiety of secondary school students' in Nyakach Sub-County should be minimized to reduce gender difference in academic performance.

4.7.3 Gender Difference in the Relationship between Locus of Control and Academic Performance

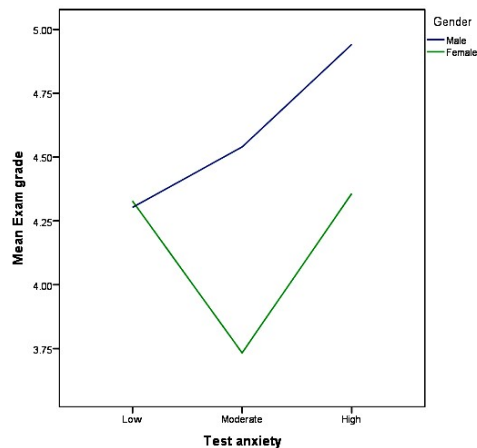Figure 4.4 shows gender difference in the relationship between locus of control and academic performance.
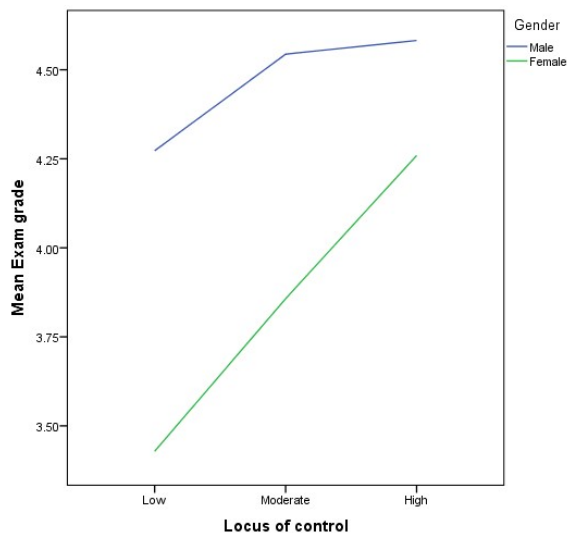
Figure 4.4: Gender Difference in the Relationship between Locus of Control and Academic Performance

The findings indicate that academic performance improved with increasing levels of locus of control, regardless of gender. However, the least disparity in academic performance between females and males was at the high level of locus of control. The largest difference in academic performance was recorded at the low level of locus of control. Students' level of locus of control should therefore be high if the gender gap in academic performance is to be minimized.

4.7.4 Gender Difference in the Relationship between Self-Concept and Academic

Performance

Figure 4.5 shows gender difference in the relationship between self-concept and academic performance. Male students outperformed female students at all levels of self-concept. The Figure also indicates that academic performance increased with increasing levels of self-concept regardless of gender. However, the smallest gender gap in academic performance was at the low level of self-concept and the largest gender gap was at the high level of self-concept.
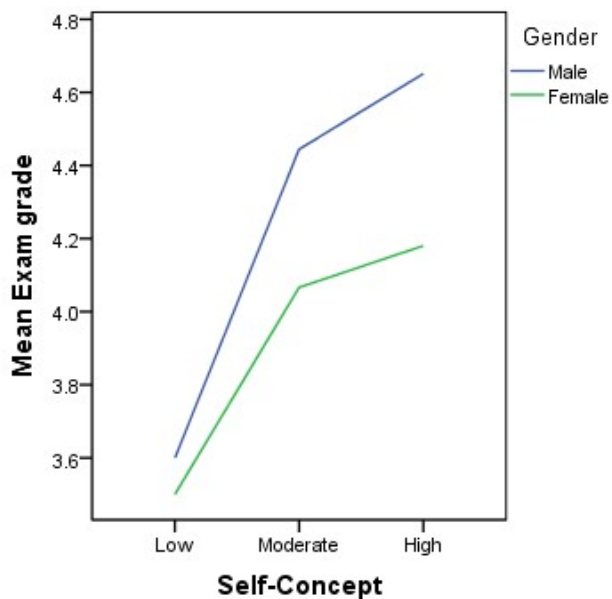
  Figure 4.5: Gender Difference in the Relationship between Self-concept and Academic Performance

Olatunde (2010) showed in a research conducted on student's self-concept and mathematics achievement that students who have a positive self-concept of themselves performed well in mathematics. This concurs with the findings in the present study which shows that an increase in self-concept favors academic performance. In addition, the findings in the present study are

consistent with the views of Judge and Kammeyer-Muller (2013) who observed that self-concept

has characteristics similar to attitude towards learning.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of study findings, conclusions and recommendations developed by the researcher from the data analysis and suggestions for further research. The study sought to investigate gender differences in relation to selected psychological factors and students' performance in form four cluster examinations in secondary schools in Nyakach Sub-County, Kisumu County, Kenya.

5.2 Summary of findings

5.2.1 Students Level in the variables under study

The first objective was to establish the students' level in the selected psychological variables and academic performance. The students mean attitude towards learning was 25.8 showing a positive attitude. The mean level of test anxiety was 20.3 indicating a moderate level. Locus of control had a mean score of 31.3 indicating high level and 32.8 for self-concept indicating moderate level. The academic mean score was 4.4 which was below average performance.

5.2.2 Gender differences in student attitude towards learning, test anxiety, self-concept, locus of control and academic performance

The second objective of the study was to establish gender difference in students' attitude towards learning, test anxiety, self-concept, locus of control and academic performance in Nyakach Sub-County. The study employed both quantitative and qualitative data collection techniques. The findings indicate that males had higher values than females in all the variables under study. Put

differently, males had a higher mean performance level (4.56) with a standard deviation of 1.926 than females (4.10) with a standard deviation of 1.883 in the cluster examination (Table 4.3), a more positive attitude towards learning, a higher level of test anxiety, a higher level of locus of control and a higher level of self-concept.

The students' mean Attitude towards Learning was 25.8. Therefore the students displayed a positive Attitude towards Learning. The students' mean level of test-anxiety was 20.3. This indicates that they had a moderate level of test anxiety. Locus of Control had a mean score of 31.3 which indicates that the students had a high level of Locus of Control. The students recorded a mean of 32.8 for Self-Concept indicating a moderate level for this variable (Table 4.2). Lastly, most of the students in Nyakach Sub-County did not perform well in Form Four cluster examination in 2018 as reflected by a mean score of only 4.4 as reflected in Table 4.1. No candidate got a mean grade of A or A- in the entire sample of 352 candidates. A smaller group of candidates displayed average performance (*n*=166) and a larger group of candidates displayed below average performance (*n*=177). This finding supports the records held at the office of the County Director of Education in Nyakach which showed that the Sub-county recorded comparatively lower academic grades in cluster examinations compared to other sub-counties in Kisumu County in the previous five years.

5.2.3 The relationship between students' attitude towards learning, test anxiety, locus of control, self-concept and academic performance

The third objective of the study was to establish gender difference in the relationship between students' attitude towards learning, test anxiety, locus of control self-concept and academic performance in Nyakach Sub-County. Out of the 333 students who participated in the study, 77 (23.1%) had negative attitude towards learning, while 256 (76.9%) had positive attitude towards learning. Thus, the majority of students had a positive attitude towards learning. The 77 students who had negative attitude towards learning, 39 (50.6%) performed below average and 34 (44.2%) were average. Only 4 (5.2%) were above average. Out of the 256 students who had positive attitude towards learning, 134 (52.3%) performed below average, 117 (45.7%) were average and only 5 (2.0%) were above average. From these findings, the low number of students performing above average is consistent regardless of the students' level of Attitude towards Learning. The results of the χ^2 test showed there was no statistically significant relationship between Attitude towards Learning and Academic Performance (χ^2 =2.366, p=0.306, df=2).

Cross tabulation for Test Anxiety by Academic Performance showed that out of the 311 students who responded to the questionnaire, 160 (51.4%) had low level of test anxiety, 103 (33.1%) had moderate level of test anxiety, while 48 (15.4%) had high levels of test anxiety. Out of the 160 students who had low level of test anxiety, those whose performance was below average were 85 (53.1%), 70 (43.8%) were average and only 5 (3.1%) were above average. Out of the 103 students who had moderate levels of test anxiety, the performance of 58 (56.3%) was below average, 43 (41.7%) average and 2 (1.9%) above average. Important to note is that out of the 48

students who had high levels of test anxiety, the performance of 21 (43.8%) was below average, 26 (54.2%) average and only 1 (2.0%) above average. Chi-square test results for the relationship between Test Anxiety and Academic Performance showed that there was no statistically significant relationship between Test Anxiety and Academic Performance among Form Four students in Nyakach Sub-County (χ^2 =2.579, p=0.631, df=4).

Cross-tabulation for Locus of Control by Academic Performance showed that out of the 340 students who responded to the questionnaire, 16 (4.7%) had low Locus of Control, 90 (26.5%) had moderate Locus of Control and 234 (68.8%) had high Locus of Control. Out of the 16 students who had low Locus of Control, 9 (56.3%) were below average in terms of academic performance, 7 (43.8%) were average and none of them was above average.

Out of the 90 students who had moderate Locus of Control, 49 (54.4%) were performing below average academically, 38 (42.2%) average and only 3 (3.3%) above average. Those who had high Locus of Control were 234, out which 118 were performing below average, 110 were average and 6 were above average.

Chi-square test results for the relationship between Test Anxiety and Academic Performance showed that there was no statistically significant relationship between Locus of Control and Academic Performance among Form Four students in Nyakach Sub-County (χ^2 =1.197, p=0.879, df=4).

Cross-tabulation for self-concept by Academic Performance showed that out of the 340 who participated in the study, 7 had low self-concept, 145 had moderate self-concept and 188 had high self-concept. The study also revealed that out of the 7 students who had low self-concept, 3 students performed below average and 4 were average. None of the students performed at the above average level. Out of the 145 students who had moderate self-concept, 80 performed below average, 61 were average and only 4 were above average. Also noteworthy is that out of the 188 students who had high self-concept, 177 performed below average, 154 were average while only 9 were above average. Chi square test showed that there was no statistically significant relationship between self-concept and academic performance (χ^2 =1.453, p=0.835, df=4).

This includes gender differences in the relationship between attitude towards learning and academic performance, test anxiety and academic performance, locus of control and academic performance as well as self-concept and academic performance.

Gender difference in academic performance manifested more when attitude towards learning was negative. The gender gap in academic performance was smaller when attitude towards learning was positive. It is therefore imperative that for the gender gap to be minimized, students' attitude towards learning should be improved.

The largest difference in academic performance between males and females was recorded under moderate levels of test anxiety with males outperforming females at that level. The smallest

difference in academic performance between males and females was recorded under low levels of test anxiety.

The findings indicate that academic performance improved with increasing levels of locus of control, regardless of gender. However, the least disparity in academic performance between females and males was at the high level of locus of control. The largest difference in academic performance was recorded at the low level of locus of control.

Male students outperformed female students at all levels of self-concept. Academic performance increased with increasing levels of self-concept regardless of gender. However, the smallest gender gap in academic performance was at the low level of self-concept and the largest gender gap was at the high level of self-concept.

5.2.4 Gender difference in the relationship between the selected variables and academic performance

The mean score of males was 4.56 (SD=1.935, n =227) and that of female was 4.10 (SD=1.88, n=125). It showed that males outperformed females in the cluster examination. Gender performance grade cross tabulation showed that out of 221 males 102 were below average which is 46% compared to 75 females which accounted for 61.5%. 112 (50.7%) males had average performance compared to 45 (63.9%) females. 7 male students scored above average which is 3.2% compared to females 2 students at 1.6%. The results from the square analysis in the selected variables showed that there was no statistically significant relationship between the variables and academic. The findings also indicated that males had higher values than females in

all the variables under study. Whereas the males outscored the females in all five variables under study the mean difference were not statistically significant at 95% confidence interval level for attitude towards learning (t=1.11; df=340; p=266) for text anxiety (t=.58, df= 317; p=.561) for locus of control (t=.02, df=347; p=.198). The independent sample t-test for gender difference in academic performance also showed that the mean difference in academic performance for males and females was found to be statistically significant at 95% confidence interval.

5.3 Conclusion

The study sought to determine gender difference in the relationship between selected psychological factors and students' performance in Form Four 2018 cluster examinations in secondary schools in Nyakach sub-county, Kisumu County, Kenya. Four psychological variables namely, attitude test, anxiety, locus of control and self-concept were considered in the study. Data was collected through quantitative and qualitative approaches where quantitative data enabled the researcher to establish the relationship between the independent and dependent variables whereas qualitative data enhanced further exploration regarding psychological factors. The following conclusions were drawn from the study:

On the second objective, it was concluded that in terms of gender, attitude was not a significant predictor of students' academic achievement in cluster exams. This conclusion was based on statistical result which the study obtained from the Pearson Chi-Square that revealed that there was a significant negative correlation between students to attitude and academic achievement.

On the third objective, test anxiety was not a significant predictor of students' academic achievement in cluster exams. This conclusion was based on statistical result which the study obtained from the Pearson Product Movement correlation coefficient that revealed that there was no significant negative correlation between students anxiety to learning and academic performance, as can be observed in Table 4.11. This is in contrast to findings of a study by Fulton (2016) on the extent to which test anxiety was related to test score in which he concluded that there was significant negative relationship between test anxiety and academic performance in a science test. It was also concluded that locus of control was not a significant predictor of students' academic achievement in cluster exams. This conclusion was based on statistical result which the study obtained from the Pearson Chi-Square that revealed that there was a significant negative correlation between students to learning and academic achievement. However, Shute, Howard, and Steyaert (2014) in their study posit that both internal and external locus of control are important predictors of academic achievement. They define this sense of control or locus of control as the extent to which an individual believes that he or she has control over an outcome. Fulton (2016) avers that externals reported a high academic achievement and that locus of control tends to be positively correlated with academic performance. It was also concluded that self - concept was not a significant predictor of students' academic achievement in cluster exams. This conclusion was based on statistical result which the study obtained from the Pearson Product Movement correlation coefficient that revealed that there was a significant negative correlation between students self-concept to learning and academic achievement. However researchers have supported the belief that there is a persistent and significant relationship between self-concept and academic performance, and the change in one seems to be associated with a change in the other (Oluoch, 2014).

On the fourth objective, the study revealed that there was a significantly positive relationship between gender performance and psychological variables. Yasmin (2012) concurs that boys have more positive attitude towards mathematics than girls and that they lacked confidence, had debilitating causal attribution patterns. Generally, the element of gender came out clearly as strong factor in performance disparity among male and female in the examinations as seen in discussions on locus of control, self-concept and attitude towards academics. The study revealed that there was a significantly positive relationship between gender performance and psychological variables in the sense that male students faced less challenges in academic performance compared to their female counterparts.

5.4 Recommendations

The following recommendations were made based on the findings of the study:

i. School principals should adopt and apply various measures to increase levels of locus of control and positive attitude to improve on the performance of female students

ii. Students should be encouraged to seek social support to help inculcate confidence among them and to improve their Self-Concept to improve their academic performance.

iv. Relaxation therapy techniques should be used to help learners deal with feelings of test anxiety, teaching them best strategies for examination preparedness since research has shown that low levels of test anxiety improves performance particularly among female students.

5.5 Suggestion for further studies

This study was on gender differences in relation to selected psychological factors and students' academic performance in secondary schools in Nyakach Sub-county, Kisumu County, Kenya. The researcher suggests that further research should be carried out on the causes of gender disparity among students that influence attitude of female students' academic performance to bridge the identified gap in their negative performance.

The researcher also recommends that research is needed on other non-academic related factors that could be contributing to the general poor performance of students in the cluster examinations.

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APPENDIX A: STUDENTS' QUESTIONNAIRE

INTRODUCTION

The purpose of the study for which the questionnaire is designed is to collect information on

factors that influence students' academic performance in Nyakach Sub-County Schools in

Cluster Examination.

PART I

Section A: Background Information

You are provided with the questionnaire below. Kindly read and answer the questions tick (√) in

the box as appropriate.

Gender: Male [   ]   Female [   ]

Year of study: _____

Section B: Students' Attitude and Academic Performance

The items in the questionnaire refer to experiences that may cause fear or apprehension. For each

item, place a tick (√) your position on the listed statements below where; **Strongly Disagree**

(SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5

	SD	D	M	A	SA
1. Learning is not difficult for me					
2. I always enjoy learning					
3. I normally try hard to get good grades.					
4. Examination measures my real success.					
5. My examination questions are normally clear and understandable					
6. Striving to get good grade is normally a challenge to me.					
7. Learning is good for my future progress.					

Reliability Coefficient 0.67

PART II

TEST ANXIETY INVENTORY (TAI)

Tick on any of the following options as the statement applies to you on how you feel when undertaking test. Key: **Strongly Disagree (SD) =1, Disagree (D) = 2, Moderate (M) = 3, Agree (A) = 4, Strongly Agree (SA) =5**

	SD	D	M	A	SA
1. I panic before taking examination					
2. I don't seem to remember anything after revising for examination					
3. I spend sleepless night before examination					
4. Continuous assessment tests enhances my academic performance.					
5. I become worried when I hear the announcement of a coming test.					
6. I feel scared being in class waiting for my corrected test to be returned.					
7. I normally feel nervous while waiting to enter the room where a test is to be given.					
8. I don't feel comfortable while waiting for a test to be handed out.					

Reliability Coefficient 0.64

PART III

SCALE FOR LOCUS OF CONTROL

	SD	D	M	A	SA
1. It is my own behaviour which determines my passing or failing examination					
2. Having regular contact with my teacher is the best way for me to avoid failing.					
3. My family has a lot to do with my academic performance.					
4. When I fail, I am to be blamed					
5. The main thing which affects my academics is what I myself do					
6. If I study well I can avoid failing					
7. If I fail I have the power to make myself pass again.					
8. I am directly responsible for my failing					

Reliability Coefficient 0.68

PART IV

SELF-CONCEPT SCALE

	SD	D	M	A	SA
1. I have the potential to pass my examination well					
2. I don't rely on teachers wholly in order to pass my examination					
3. I can express academic ideas frankly in the presence of others.					
4. I don't have difficult in understanding what am being taught.					
5. Learning is an opportunity to discover something on your own.					
6. I am brave and I know am going to perform in my examination					
7. I am satisfied with what am doing in school.					
8. I don't care whether am being taught or not because am capable of passing on my own.					
9. I don't need to cheat in examination in order to pass.					

Reliability coefficient 0.66

THANK YOU

APPENDIX B: INTERVIEW SCHEDULE FOR PRINCIPALS

1. How does attitude towards learning affect students' academic performance?

2. How does locus of control towards learning affect students' academic performance?

3. How does self-concept towards learning affect students' academic performance?

4. What role as the principal, would you play in ensuring that the academic performance is improved?

APPENDIX C: INTERVIEW SCHEDULE FOR SUB-COUNTY DIRECTOR NYAKACH

1. How does attitude affect students' academic performance?

2. How does locus of control affect students' academic performance?

3. How does self-concept students' academic performance?

4. What role as the Sub-county director would you play in ensuring that the academic
   performance is improved?

APPENDIX D: SAMPLE RAW DATA

ID	Attitude	TAI	LOC	SC	Gender	Grade	Grade1
1	29	17	30	40	0	4	1
2	31	18	38	42	1	7	2
3	25	18	37	40	1	3	1
4	28	23	40	31	1	3	1
5	29	17	40	31	1	2	1
6	28	17	40	34	0	5	2
7	24	25	33	34	0	2	1
8	18	25	33	32	0	2	1
9	33	31	25	35	1	3	1
10	31	31	38	43	0	3	1
11	19	26	20	24	1	3	1
12	35	28	37	37	1	3	1
13	22	32	30	34	1	2	1
14	26	28	30	34	1	2	1
15	27	16	40	31	1	4	1
16	35	33	27	25	1	5	2
17	32	30	39	34	1	5	2
18	31	17	34	27	1	4	1
19	26		26	27	1	3	1
20	31	16	20	27	1	5	2
21	27	18	29	28	0	5	2
22	31	16	20	27	1	8	2
23	18	22	31	27	1	2	1
24	20	20	16	22	1	4	1
25	24	8	32	29	0	0	
26	27	15	30	37	0	6	2
27	17	19	20	21	0	6	2
28	28	19	32	27	0	8	2
29	26	20	23	24	1	8	2
30	26	16	34	36	0	4	1
31	23	21	28	29	0	6	2
32	28	23	20	25	0	6	2
33	35	22	34	33	0	3	1
34	26	30	28	36	0	7	2
35	14	23	20	21	0	6	2
36	18	27	17	23	0	7	2
37	15	17	19	25	0	4	1
38	19	16	28	32	0	9	3
39	18	19	16	31	0	7	2
40	19	16	18	19	0	5	2

IEBC REVISED NYAKACH CONSTITUENCY ASSEMBLY WARDS