

**THE IMPACT OF GENDER DIFFERENCES ON STUDENT'S  
ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN  
NDUMBERI DIVISION, KIAMBU COUNTY, KENYA IN  
SCIENCE SUBJECTS AND LANGUAGES.**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE AWARD OF THE POSTGRADUATE  
DIPLOMA IN EDUCATION OF UNIVERSITY OF NAIROBI**

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## **DECLARATION**

This research project is my original work and has not been submitted for any degree or PGDE in any university.

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**L40/62567/ 2013**

This research project proposal has been submitted for examination with my approval at the University Supervisor.

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## **DEDICATION**

I dedicate this research to my parents especially my mother, Mary Njeri for all her assistance during my study. My children, Peninah Wamweru, Mary Njeri, and Jeremiah Gaitho for their support motivation and encouragement.

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## **ABBREVIATION**

<b>F:</b>	Female
<b>Freq:</b>	Frequency
<b>IHM:</b>	Immaculate Heart of Mary
<b>K.C.S.E:</b>	Kenya Certificate of Secondary Education
<b>M:</b>	Male
<b>PGDE:</b>	Post Graduate Diploma in Education
<b>SAT-M:</b>	Success Average Test in Mathematics
<b>SMT:</b>	Simultaneous Multi Threading

## ABSTRACT

The purpose of the study was to find out the impact of gender difference on the students' academic performance in Ndumberi Division, Kiambu County; the study was carried out using five secondary schools. Data sources included head teachers, directors of schools, teachers and students. There were three research questions which were used namely: what is the academic performance of boys and girls? What are the differences in academic performance of boys and girls? What factors lead to differences in academic performance between boys and girls? The study involved (40) students, (30) teachers (05) directors, (05) head teachers making a total sample size of 80 respondents. The teachers and students were randomly selected yet; the head teachers and directors were purposively selected. The data was collected using questionnaires for students, teachers and head teachers and interview guides for directors of studies. Finding revealed that by overall performance, male students performed much better as compared to their female counterparts. At subject level, girls outperformed boys in the languages, while boys led the girls in the sciences. The majority views of students (56%), male teachers (65%), head teachers (76%), and directors (82%) agreed and strongly so that, boys perform better than girls, only a total of 51% of female teachers disagreed and strongly so with this view. There were significant gender differences by overall performance with more boys passing in form 1 and 2 as compared to the girls in the same divisions. At subject level girls attained a higher mean average mark in the languages as compared to the boys. Conversely, boys scored higher mean average in the sciences than girls. There were no gender differences in the views of students although majority agreed on the superior performance of boys, just like the head teachers and directors female and male teachers showed gender differences in their views. Results shows that, teachers, negative attitudes and behaviors and ,time wasting among girls, more reading hours for boys, inadequate facilities, teachers, dissatisfaction and lack of motivation in girls, irregular attendance to school by girls, low persistence and their inferiority complex, were the factors for observed gender differences in the selected school in Kiambu division. Based on the findings, the study recommends that; Training in gender sensitive techniques through workshops for to teachers to change their attitudes and behaviours, Parental involvement, Girls should be taught time management techniques, Government should help schools acquire basic learning facilities.

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# CHAPTER ONE

## INTRODUCTION

### 1.0 Overview

This chapter introduces the background to the study, statement of the study, statement of the problem, purpose, objectives of the study, research questions, scope, significance and definitions of terms and abbreviations.

### 1.1 Backgrounds to the study.

Education in Kenya is the responsibility of the ministry of education where by one of the aims of the ministry is to guarantee quality education system in the county. Schools whether public or private have a number of stakeholders undertaking certain activities.

On the contrary, findings of different scholars, Maceoby and Jackline (1974), blot Jeane (1979) seem to advance that sex differences also contribute to variation in academic performance .while archer and mc advocate that of boys better perform better than girls in many subjects. So basing on the above controversies among teachers and scholars, the research seeks to find out whether there are significant differences between boys and girls in academic performances and more so find out the causes for academic differences.

The governance of schools is therefore done through a coalition of interest, working together while performing different roles all aimed at enabling the school to operate and achieve its aims and objectives. The success in academic performance in schools is dependent on the quality of services available.

Academic performance is the quality and quantity of knowledge, skills, techniques and positive attitudes, behavior and philosophy that students achieve or acquire. This achievement is evaluated by the mark or grade that students attain in a term or education cycle. The quality of grades and the number of students that pass in the various grades determine the level of academic performance.

There are many factors, which account for the good or poor academic performance in secondary schools like; the quality of students admitted the type of scholastic materials available in the school and home environment, the methods of teaching, the nature of administration and teachers involvement in academic matters. However, it seems that the most important factor to the academic performance of students is the impact of sex differences on students; academic matters.

In the same way, academic performance in secondary schools is a concern of all people who have invested interest in schools. This category may include teachers, parents, administrators, proprietors and the public. Regarding performance discrepancies of boys and girls, Megary (1984) concluded that once out of the primary school environment, Females under achieve in a variety of subjects. The reason why this occurs has to be answered. This is in order to get a clear picture of situation from the Kenyan perspective; research on this topic is of paramount importance. Attempts will be made to identify the conditions presumed to be responsible for the differential performance of boys and girls as claimed by the teachers and some researchers.

### **1.2 Statement of problem**

Research has shown that there are sex differences in the academic performance between boys and girls and researchers who have come out with contradicting finding about the impact of sex differences on academic performance have showed this. No similar studies have been undertaken in Kenya more particularly in kiambu county Ndumberi division.

### **1.3 Purpose**

To find out the impact of sex differences on students academic performances, in secondary schools in Kiambu County, Ndumberi division.

### **1.4 Objectives of the study**

1. To establish academic performance of boys and girls.
2. To establish differences in academic performance between boys and girls.
3. To establish factors that lead to difference in academic performance.

### **1.5 Research questions**

1. What is the academic performance of boys and girls?
2. What are differences in academic performance of boys and girls?
3. What factors leads to academic performance between boys and girls?

### **1.6 Scope**

The study was carried out in some selected secondary school in kiambu county, Ndumberi division. The study covers period of 2002-2004.

### **1.7 Significance**

This study might be of great importance to the following groups of people:

#### **Teacher**

The teacher used this study to design suitable methods of teaching and to make the subject they teach relevant, interesting and meaningful to the learners. The teacher in grouping learners for self help, grouping in the class, that is, they avoid to bundle boys alone in one group but mix them with the rest of their girls counter parts.

It will also help them have an insight into some factors that affect girls' academic performance.

It will also help them have an insight into some factors affecting the girl child academic performance. The teachers are also to explain to lay men in the profession of teaching, why boys are better classroom positions whenever responsibilities and tests are given respectively.

#### **Researchers**

Other researchers may use this report as a point of reference and a base for carrying out research in other related areas of education.

#### **Definitions of significant terms**

In the study, terms used vary in meaning depending on their different contexts; it is therefore, the intention of the researcher to use the following meanings whenever the mention of the will be made;

**Impact:** The force with which one thing hits another or with which two things hit each other.

**Sex:** A state of being either male or female

**School:** Is a social institution that has a set up to ensure intellectual and cultural progress through teachings and learning?

**Performance:** Students academic score attained in a given task

**Discrepancies:** Differences between two things that should be the same.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Overview**

This chapter tries to bring out other researches done that are similar to my research problem. The chapter is sub divided into three sections these include; academic performance of boys and girls: differences between boys and girls, factors that lead to academic performance in boys and girls.

#### **2.1 Academic performance of boys and girls**

An examination of sex differences in academic performances in Arts or sciences reveals controversial results. Although researchers begin to show interest in the problem at the beginning of the 20<sup>th</sup> century, it is surprising that the results are inconsistent, even to this day. Some researchers attribute the differences to methodological flaws, while others mention conditions that favour academic performance of boys and girls such as an aversion of girls towards physical sciences and this could be responsible for the observed performance variations between the two groups. Iroegbu (2000), who studied secondary school science, found that boys performed significantly better than girls do and posited that there are things in learning process, which affect the understanding of girls and boys differently.

Maccoby & Jack line, (1974) found that many studies have traditionally, shown that boys mathematics achievement is superior to that of girls. Although his study is dated, the current study updates his findings by examining if such a view still holds some water today. Jegede and Inyang (1990) in their study discovered that male students tend to score higher marks than females do in integrated science at the junior secondary school level.

A digwe (1993) in a research that investigated gender differences in chemical problem solving among Nigeria secondary school chemistry students, male students scored higher than their female counterparts did.

Tsado (1987), gipps (1994), O' connor (2001) concluded that as boys and girls grow up the differences they have in achievement in other subject diminish except in mathematics.

Helena holmlund & krister sund, (2006), girls perform increasingly better than boys in school. While it is well known that girls score significantly higher than boys on for example reading tests, there is now increasing evidence that the gender gap in school performance is closing in math and science, subjects thought of as being dominated by boys.

Czerniak & chiarelott, 1984; kahle, 1983; schibeci & riley, 1986 in their studies agreed that male students in the united states of America exhibited more positive attitudes and enthusiasm toward science as a subject than do females. Others Studies in the last decade by Harms, Byre, & Yager, (1979) Hosfein & Welch (1984) have shown that students maintain a poor attitude toward science, with that attitude declining from the junior to senior high school. Archer and mc Donald (1991) in their study of the subjects liked or disliked, chosen or not chosen by girls as well as subjects girls were supposed or not supposed to do, indicated that the most disliked subjects was mathematical followed by sciences.

Betz (1994) unlike other scholars found that girls perform much better than boys in many school subjects including mathematics, sciences and engineering. Scrimgeour (1993) in his study evaluated boys and girls on seven different areas; lesson core, class administration, questions asked of, questions asked by, tasks allocated to, discipline of, and other transactions. He concluded that boys scored higher on all of these levels than girls did, he added that classroom environment was responsible for observed differences among both genders.

## **2.2 The differences between boys and girls in the academic performances**

Klausmier Hodwin (1996) noted: differences are not usually found between girls and boys by the widely used intelligence tests. However, girls typically score higher on verbal items and boys on quantities and spatial items in both intelligence and achievement tests. Girls receive higher grades in school than boys, however, after the fifth grade boys score as high as do girls on achievement in both Arts and Science subjects.

Fennema (1987) asserts that recent studies have shown on male superiority in all subjects. All new studies show that any male superiority in mathematics may be



related to the way mathematics may be traditionally taught as competitive endeavor rather than a comparative group learning activity. When basic subject is taught in cooperative small groups, girls do better than boys. Wilberg and Lynn (1999) in a study of history classes and history tests found that girls outperform boys because they tend to work more conscientiously and with word fluency, which contribute to better course work.

According to Onyekuru (2002) who urges that male students put up a superior performance as compared to female students. Williams et al (1990) who documented that in early years there are no gender differences in achievement of boys and girls in early school. Gender differences become more apparent in the higher classes with boys performing better than girls in the areas involving calculations.

Kimball (1989) in an examination of sex differences in classroom performances found that female students outperform the male in standardized test measures of mathematics achievement such as the SAT-M in math classes. Baker and Jones (1993) in a study on sex differences among eighth grade math performance, found no evidence of significant gender gap in over 77,000 students in 19 developed and developing countries. Both cross national variation in sex differences in mathematical performance and the trend towards less of a difference between males and females' questions and innate male superiority in intelligence.

## **2.3 factors that lead to academic performance in boys and girls**

### **2.3.1 self- efficacy**

According to Bandura (1997) and Schunk, agreed that self- efficacy refers to judgments individuals make about their abilities to perform behavior at a certain level.

Schunk & Gunn (1986) also agreed that students self –efficacy influences their type of activities done, the efforts expended on those activities, the ability to persist on doing a particular task, and the task that can be accomplished at a particular point in time.

Wainer (1992) and Kranzler (1995) emphasized self- efficacy as an important factor that plays a vital role in the task accomplishment of boys and girls in Art and sciences.

Stipek & Gralinski, (1991) in their study found that boys' attribution patterns and levels of self-efficacy are more self- enhancing than those of girls are.

Pajares & Valiante, (1999), in their study found that perceptions students have about themselves, and about their academic competence, influence what they can accomplish with the knowledge and skills they acquire in their lifetime education. According to Hackett et al. (1981) in “a self-efficacy approach to career development of woman” reveals that a woman's self – efficacy positively correlates with her level of achievement in the direction where she thinks her abilities are applicable.

### **2.3.2 Teachers attitudes and behavior**

According to Swill (1992) states that teachers attributes towards the teaching profession and towards the female students contributed to gender differences in performance of students. Khale and Meece (1994) which documented that the teacher expectations, attitudes and classrooms interaction affects the ability of the girls to perform in math's and allied sciences.

AAUW (1992) which documented that the teacher significantly affects the achievement of girls by giving them less and less attention, during classroom lessons.

Gilligan (1982) and spender (1982) in their studies found boys attracted more of teachers, attention co-education classrooms; however, their findings are dated. Ray-mccutchoen (1996)and bettinger (2005) documented that boys received responded to more questions and teachers responded to their queries in more details.

Mwakilembe (1981) urges that the in-ability of teachers to derive satisfaction and motivation from their profession affect the performance of both genders differently. Quaisie (1996) also posited in his that a number of male teachers qualified in field of mathematics & science in Africa have a belief that many girls cannot work and

think scientifically and that study of science is technical al puzzle their lives cannot solve, thereby discouraging them.

Mensch & Cynthia (1998) in their study on gender differences in schooling experiences on adolescent in low income countries found that teachers sex preferences, low teacher expectations were a resident factors in the differential participation of girls and boys in school, they however, did their studies in primary schools. They also added that a teacher's behaviour more especially teaching habits. Level of attendance and method of teaching influenced the participation of girls in classroom.

### **2.3.3 School facilities**

Williams (1987) who posited those inadequate facilities in the school such as teacher supplies water facilities, restrooms, lab equipment basic instructional and demonstrational materials strongly affect performance of students differently in relation on their gender.

### **2.3.4 Ability**

Khale and Meece (1994) stressed that for girls to deal effectively with science subjects they should perform completely well in mathematics. Competence in mathematics is a prerequisite well for entrance in scientific and technical fields. Henwood (2008) who documented that girls underestimate their capabilities and think their success is a result of chance, luck of effort and not their capability.

Taylor and Mountfield (1994) and Koch (1994) found that girls attributed their failure in terms of personal factors where as boys interpret their failures due to external factors. However, Taylor (1994), Koch, (1994) goes further to explain that girls attributed their inability to succeed in terms of inherent inadequacies' where boys interpret their failures due to extraneous factors.

Wainer and Steinberg (1992) in their researchers have found that female students receive higher grades than more men do because of their ability to work harder and attend class more frequently than male counterparts. Scholars like Campbell? (1984), Taylor & Mount field, (1989) agreed that women and girls performance in

computer science is curtailed by their abilities. On other hand a number of scholars also dispute, this assumption such as Anderson (1989): Linn & Hyde, (1989) and agreed that whatever differences that may exist in abilities, they are socially constructed and never the less their effect on achievement can be minimized or eliminated by training. Leonard and Jiang (1999) suggest that females have better study skills as compared to the male students, the evidence they used was not scientifically oriented weakening their arguments.

Betsworth (1997) adds that women tend to underestimate their capabilities in all areas of their lives such as the ability to learn, verbal spatial and aptitude skills. He notes low self-efficacy hinders initiatives for women and girls to undertake tasks in a direction that could even lead to achievements of tangible results. The study examines the relevance of tangible results. The relevance of these findings in line with contemporary Kenya.

### **2.3.5 Gender biases and stereotypes**

Betz (1984) issues such as gender role stereotypes, occupational stereotypes, gender bias in education, career counseling, low self esteem, weak expectation for success represent barriers to women participation in Mathematics and science courses.

### **2.3.6 Parental and family attitudes**

Campbell et al, (1992) discovered how parents influence their daughter's science achievement by fostering positive attitudes about the subject: they even recommend that parents should openly talk their attitudes and performance. Davison (1993) kapakasa (1992) found that parental attitudes toward their sons and daughters determine the allocation of resources and the level of parental involvement education. Negative attitudes towards girl's education affect their participation, performance and time use at the domestic and school level.

### **2.3.7 Gender**

Fabunmi (2004) in his investigated the extent to which gender composition influenced the performance of students in secondary schools student in Nigeria states of Edo and found that gender was among the factors influencing differences in academic performance of students. However his study was a general and the

current study will apart from looking at the overall performing will consider other levels such as at the subject level.

### **2.3.8 Attitudes and interest**

Aghenta (1989) the development of a poor attitude towards science mathematics and technology was responsible for bad performance: she also found that among students positive attitudes towards SMTs were one of the factors facilitating good performance. She added that the attitude one holds towards mathematics of science is a powerful predictor of achievement in the respective fields.

Bandura (1997) in his study found that the achievements gap among boys and girls as a result of sex differences in belief students hold about mathematics as a discipline. In short available literature agree that particular conditions can bring about the differential performance between boys and girls, with varying degrees and points of emphasis on subject. Although the problem has been studied for decades, in other countries especially in the west the result so far reported by different researchers are inconsistent and inconclusive. In patriarchal structure have a powerful influence on differential performance and the education system is a reflection of societies thinking about the education of girls. The educational provision made for boys and girls were biased towards the hegemony of boys. In recent years, the government has attempted to increase the participation rates of girls in the sphere of education, but enrolment rates are still low, especially in rural areas. Presently, but government is paying much attention on the education of girls, as shown in the education program of the country.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Overview**

This chapter comprises of the following sections namely: research design, sampling procedure, sampling instruments, procedure of the study and data analysis.

#### **3.1 Research design**

The study was a survey research because it dwelled on the collecting opinions of respondents .A cross section design was used a use information was collected from different groups of people. The research study was mainly quantitative but also supplemented with quantitative data. The researcher used a cross section of subjects (people) from different schools and different ranks this included headmaster, director of studies, classroom teachers and students from selected secondary schools.

#### **3.2 Sampling procedure**

##### **School**

In the study area of Kiambu county, Ndumberi division there are many secondary schools. From these many, only five secondary schools were randomly selected. These schools represented a different section including Day and Boarding secondary private and Government aided secondary schools, mixed and single secondary schools. The random technique was used because it avoids biasness and it gives equal opportunity to all schools selected to participate.

##### **Headteacher**

Head teachers were one of the targeted populations the researcher used. Purposive sampling was used to sample them from selected secondary schools. As regards selection procedure the researcher used purposive sampling technique to sample head teacher because of the position they hold in schools and reliability in giving information.

##### **Director of studies**

Director of studies were one of the targeted populations the researchers used in this study. As regard selection procedure, the researcher used purposive sampling

techniques to sample director of studies. The researcher used it because; they yield more accurate information due to their position they hold in schools.

### **Teachers**

As regards the teacher, the selection procedure was random sampling techniques to. The researcher used it because it gives equal opportunity to all participants and avoids biasness during the research.

### **Students**

Students were focus of this study. Random sampling techniques were used to select them from various selected secondary schools. The random sampling technique was used to eliminate biases and it always gives equal opportunity to participate during conducting the research.

## **3.3 Sampling**

### **Schools**

The researcher selected five schools out of many to minimize time and cost. These schools were representative of the whole sub county. The schools were used for the study because they are the main focus of the study.

### **Head teachers**

Five head teachers were sampled from five secondary schools in the sub county. The total was taken to minimize time cost. The head teachers were used in this study because they have information regarding the students' performance. They are in charge of the students and records keeping like Kenya certificate of secondary education (K.C.S.E.) and monthly test records, which the researcher hopes to use the documentary analysis.

### **Directors of studies**

Five directors were sampled from secondary schools in the sub- County. This was done to minimize time and costs. The director of studies was used in the study because they have information regarding the students' performance. They are in charge of the students and records keeping.

### **Teachers**

A total of thirty (30) classroom teachers were sampled. Efforts were made to make sure that out of six (6) teachers from each school three (3) are female and the others three (3) are males. The researcher selected the number of size to minimize time and costs. The teachers are used in this study because they are the ones who teach students.

### **Students**

As regards sample size, the researcher selected forty (40) students both male and female from each school. Efforts were made to make sure that out of eight (8) students from each school, four (4) are female and the other four (4) are males. The researcher used that size to minimize time and costs. The students were used in this study because they are the main focus on this study.

### **3.4 Instruments**

The following instruments were used in this study to collect data.

#### **1. Questionnaire**

This was the main instrument used to collect data from the head teacher, director of studies, classroom teachers and students. These written questionnaire involved closed and open ended questions. Under this method, self-administered questionnaire were used to get information from the above chosen respondents.

The instrument was employed because it is more viable and reliable since a respondent does not disclose his or her names, he or she can give reliable and first hand information and more so, it collects a lot information from a large section of subjects within a stipulated time. For details, refer to the appendix A, B and C

#### **Interview guide**

Interview guide as a tool of data collection was used to collect information from director of studies. The instrument was used to collect results over study period. Then the researcher himself immediately yielded more accurate information since the approach avails opportunities to the interviewer to probe the rephrase questions to enhance clarity and accuracy. For more details, refer to appendix D.



### **3.5 Procedure of the study**

Selected research topic. Wrote the researcher proposal, collected data, compiled and analyzed data. Wrote a fair copy of the report, wrote final report, submitted in the report in the department concerned for examination.

### **3.6 Data analysis**

All the data collected was summarized into tables following the objectives. Data from each of the instruments used was summarized separately. These summaries included the frequencies and percentages of occurrence. From these tables descriptive statistics was used to analyze the data and later explained the results. The interview data was analyzed thematically and incorporated into other analysis.

**CHAPTER FOUR**  
**RESEARCH FINDINGS AND DATA ANALYSIS**

**4.0 Overview**

This chapter presents findings in relation to research questions. It is divided into four sections namely backgrounds, research question one, research two and question three. The findings were presented according to research questions namely:

1. What is the academic performance of boys and girls?
2. What are differences in academic performance of boys and girls?
3. What factors lead to differences in academic performance between boys and girls?

**4.1 Background of respondents**

**Table 4.1: background characteristics of respondents**

Variable	Head teacher		Directors		Teachers		Students	
	freq	%	freq	%	freq	%	Freq	%
	04	80	04	80	17	56.7	17	42.5
	01	20	01	20	13	43.3	23	57.5
<b>Total</b>	<b>05</b>	<b>100</b>	<b>05</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>
<b>Experience</b>								
1-5 years	-	-	02	40	09	30.0	-	-
6-10 years	01	20	03	60	20	66.7		
10 years +	05	100	-	-	01	03.3		
<b>Total</b>			05	100	30	100	-	-
<b>Qualifications</b>								
Graduate	03	60	02	40	20	66.7	-	-
Diploma	02	40	03	60	10	33.3	-	-
Others(s)	-	-	-	-	-	-	-	-
<b>Total</b>	<b>05</b>	<b>100</b>	<b>05</b>	<b>100</b>	<b>30</b>	<b>100</b>	-	-
<b>Class size s4</b>								
19-39	18	69.2						
40-60	-	-						
61-81	07	100						
82-102	-	-						

i) Teachers

From the table above background characterizes of the respondents show that majority(56.7%) of the teachers were the minority at 43.3%.the analysis further revealed the majority of the teacher respondents at 66.7% were graduate teachers, yet only a small minority(33.3%)of the teachers was diploma holders. It was also noted that majority 66.7% of the teacher respondents had working experience of 6-10year s, yet a small number of the teacher s at 03.0% minority had working experience of 10 and above.

ii) Directors of studies

Additionally, majority (80%) of directors of studies in the selected secondary schools were male and only 20% minorities of these were females. Similarly the table above shows that the majority of the directors of studies at 60% were diploma holders and minority of 40% were graduate holders, 60% of the directors of studies had working experience of up to 6- 10 years, yet only 40% of the total number was between working experience of 1- 5 years.

iii) Head teachers

The analysis further revealed that majority of the head teachers respondent at 80% were male and female made up a small minority of 20%. Additionally, majority of the Head teachers who participated in this study of 60% was graduates only 40% minorities were diploma holders.

iv) Students

Table 1 also shows that, majority of the respondent students were female at 57.5%, yet male students were minority at 42.5%.

v) Class size

Finally, table 1 also shows that 69.2% and 30.7 of s4 and s6 sizes were between 19-39 students respectively, yet a very small number of S.4 and s.6 were between 61-81 students.

## **4.2 What is the academic performance of boys and girls?**

### **Overall performance**

The researcher analyzed internal mock ordinary level exam results for the selected secondary schools and the overall performance by gender was as follows.

**Table 4.2: Shows performance of students by gender in internal mocks for 2006-2008**

Year	Division	(i)	(ii)	(iii)	Iv	total	
2006	Males	28	32	39	22	121	245
	Female	12	23	51	38	124	
2007	Males	21	51	31	33	136	292
	Female	14	39	56	47	156	
2008	Males	30	25	89	44	188	395
	Female	10	30	111	56	207	
		115	200	377	240	932	932

Performance of students at the internal mock exams for the years 2006 -2008 reveals the following patterns in performance.

### **2006**

Available data reveals that majority of the male candidates (39) were in division (iii), similarly majority of the female candidates (51) were in division (iii).The total number of male candidates in Division (i) & (ii) (60) exceeds the number of female candidates in the same divisions by 25 candidates.

### **2007**

In this year majority of the male candidates (51) in the selected schools passed their district, mock exams in Division (iii).The total number of male candidates passing in Division (I) &(ii) (72) also exceeded the number of female candidates passing in the same division by 15 candidates. See table 2 above

#### **1. Performance at subject level**

The study examined performance of boys and girls at the subject level and the findings were as follows:

**Table 4.3 Performance at internal mock by languages for 2006-2008**

Year		English		Literature		Kiswahili	
		n	Mean	n	Mean	n	Mean
2006	Male	121	44.81	60	50.47	94	48.43
	Female	124	50.93	90	54.02	103	49.11
2007	Male	136	45.45	81	46.13	95	44.57
	Female	156	49.05	72	48.01	82	45.43
2008	Male	188	40.47	51	51.44	85	48.34
	Female	207	44.32	64	53.36	78	50.40

a) English

Results revealed that in 2006 female candidates led the male in performance of English at a mean mark of 50.93%, while male trailed at 44.81% in 2007, female candidates performed better than males at mean mark 49.90% while males were at 45.45% in 2006 female students performed better at 44.32% and male candidates followed at 40.47%.

b) Literature in English

In the year 2006 the performance of female candidates in English Literature was better than that of the male at 54.02% while male candidates were at a mean mark of 50.47%. In 2007, female students continued to lead the male at a mean mark of 48.01%, while male candidates were at a mean mark of 46.13% in the year 2007 females, students had mean average of 51.44% yet the male were at 51.44%.

c) Kiswahili

Female candidates continued to exceed that of males at 49.11% in 2006, 45.43% in 2007 and 50.40% in 2008 Male candidates were trailing at a mean mark of 48.43% in 2006, 44.57% in 2007 and 48.34% in 2008

d) Sciences

The following table shows results for the district mock exams for the year 2006-2008 by gender in biology, Chemistry and mathematics.

**Table 4.4 Performance at internal mock by Sciences for 2006-2008**

Year				Chemistry		Mathematics	
		N	Mean	n	Mean	N	Mean
2006	Male	121	48.45%	72	43.20%	121	50.95%
	Female	124	35.51%	94	38.43%	124	44.47%
2007	Male	136	50.03%	93	41.10%	136	46.31%
	Female	156	41.43%	81	30.34%	156	38.80%
2008	Male	188	42.53%	89	49.90%	188	43.94%
	Female	207	33.94%	70	32.47%	207	30.42%

**8a) Biology**

In the year, 2006 female candidates had mean mark of 33.51%, yet male candidates had a mean mark of 48.45%. Similarly, in 2007, male students were leading at a mean of 50.03%, yet female candidates trailed at 41.43%. In the year 2008, male students still performed better at mean mark of 42.53% and females at 33.94% in all the selected secondary schools.

**b) Chemistry**

In 2006 male candidates led the girls at a mark of 43.20% while girls trailed at 38.43%. In 2007 male students still led the females at 41.10% while female candidates were at 30.34%. In 2008 male candidates still led at mean mark of 49.90% and females trailed at 32.47%.

**c) Mathematics**

In the year 2006 male candidates led the females at an average mark of 50.95%, yet girls trailed at 44.47% in the year 2007 the performance male candidates fell, but still led the girls at a mean mark of 46.31%, girls were at 38.80%. In 2008, performance of the male students still led the females at 43.94%, while females were at 30.42%.

**3) Views on students, performance on gender differences in the performance of students**

Respondents were asked whether male students were performing much better than females in the

Candidates' classes. The responses are summarized in the following table: below

**Table 4.5 Combined responses on views of students' performance**

		Strongly agree	Agree	Disagree	Strongly disagree	Undecided	Total
Students	Male	37	19	28	10	06	100
	Female	26	30	10	23	11	100
Teachers	Male	41	24	18	17	-	100
	Female	30	19	43	08	-	100
Principals		32	44	10	14	-	100
Directors		50	32	17	01	-	100

**i) Students' responses**

Result revealed that majority (37) of the male candidates strongly agreed they were performing much better than their female counterparts were. Only 10% of the male students disagreed with the above view. At the same time majority (30%) of the female students accented to the fact that boys were doing much better, only 10% disagreed with this fact.

**ii) Teachers Responses**

Finding reveals that majority (41%) of the male teachers strongly agreed that male candidates were performing much better than girls. Conversely, majority (43%) of the female teachers disagreed with this fact.

**iii) Head Teachers' Responses**

Result revealed that majority (44%) of the head teachers agreed that boys are performing much better as compared to female candidates, only a minority 10% of the head teachers disagreed with this fact.

**iv) Directors of Studies' Responses**

Findings revealed that majority (50%) of the directors of studies agreed that male candidates' were performing much better than their female counterparts were; only 1% disagreed with the above view.

### 4.3 What are the differences in the academic performance of boys and girls?

#### I) Overall Performance

The researcher examined the performance of the students in their district mocks exams in the selected secondary schools for a period starting 2006-2009. The findings for the students are summarized in the table 6 below:

**Table 4.6 performances of students in internal mocks 2006-2008**

Division	Male	Female	Total
I	79	36	115
Ii	108	92	200
Iii	159	218	377
Iv	99	141	240
Total	445	487	932

Table 6 shows the number of male students passing in division i & ii is significantly higher, when compared to that of the females in the same divisions. Conversely, 359 female students passed in division iii & iv, which is a much higher figure as compared to 258 male students in the same division. This implies that there are significant differences in the performance of male and female in the year 2006-2009 at form four levels of the selected secondary school.

#### 2) Gender differences in performance at the subject level

##### I) Languages

Analysis of the result for the students in the selected schools for years 2006-2008 revealed that variations in the performance of both male and female students at the subject level.

**Table 4.7 average performance of students at subject level 2006-2008**

Year	English		Literature		Kiswahili	
	M	F	M	F	M	F
2006	44.81	50.47	50.47	54.02	48.43	49.11
2007	45.45	49.05	49.05	46.13	44.57	45.43
2008	40.47	44.32	51.44	53.36	48.43	50.40
Average	43.58	48.10	49.35	51.78	47.43	48.31

Analysis of performance at the subject level reveals variation by gender, with female students leading the males at a mean average mark of 48.10% in English 51.78% in literature and 48.31% in Kiswahili language for the period of 2006-2008



in the district mock exams. Conversely, boys are trailing the female students in the performance of languages at an average mean mark of 43.58% in English, 49.35% in literature and 47.11% in Kiswahili in the same period.

**ii) Sciences**

Analyses of data in the science subjects in the selected secondary schools also reveal patterns of gender differences in performances. See Table 8 below

**Table 4.8 average performance of students at subject level 2006-2008.**

Year	Biology		Chemistry		Mathematics	
	M	F	M	F	M	F
2006	48.45	35.51	43.20	38.43	50.95	44.47
2007	50.03	41.43	41.10	30.34	46.31	38.80
2008	42.53	33.94	49.90	32.47	43.94	30.42
Average	47.00	36.96	44.73	33.75	47.07	37.90

From the table: 8 above, it shows that male students are leading the females at an average mean mark of 47.007% in biology, 44.73% in chemistry, and 47.07% in mathematics. Conversely, female students were trailing the males at an average mean mark of 36.96% in biology, 33.75% in chemistry and 37.90% in mathematics in the period 2006 – 2008 in the selected secondary schools.

**3) Views of respondents on gender differences in students performance**

i) Students

The participants were asked whether they agreed to the fact that performance of male students was superior to that of the female’s students. Findings from this inquiry revealed that equal number of (56%) female and (56%) male students accepted that male students put up a superior performance as compared to the females. See table: 5

ii) Teachers

There were gender differences in the responses of the male and female teachers, with majority (51%) of the female teachers disagreeing and strongly so to the fact that male students are putting up a superior performance as compared to the girls. On other hand, 65% of male teachers agreed and strongly agreed with the above fact. See table 5

iii) Head teachers

Results revealed that majority (76%) of the head teachers also agreed and strongly agreed that male students perform much better than the female students do. Only 10% disagreed with the above view.

iv) Directors of studies

It was found that 82% of the directors of studies agreed and strongly so those male students are performing better than female students do. Only a minority of 1% disagreed with this view. See table: 5

#### **4.4. What factors lead to differences in academic performance between boys and girls?**

Students, head teachers, teachers, and directors of studies were asked the factors that led to gender differences in academic performance between boys and girls. The responses for this inquiry are listed below

##### **1. Students' responses**

Students were asked to state the most important factor responsible for observed gender differences in the performance in girls and boys. The findings were as follows.

**Table 4.9: Factors for gender differences in performance of boys and girls.**

	Why are boys academically superior in performance than girls?	f	%
1.0	Girls lack numerical abilities to do complicated tasks like boys do.	01	03
2.0	Girls have limited time to study due to other intervening activities.	08	19
3.0	Low self esteem among girls makes them undervalue their abilities.	02	05
4.0	Negatives attitudes and behaviors' of teachers towards girls.	14	34
5.0	Boys access teachers for longer hours beyond class time unlike girls.	05	13
6.0	Lack of facilities in schools' desks, chairs, water, lights & books.	10	26
	Total	40	100

From the table 9 above it were noted that the following factors were the most significant responses explaining gender differences in academic performance:

1. Negative attitudes and behaviors’ of teachers towards girls

Majority (34%) of the student respondents reported that negative attitude and behaviors’ of the teachers towards girls were the most significant factors responsible for gender differences in academic performance among boys and girls.

2. lack of facilities in schools

Findings also reported that 26% of the students reported that the lack of facilities in schools was the second most important factor in the observed gender differences in academic performance among boys and girls. They reported such facilities as desks, chairs, water, adequate lighting and books.

3. Limited time to study

Results further revealed that 19% of the students reported that female students had limited study time consequent upon a number of intervening activities.

A minority of 3% and 5% of the students said lack of numerical abilities and low self esteemed respectively among girls led to gender differences in performance of boys and girls.

**ii) Teachers responses**

Teacher’s respondents asked on factors responsible for gender differences reported the following as the most significant factors. See table 10

**Table 4.10: Teacher’s responses on factors for gender differences in performance**

	Why are boys academically superior in performance than girls?	f	%
1.0	Inferiority complexes among girls who think boys are intelligent	06	15
2.0	Many time wasting activities among girls like facials and couples	14	46
3.0	Lack of teacher satisfaction and motivation in schools	06	20
4.0	The methods of teaching limit girls’ performance in school.	03	09
5.0	Family background of the girls limits their performance.	03	10
	Total	30	100

1. Many time wasting activities among girls

Majority of the teachers (46%) reported that many time wasting activities such as hairdo and make up hinder them from performing in school.

2. Lack of teacher’s satisfaction and motivation in schools

Up to 20% of the teacher respondents said it was the lack of teacher satisfaction and motivation in schools that caused low performance.

3. Inferiority complexes

Result found 15% of teachers reporting that gender differences in academic performance were due to inferiority complexes among girls.

**iii) Head teachers’ responses**

**Table 4.11 head teachers’ responses on gender differences in performance**

	Why are boys academically superior in performances than girls?	%
1.0	Boys have more reading hours than girls	38
2.0	Girls sympathize with themselves and fear competitive learning	08
3.0	Teachers behavior and attitudes towards girls classrooms	23
4.0	Boys are more focused girls are easily distracted from studies	14
5.0	Low levels of persistence among girls	17
	<b>Total</b>	<b>100</b>

From the table 11 above, the following were the most significant factors responsible for gender differences in academic performance.

1. Boys have more reading hours than girls

findings reported majority (38%) of the head teachers’ saying that gender differences were due to the fact that boys had more reading hours than girls do to study.

2. Teachers behaviors’ and attitudes towards girls

Up to 235 of the head teachers said behaviors’ and attitudes of teachers towards girls in classrooms were the major cause of the differences.

3. Low levels of persistence among girls

Up to 17% of head teachers reported that some girls' had already shown signs of giving up before even sitting for their exams.

#### **Iv) Directors of studies**

**Table 4.12 Directors of studies responses on gender differences in performance**

	Why are boys academically superior in performance than girls?	%
1.0	Irregular attendance of girls to school schedules	44
2.0	Parental involvement in education and child preference practices	18
3.0	Socio-cultural norms that inhibit girls participation in various ways	10
4.0	Long distances traveling to schools.	05
5.0	Restriction on the movement of girls limits their study partners	23
	Total	100

From table 12, the following responses were noted from the directors of studies concerning the factors responsible for gender differences in performance.

##### 1. Irregular attendance

Majority (44%) of the directors of studies accepted that irregular attendance to school schedules causes gender differentials in performance of boys and girls.

##### 2. Restrictions on the movements of girls

A total 23% of the director's studies reported that restrictions in the movements of girls limit them to a small number of study partners.

##### 3. Irregular attendance

Majority (44%) of the directors of studies accepted that the irregular attendance to school schedules was a factor in gender differentials in performance of boys and girls.

##### 4. Parental involvement

Up to 18% of the directors, reported differential parental involvement and sex preferences were responsible for the observed gender imbalances in performance of boys and girls.

**Review**

This chapter has dealt with findings obtained from the study. They included the performance patterns of male and female students, gender differentials in performance and the factors leading to differential performance between male and female students in the selected secondary schools. The next chapter discusses the findings, draws conclusions, and makes recommendations from this study.

**CHAPTER FIVE**  
**SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSIONS AND**  
**RECOMMENDATIONS**

**5.0 Overview**

This chapter entails the discussion of the findings, conclusions and recommendations. An attempt was made to maintain the flow of ideas and implications deduced from the results as they are presented and interpreted in chapter four in order of the research questions.

**5.1 Discussion**

In this section, results were synthesized, digested and a systematic and concise discussion built, including its implications to the research objectives of the study. Where necessary references made bearing on the recorded responses from the respondents. This section follows research questions as it progresses towards the conclusions.

**5.1.1 What is the academic performance of boys and girls?**

Overall performance, of boys and girls for the year 2006-2008 internal mock exams show that out of a total of 932 students, 20.1% boys and 13.8% girls passed in division (i) and (ii) respectively, 27.7% boys and 38.4% of girls passing in divisions (iii) and (iv) respectively. (table 4.2). The implication is that boys performed better than girls did by average performance for the years 2006-2008. These findings support earlier studies by Iroegbu (2002), who found that boys performed significantly better than girls perform and he further observed that there are elements in learning process, which affects the understanding of girls and boys differently, although he did his study in the sciences.

Greenfield (1996) was also in support of the above findings when he reported that boys were doing significantly better as compared to the girls. Scrimgeour (1993) in a similar- study supports the above findings when he found that boys tend to score highly on all levels they are evaluated as compared to the girls in a number of school respects and attributed this differential response to classroom environments.

## **Performance at subject level**

### **(i) Languages**

Female students were performed better in the languages by mean performance at the subject level in the internal mock exams for the years 2006 – 2008; results show that girls led the boys at 48.10% who were trailing at 43.58% in English language. Similarly, girls outperformed the boys at an average mean mark of 51.78%, yet boys were at 49.35% in English literature. In Kiswahili girls led the boys at an average mean mark of 48.31% and boys at 47.11%. These finds seem to concur with Holmlund et al (2006), who posited that girls performed increasingly better than boys in reading tests, and that there is evidence of a declining gender gap in performance of math and science subjects historically dominated by boys.

One explanation for this could be that boys have poor attitudes towards arts subject, which is not the case for girls who choose literature and Kiswahili out of interest, These argument is in line with other scholars like czerniak & chiarelott, (1984); kahle, (1983); ischibeci & schibeci & riley, (1986) who in their respective studies concur male students in the united states of America exhibited more positive attitudes and enthusiasm toward science as a subject than do female.

### **(II) Sciences**

Analysis of performance of students in the internal mock exams for years.

2006- 2008 showed that male students were performing better in chemistry with a mean average performance of 44.73 % for boys and at 33.75% for girls. Mathematics revealed similar patterns of performance in the internal mock exams for the years 2006-2008, with boys at a mean average performance of 47.07% and girls at 37.90%. Tsado (1987) and O'CONNOR (2001) did not wholly agree with findings, when they reported that gender differences tend reduce in all the other subjects as boys and girls up, apart from mathematics.' The findings of the study do not agree Tsado and O'CONNOR since gender differences were observed not only in mathematics, but also other subjects Chemistry, biology and languages.

Holmlund and krister (2006) were critical of these findings when they documented that girls can perform better than girls they also found the gender gap to be closing in mathematics although their case was in Sweden a more developed country than Uganda.



Maccoby & Jacklin (1974) also agrees with the findings when they agreed with many studies of their time that traditionally, boys were superior in the performance of mathematics as compared to girls, although their findings are dated.

Results for biology put boys in the lead at average mean performance of 47.00% and girls at 36.96%. Jegede and Inyang (1990) are in agreement with the above findings when he concluded that male students scored higher marks than females in integrated science at the junior secondary school level were in support of the current study. However, because biology is a compulsory subject most girls take it as and according to Archer and McDonald (1991) it was indicated among the most disliked subjects among girls only next to mathematics.

The findings agree tally with those of Fennema (1987) but to him male students performance in mathematics was due to the competitive nature of teaching as opposed to a cooperative group learning where girls do better than boys.

### **3. Views of respondents on performance of students.**

The researcher also examined view of participants on the performance of students. The findings for this inquiry revealed the following performance patterns.

#### **1. Students**

An equal number of boys 56% and 56% girls reported that boys were performing as compared to the girls. The implication being those girls might have underestimated their abilities in performance by supporting the performance of boys. Henwood (2008) was in line with these findings when he agreed that girls tend to underestimate their abilities when describing to their performance more especially their ability to learn, verbal spatial and aptitude skills. See table 5.

#### **2. Teachers**

Result from the 65 of the teachers reveals that, boys perform much better than their female counterparts in overall performance; this was in direct contrast to the female teachers of which 49% disagreed with the above view. The findings are akin to those of Quasisie (1996), who found that male science and mathematics teachers have a belief that many girls cannot express themselves scientifically way because science is too technical for them and thus discourage them.

### **3. Head teachers**

It was found that 76% of the head teachers agreed and strongly so those boys were performing better than girls were by overall performance.

### **4. Directors of studies**

Similarly, 82 of the directors of studies agreed and strongly so that boys were performing much better than the girls. However, since the head teachers and the directors of studies have first hand access to the complete results of both girls and boys in any exams at the selected schools, they are in the right position to tell the truth about the performance of students. See table 5.

## **5.1.2 What are the differences in academic performance of boys and girls?**

### **1. Overall performance**

Overall performance. Of boys and girls for the years 2006 – 2008 internal mock exams show that by average performance there are more boys in divisions I and ii (20.1%) than girls who are just 13.8% in the same divisions of the 932 students. At the same time there are more girls in divisions III and IV (38.4%) as compared to the boys who were only 27.7% in the same divisions. The implication here is that there are gender differences by overall performance, with more boys passing in better divisions than girls do. Refer to table 5. These findings are in agreement with Onekutu (2002) who posited that male students put up a superior performance as compared to the female students.

### **2. Gender differences in performance at the subject level**

#### **i) Languages**

At the subject level results show that there are gender differences in performance within and across the subjects, with girls having a higher average mean performance in the languages of Kiswahili (48.10%), literature (51.78%) and English (48.32%) in the period 2006-2008. However the differentials were not as wide as some scholars put it mean marks in Kiswahili (47.11%), literature (49.35%) and English (43.58%) in the same period.

#### **(II) Sciences**

Results in the performance of science showed that there are significant gender differences in the performance of science subject. Male students attained a higher mean average mark in biology (47.00%), chemistry (44.73%) and mathematics (47.07%) as compared to the female students who attained 36.96% in biology,

33.75% in chemistry and 37.90% in mathematics. This implies there are wider differentials in performance of the sciences between boys and girls. The findings are also in line with Klausmier (1996), whom noted that girls score higher on verbal items and boys on quantities and spatial item in intelligent and achievement tests.

Earlier students also confirm the findings of the current study by Williams et al (1990) who documented that in the early years there no gender differences in achievement of boy's and girl's in the early school years, but differentials become more apparent in the higher classes with boys performing better those girls in the areas involving calculations.

### **3. Views of respondents on gender differences in students performances**

#### **a) Students**

There were no gender differences in the responses of students with equal number of boys (56%) and girls (56%) reporting male students were performing better than the girls. Such a response may have been due to low- self esteem that girls feel when evaluating their abilities.

#### **b) Teachers**

Teacher's responses revealed that there were gender differences in the responses of the male and female teachers. With 65% of the male agreeing that boys perform better than the girls in the selected schools do yet 49% of the female teachers disagreeing with the above view. These findings are in agreement with Onekuru (2002) who noted that male students put a much better performance as compared to girls.

#### **c) Head teachers**

Majority (76%) of the head teachers agreed and strongly so that there are significant differences in the performance than girls do. Kimbal (1989) disagreed with this view when he said those female students, although he did his study in mathematics.

#### **d) Directors of studies**

Directors reported gender differences in performances of boys and girls 82% of the directors agreed and strongly so that boys were performing better than the girls were. Refer to table 5.

### **5.1.3 The factors lead to differences in academic performance of boys and girls.**

The results described above confirm the existence of gender differences in academic performances of students and participants attributed the observed differences to the following factors

#### **1. Students**

It was noted from (34%) of the students that negative attributes and behaviour of the teachers towards girls was responsible for the observed gender differences in performance in the selected schools. In addition to this some of the commonest complaints noted in the responses was the fact that many students labeled their teachers as being biased developed boys responses into proper answers less attention to girls input and other centered classroom teaching methodologies.

The study confirmed that just like other earlier studies by Swila (1992), Khale (1994), AAUW (1992) and Gilligan (1982), teachers behavior exert powerful influence on the performance of girls. More differences were further noted in the responses such as the level of teachers' low motivation of girls in the classroom, which was not the case for boys as confirmed by Bettinger (2005), Ray Mccutchoen (1996) and Quayside (1996).

The study also found from 26% of the responses of the students that the lack of school facilities was among the factors responsible for the observed gender differences in performances of the students in the selected schools. Additionally complaints were noted in the absence of chairs desks, intermittent suppliers of water and electricity, plus the scarcity of reading materials. However this in itself would not constitute a problem, but the distribution of the available resources and restrictions on their movements within the schools environment puts the girls at an unfair disadvantage. The results indicate in agreement with Williams (1987) that basic schools facilities especially their quality and scarcity, strongly affects the performance of boys and girls differentially relative to their gender.

It, was further confirmed from 19% students responses that the limited time available for study among girls, contributed to the observed gender differences in performance of the boys although they move to classes and read extra hours late in the night, which is not possible for girls,. Other restrictions on girls on going to libraries, labs and other lonely places unaccompanied or without administrative

authorization are some of the things noted, that restricted girls to fewer reading places and time. These findings give more prevalence to findings by Kirkpatrick & Cuban (1998/) who posited that girls and boys put up similar achievement scores when exposed to similar amount to study time and study resources, although his study was mainly on achievement in technology.

## **2. Teachers**

Teachers as stakeholders in the education system looked at gender differences in a slightly different angle and explained it in the following ways. It was time majority 46% of the teachers' responses that girls have many time wasting activities that distract and time wasting activities the distract them performing well. In their explanations teachers were concerned with the time they spend their hair, makeup and many other worthless activities related to girls.

Secondly, 20% of the responses from teachers confirmed that the teachers' lack of satisfaction and motivation as another explanation provided by teachers to account for the observed gender differences in performance. These findings match earlier studies by mwakilembe (1981) that posited that the inability of teachers to derive satisfaction and motivation from their profession affects the performance of both genders differently. A possible explanation for this may be that boys have advantage over girls in terms of access to reading resources they are favoured teachers attitudes favored by parental preferences and teachers' attitudes; hence girls are grossly affected by teachers' dissatisfaction a and lack of as emphasized by Mwakilembe.

Teachers further supplemented our understanding of gender differences with 15% of the teachers confirming that inferiority complexes among girls were responsible for differential performance patterns. One possible explanation in relation to the above was the fact that girls' low esteem makes them undervalue their efforts and undertake initiatives for fear of making mistakes before their peers. These findings are consistent with earlier studies by Bandura (1997), Schunk and Gunn (1986), Pajares (1997), Taylor and Mounfied (1994) who concluded that personal factors such as self – efficacy were significant factors in the performance of girls.

Bets worth (1997) were also in support of the findings that women tend to underestimate their capabilities in all areas of their lives such as the ability to learn, verbal, spatial and aptitude skills. Findings of the current study matches conclusion reached by recent findings of Henwood (200) who documented that girls underestimate their capabilities and think their success is as result of chance, luck of effort and not their capability.

### **3. Head teachers**

Responses from 38% of the head teachers confirmed that boys had more reading hours as compared to the girls. Some the most frequent explanation involved the fact that boys have unlimited access to most reading facilities at the schools such as classrooms, library and laboratory, which at least was not the case for all girls in the selected schools. Another accompanying explanation was the fact that boys continue to read past midnight, a time when girls are told to switch off the lights in their dormitories. However, it is questionable whether there are significant differences in performance between those who read more hours and those who rest, because despite lack of reading space and time some girls perform much better than a number of boys.

Just like students 23% of head teachers confirmed that teacher's behaviors and attitudes towards girls were another plausible explanation for the observed gender differences in performance in the selected schools. However, unlike the students, head teachers looked at the influence of their male teachers in terms of their sex preferences and their reduced expectations from the performance of the girls. These findings match those of Mensch and Cynthia (1998) who found teachers' sex performance and expectations environmental factors in differential performance of boys and girls, although they did their analysis on primary schools. Other scholars such as Quaisie (1996) also agreed with the findings when he noted that male teachers have reduced their female students to non entities with their poor attitudes towards their science subjects hence affecting their performance.

It was also confirmed in this study by 17% of the head teachers that girls have relatively low levels of persistence as compared to the boys. One possible explanation for was the fact that girls show signs of resignation early before even sitting for their final examinations. In addition to low level persistence, head teachers also questioned the girls' innate abilities, as would causes of low

persistence, these findings tally with those of moonfaced (1989) and Taylor (1994) who attributed gender differences to differential innate abilities. Other scholars such as Anderson (1989), Linn & Hyde (1989) contradicted these findings when they found that there are gender differences resulting from inherent abilities, rather call it a social construct that can be minimized by remedial intervention and training. Leonard and Jiang (1999) are also in conflict with the above argument when they found that females have better study skills as compared to the male students, although the evidence they used was not scientifically oriented weakening their arguments.

### **3. Directors of studies**

Directors of studies also provided their own understanding regarding gender differences in levels of performance and the following is their own side of the story:-

Results from 44% of responses from the directors of studies confirmed that it is girls' irregular attendance that is responsible for gender differences in performance. One explanation was that most girls at the selected school are irregular in attendance to schools program and an assumption developed this could be another cause of the differences in performance. Although there is lean evidence on the actual effect of this irregularity on performance, directors of studies have more accurate information on their students and their view cannot be doubted. Wainer and Steinberg, (1992) are also were in conflict with irregularity since female students receive higher grades than men do because of their ability to work hard and attend class more frequently than male counterparts, although their study was too general to be applied to a particular situations.

Secondly, 23% of the directors of studies attested to the fact that restrictions on movements of girls within the school environment also affect their performance. In related explanation noted, restrictions per se do not cause problems, but restricts girls to limited number of study partners they can access over space and time. However, this may not have been the real factor, because there are girls in single schools or schools ran on an Islamic culture where movement of girls is stricter, but girls do perform much better.

It was found from 18% of the directors that parental involvement was another possible explanation for the observed differences in performance levels. Some of the most recurrent explanations for the above scenario was that parents tend to have sex preferences that guide the decisions involving education investment, secondly parents put little stake in to the education of their daughters as compared to boys, which influences their performance. Davison (1993) and kapakasa (1992) who found that that ambivalent attitude parents have towards their daughters affect their participation, performance and time use at school and home.

However, Campbell et al, (1992) was opposed to this view he said that parents positively influence their daughters' science achievement by fostering positive attitudes about the subject. He recommended that parents should openly talk to their daughters about the importance of mathematics and allied sciences to improve their attitudes and performance.

## **5.2 Conclusions**

The results of the study show that in terms of overall performance male students were performing much better as compared to the females at ordinary level. However, at the subject level, female students outperformed the male students in the languages of literature, Kiswahili and English. On the contrary, male students performed much better than the female in the science of biology, chemistry and mathematics.

Respondents' views on performance of students by gender show students, directors of studies, head teachers agreeing that boys were high performers in all the selected secondary schools. Gender differences in the academic performance of boys and girls show that whereas the number of male students passing in division II and I were increasing, the number of females passing in same divisions was decreasing. Hence, there were more male students in divisions I and II as compared to females division III and IV.

At the subject level, female students had a higher average mean mark than males in the languages of Kiswahili, English and literature, yet boys scored a higher mean



average compared to the girls in the science subjects including biology, mathematics and chemistry where performance differentials were highly significant. The current study found the following factors significant in explaining the gender differences in academic performance:-

Negative attitudes and behaviours of the teachers, time wasting activities by female students, boys have more reading hours than girls, inadequate facilities lack of satisfaction and motivation among the teachers' irregular attendance low levels of persistence inferiority complexes among female students.

It should be noted that no single factor could independently explain the factors that underlying to observed gender differences in performance but a host of variables interplay to bring out a true picture of gender differences in performance. However most factors put the blame on the girls' inadequacies as compared to the boys.

### **5.3 Recommendations**

Basing on the discussions and conclusions made, the following recommendations are made:

1. Further training in gender sensitive techniques through workshops should be given to teachers to transform the negative attitudes and behaviors towards girls in classrooms. Workshops should also involve parents on how they can get involved in their daughters education
2. Female students should be sensitized on how to manage time while at school, and this is done to eliminate wastage of time.
3. Government may come in to help schools by providing them with desks, chairs water lights and books which facilitate learning and teaching in schools.
4. Schools administrators' should improve teachers working conditions by, increasing their numeration and fringe benefits to motivate them for work. They can also be made aware of impact of their actions on girl's child education.
5. Female students should be empowered through counseling and guidance to improve their esteem, persistence levels reading habits and school participation.

#### **5.4 Recommendations for further research**

The researcher recommended that in future some research could be done in the following areas

1. The impact of environment on ones academic performances in secondary schools in Kiambu County.
2. The impact of home back ground on academic performances in secondary schools in Kiambu County.
3. The impact of classroom streaming on gender differences in academic performance in co educational schools?
4. Factors the influences academic performance in single sex schools in Kiambu County.

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- a) Very good [ ]    b) Good [ ]    c) Average [ ]    d) Poor [ ]

**ii) External mocks**

- a) Very good [ ]    b) Good [ ]    c) Average [ ]    d) Poor [ ]

1.1 If so, give reasons for the above performance

- i) .....
- ii) .....
- iii) .....
- iv) .....

2. How has been the performance of girls in scoring divisions in following mocks for the last three years? (2006 – 2009)

**i) Internal mocks**

- a) Very good [ ]    b) Good [ ]    c) Average [ ]    d) Poor [ ]

**ii) External mocks**

- a) Very good [ ]    b) Good [ ]    c) Average [ ]
- d) Poor [ ]

1.2 Give some reasons for the above performance

- i) .....
- ii) .....
- iii) .....
- iv) .....

2. Does gender have a direct influence on performance?

a) Do you agree or disagree?

b) If so, account for it

- i) .....
- ii) .....

iii) .....

iv) .....

3. Single sex schools perform better than mixed schools

a) Do you agree or disagree?

b) If so, account for it

i) .....

ii) .....

iii) .....

iv) .....

4. Students who offer a subject that taught in their mother language or mother  
taught perform better in that subject.

a. Do you agree or disagree.

b. If so, give some reasons for the above performance

i. ....

ii. ....

iii. ....

5. There is no direct impact of language at a subject done.

a. Do you agree or disagree

b. If so, account for it.

i. ....

ii. ....

iii. ....



6. Boys are likely to perform better when given freedom.
- a. Strongly agree [ ]                      b. Agree [ ]                      c. Disagree [ ]
7. Do you agree that female student perform poorly simply because boys disturb them?
- a. Strongly agree [ ]                      b. Agree [ ]                      c. Disagree [ ]

**SECTION C: DIFFERENCE IN ACADEMIC PERFORMANCE OF BOYS AND GIRLS.**

1. How has been the performance of girls at O – level in the following Science mocks?

**i) Internal mocks**

- a) Very good [ ]                      b) Good [ ]                      c) Average [ ]
- d) Poor [ ]

**b) External mocks**

- a) Very good [ ]                      b) Good [ ]                      c) Average [ ]
- d) Poor [ ]

1.1. Give reasons for such differences

- i) .....
- ii) .....
- iii) .....

2. How has been the performance of boys at O- level in Science internal mock exams for the years from 2006 – 2008)?

- a) Very good [ ]                      b) Good [ ]                      c) Fair [ ]
- d) Average [ ]

2.1. If so, give reasons for such performance

i) .....

ii) .....

iii) .....

3. How has been the performance of boys at O-level in Science mocks exams for the years starting 2006 – 2009)?

a) Very good [ ]                      b) Good [ ]                      c) Fair [ ]

d) Average [ ]

3.1. If so, give reasons for such performance

i) .....

ii) .....

iii) .....

4. How has been the performance of girls at O- level internal mocks in languages:

a) Very good [ ]                      b) Good [ ]                      c) Fair [ ]

d) Average [ ]

4.1. If so, give reasons for such performance

i) .....

ii) .....

iii) .....

5. How has been the performance of girls at O – level external mocks in languages?

a) Very good [ ]                      b) Good [ ]                      c) Fair [ ]

d) Average [ ]

5.1. If so, give reasons for such performance

i) .....

ii) .....

iii) .....

6. How has been the performance of boys at O – level external mocks in Science?

a) Very good [ ]                              b) Good [ ]                              c) Fair [ ]

d) Average [ ]

6.1. If so, give reasons for such performance

i) .....

ii) .....

iii) .....

**SECTION D: FACTORS THAT LEAD TO ACADEMIC PERFORMANCE**

**DIFFRENCES BETWEEN BOYS AND GIRLS**

1. Does your school have facilities that cater for both boys and girls?

a) Yes [ ]                              b) No[ ]

1.1. If so, how have they been effective?

i) .....

ii) .....

2. What factors do you think are responsible for such differences in academic performance?

i) .....

ii) .....

iii) .....  
.....

2.1. Give suggestions that can be used to solve such differences in  
academic performance

i) .....

ii) .....

iii) .....

iv) .....

THANK YOU

## APPENDIX 2; QUESTIONNAIRE FOR TEACHERS

Dear respondent,

I am Mwiigi Jane Wangu carrying out a research on the impact of difference on student academic performance in Secondary education school in Kiambu County, Ndumberi Division. You have been chosen carefully to give information that is relevant to this study and for academic purpose and confidential.

### SECTION A: BACKGROUND INFORMATION

#### Instructions

Complete the following items by ticking the most applicable response.

Where there are dashes, please fill in as appropriate.

- a) Sex [ ] Female [ ] Male [ ]
- i. Teaching experience.....
- ii. Teaching qualification.....
- iii. Position held in school.....
- iv. What are your teaching subjects
- a) .....
- b) .....



iii) .....

3. Do you agree that male students are performing much better than females at O – level?

- a) Strongly agree[ ]                      b) Agree [ ]                      c) Disagree [ ]  
d) Strongly Disagree [ ]  
e) Undecided [ ]

b) If so, give reasons for such difference

i) .....

ii) .....

4. Are there gender differences in overall performance of students at O – level?

- a) Yes [ ]                                      b) No [ ]

b) If so, give reasons for such differences

i. ....

ii. ....

iii. ....

**SECTION C: THE DIFFERENCES BETWEEN BOYS AND GIRLS IN THE  
ACADEMIC PERFORMOMANCE.**

1. Are there any gender differences in the performance of students at O – levels for the years 2006 – 2008 in the following?

- a) Languages                      Boys [ ]                      Girls[ ]

1.1.            If so, give reasons for such performance.

i) .....

ii) .....

iii) .....

b) Sciences Boys [ ] Girls [ ]

If so, give reasons for your answer

i) .....

ii) .....

2. What gender performed better than the other at O – Levels District mock exams for the years starting 2006 – 2008?

Boys [ ] Girls [ ]

2.1. If so, give reasons for such performance

i) .....

ii) .....

**SECTION D: FACTORS THAT LEAD TO THE ACADEMIC DIFFERENCES PERFORMANCE BETWEEN BOYS AND GIRLS.**

1. Does your school have facilities that cater for both boys and girls?

a) Yes [ ] b) No [ ]

1.1. If so, how have they been effective?

i) .....

ii) .....

2. What factors do you think could be contributing to academic difference between boys and girls performance?

i) .....

ii) .....



iii) .....

iv) .....

v) .....

3. Suggest ways of eliminating gender differences in performance at your school.

i) .....

ii) .....

iii) .....

### APPENDIX 3; STUDENTS' QUESTIONNAIRE

Dear respondent,

I am Mwiigi Jane Wangu from University of Nairobi carrying out a research on the impact of difference on student academic performance in Secondary education school in Kiambu county, Ndumberi division. You have been chosen carefully to give information that is relevant to this study and for academic purpose and confidential.

Complete the following items by ticking the most applicable response. Where there are dashes, please fill in as appropriate.

1. What is your sex.....?
2. In which class are you?
3. How many are you in your class?
  - a) 20 – 40 [ ]
  - b) 40 – 60 [ ]
  - c) 60 – 80 [ ]
  - d) 80 – 100+[ ]
4. Do you have enough teachers in your class?
  - a) Yes [ ]
  - b) No [ ]
  - 4.1 If yes, give reasons
    - i) .....
    - ii) .....
    - iii) .....

#### SECTION B: ACADEMIC PERFORMANCE OF BOYS AND GIRLS

1. Do your schools participate in the District mock examination at O – level
  - a) Yes [ ]
  - b) No [ ]

1.1 If so, how has been performance of the following genders in Science?

Boys

- a) Very good [ ]      b) Good [ ]      Average [ ]      d) Poor [ ]

Give reasons for such performance

i) .....

ii) .....

Girls

- a) Very good [ ]      b) Good [ ]      b) Average [ ]      d) Poor [ ]

1.2 How has been the performance of the following genders in the languages?

Boys

- a) Very good [ ]      b) Good [ ]      c) Average [ ]  
d) Poor [ ]

Give reasons for such performance

i) .....

ii) .....

Girls

- a) Very good [ ]      b) Good [ ]      c) Average [ ]  
d) Poor [ ]

Give reasons for such performance

i) .....

ii) .....

2. Do you agree or disagree that male students are performing much better than females?

- a) Strongly agree [ ]      b) Agree [ ]      c) Disagree [ ]  
c) Strongly disagree [ ]      e) Undecided [ ]

2.1 If so, give reasons for such performance

- i) .....  
ii) .....  
iii) .....

3. Is it true that boys from rich homes perform poorer than girls from poor homes?

- i) .....  
ii) .....

4. Account for a better performance by girls who are taught by men teachers.

- i) .....  
ii) .....

5. Give suggestions that can under taken to solve such differences in academic

- i) .....  
ii) .....

6. Account for a better performance by boys who are taught by female teachers

- i) .....  
ii) .....  
iii) .....

**SECTION C: FACTORS THAT LEAD TO THE ACADEMIC  
DIFFERENCES PERFORMANCE BETWEEN BOYS AND GIRLS.**

8. Do you think your school has enough facilitates that can cater for boys and girls in teaching learning process

a) Very good [ ]    b) Good [ ]    c) Average [ ]    d) Poor [ ]

b) If so, give reasons for such performance

i) .....

ii) .....

9. What factors do you think are responsible for such differences in academic performance?

i) .....

ii) .....

**THANK - YOU.**

## **APPENDIX 4; DIRECTOR'S INTERVIEW GUIDE**

### **INSTRUCTIONS.**

**Dear respondent,**

I am Mwiigi Jane Wangu carrying out a research on the impact of difference on student academic performance in Secondary education school in Kiambu County, Ndumberi Division. You have been chosen carefully to give information that is relevant to this study and for academic purpose and confidential.

Please answer the oral question and be assured the information you give will be treated as confidential.

1. What are your professional qualifications?
2. What is your teaching experience?
3. What roles do you play in this school?

### **SECTION B: ACADEMIC PERFORMANCE OF BOYS AND GIRLS.**

1. How has been the performance of the following in scoring divisions in both internal and external mocks?
  - i. Boys in internal mocks
    - a) Very good [ ]      b) Good [ ]      c)Fair [ ]      d)average [ ]
  - ii. Boys in external mocks
    - a) Very good[ ]      b) Good [ ]      c)Fair [ ]
    - d)average [ ]
  - iii. Girls in internal mocks
    - a) Very good [ ]      b) Good [ ]      c)Fair[ ]
    - d)average [ ]

iv) Girls in external mocks

- a) Very good [ ]                      b) Good [ ]                      c) Fair [ ]  
d) average [ ]

Account for such performance

2. Do you agree or disagree gender have a direct influence on performance?

b) If so, why do you think this is so?.....

.....  
.....

3. Do you agree / disagree that single sex schools perform better the co-educational schools?

b) If so, explain why.....

.....  
.....

4. Do you agree or disagree that students who offer a subject that is taught in their mother tongue perform better in that subject?.....

.....  
.....

5. Do you agree that there is no direct impact of language at a subject done?

If so, explain why.....

.....  
.....

6. Do you agree that boys are likely to perform better when given freedom

- a) Strongly agree [ ]                      b) Agree [ ]                      c) Disagree [ ]

7. Do you agree that female students perform students poorly simply because boys disturb them?

- a) Strongly agree [ ]      b) Agree [ ]      c) Disagree [ ]

**SECTION C: DIFFERENCE IN ACADEMIC PERFORMANCE OF BOYS  
AND GIRLS**

1. Are there differences in the performance of girls at O – level in Science mocks both in external?

If so, give reasons for such differences.

.....  
.....

2. How has been the performance of boys at O – level internal and external Science mocks for the years starting 2006 – 2008?

.....  
.....

3. How has been the performance of girls at O – level in languages mocks of internal and external exams starting 2006 – 2008?

.....  
.....

4. How has been the performance of boys at internal and external O – level mocks exams in the languages starting 2006 – 2008?

How would you explain such performance patters?

.....  
.....



**SECTION D: FACTORS THAT LEAD TO ACADEMIC PERFORMANCE**

**BETWEEN**

**BOYS AND GIRLS**

1. Does your school have adequate facilities that cater for both boys and girls needs?

If so, how have they been effective?

.....  
.....

2. What factors do you think are responsible for such differences in academic performance?

.....  
.....

3. Please suggest ways of eliminating gender differences in academic performance

.....  
.....

**THANK – YOU**