

**POOR PERFORMANCE OF GIRLS IN MATHEMATICS IN SELECTED
MIXED SECONDARY SCHOOLS IN CHANGAMWE SUB-COUNTY,
MOMBASA COUNTY**

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DECLARATION

This research project is my original work and has not been presented for a degree or post graduate level in any other university.

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DEDICATION

This research project is dedicated to my family. Thank you for your prayers and support during this period.

ACKNOWLEDGEMENT

My gratitude to Almighty God for enabling me complete this work. My special and sincere gratitude goes to The University of Nairobi for giving me an opportunity to study Post Graduate Diploma in Education course. Special thanks go to my supervisor for guidance and advice towards this work.

My appreciation goes to the principals, mathematics heads of department, teachers and learners of the selected mixed secondary schools in Changamwe sub county for their time and contributions to this work. To my colleagues at the University of Nairobi and anyone who took part in seeing this research study a success for support and prayers.

God bless you abundantly.

ABSTRACT

The purpose of this study was to investigate poor performance of girls in mathematics in selected mixed secondary schools in Changamwe sub county; Mombasa county. The study focused on form one to four students and their mathematics teachers. It sought to establish the influence of girls own self towards poor performance in mathematics, teachers influence towards girls' poor performance in mathematics, parents influence towards girls' poor performance in mathematics and socioeconomic background influence towards girls' poor performance in mathematics. The study therefore investigated performance in relation to the selected variables. The population of study consisted of form (1-4) girls and teachers in the mathematics departments of four schools in Changamwe sub-county, Mombasa County. The population studied was 570 (i.e. 540 girls and 30 mathematics teachers).A total of (100) respondents were sampled for the study. Out of this 88 responded, giving a response rate of 88%.The survey used purposive sampling technique to sample 4 schools from Changamwe sub-county; Mombasa County to carry out the survey. Purposive sampling technique was also used to sample the students' respondents. No sampling technique was used for the teacher respondents-they were few in the departments.The research instruments used were students and teachers questionnaires. Descriptive and inferential statics were used for analysis of the data obtained. The results were presented in the form of tables. The findings were; girls have a negative influence to themselves regarding mathematics performance, secondly parents have a bad influence towards girls good performance in mathematics ,teachers contribute to the poor performance among girls in mathematics and the same also was recorded on the influence of the socioeconomic background , it contributes heavily to the girls poor performance. A number of recommendations were made which included; strengthening the schools guidance and counseling department, organizing trainings and workshops for teachers and information sessions for parents, the government should further subsidies secondary school fees, both parents and teachers should change their attitudes towards girls and encourage them to use their full potential. This is in order to change the girls' attitude and fear towards mathematics bringing about a positive influence towards the subject hence better performance.

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CHAPTER ONE: INTRODUCTION

1.1 Background of Study

Mathematics is a compulsory subject in Kenya for both primary and secondary school students. As quoted by Githua (2002);Ndiribe indicated that the subject is both academically and vocationally important for both girls and boys. Academically mathematics plays an important role of shaping the future probability of young people as it develops their intellectual ability. Vocationally the knowledge of mathematics prepares students for jobs where mathematics is applied e.g. engineering, architecture, accountancy, tailoring, agriculture etc. Mathematics is basic for technology and modern scientific development. According to Woolcott(1998), it is the language of science, technology and engineering thus it plays a big role in their development. Mathematical and statistical modeling is basic to engineering and plays a vital role in all physical sciences and contributes to commerce, economics, biological sciences, medicine and psychology. The underpinnings of everyday life are increasingly mathematical and technological. For example choosing insurance and health plans, purchasing decisions and voting knowledgeably all call for mathematics. Mathematics helps man to give exact interpretation to his ideas and conclusions.

In 2000 the world Education forum in Dakar singled out technology, science and mathematics as a crucial issue in girls Education (UNESCO 2009). Girl's performance in mathematics education globally is very dismal. This is a very big challenge. This situation is worse in Africa since for many countries in sub Saharan Africa the participation of girls in science subjects compared to that of boys is very low (Odaga&Heneveld 1995).

Available statistics show that since 1976 there has been a major improvement in secondary school girls' access to education (Madhai 1998) however the persistent gender disparity in mathematics remains a challenge. The girls have been showing a continuous decline in attitude towards mathematics as they further progress in school. Makau (1994) emphasized that apart from languages girls' academic achievement in other subject is lower than that of boys.

He notes that particularly worrisome are the disparities in mathematics and science (Makau 1994). With the heavy investment done by education stakeholders in educating the Kenyan students we still see that the input can't be compared to the output in terms of performance. Most of the students are performing poorly in all subjects and of great concern is the girl child performance in mathematics given that this subject is key to the attainment of the national goals of industrialization. This is worrisome as the 2010 Kenya population report on census indicates that there are more females than males in the country (Republic of Kenya 2010).

This means that the mathematics know how of girls is of urgent need for the future of the nation and therefore low achievement of the girls in this subject is detrimental to the needs of national development. The girls' poor performance in mathematics brings about imbalances in employment in jobs that have a mathematical inclination and now that the societies are becoming more and more technological with a mathematical bias as a lot of focus is put on the mathematical competencies more ladies will be rendered unemployable and thereby a loss to the government for it will have used a lot of money educating a girl who would be unemployable in the future.

According to (FAWE Report, 2002) there is a lot of evidence showing that there is a dismal and diminishing performance in mathematics with the girls as compared to boys. The numbers of girls passing mathematics in K.C.S.E is lowering compared to that of boys. The same applies in the performance of the formative mathematics examinations in mixed secondary schools. This has led to the number of boy students taking mathematics related courses to outweigh that of girls as the secondary schools produce a portion in terms of the number of girls to be absorbed in such courses offered in the colleges. The diminishing performance in mathematics and under representation in college is a source of inequality which blocks many educational and career opportunities to women in the society. To cope with this challenge the colleges have lowered the minimum entrance grade on the girl child. However the girls' performance in mathematics is still wanting because of a number of challenges that prevail in the girls' education life.

This research reports the finding of a thorough study to establish the factors that have led to the poor performance of the girl child in mathematics and how these factors can be dealt with in order to improve their performance. Emphasis is placed on the girl child at the coastal part of Kenya specifically in Changamwe sub-county mixed secondary schools. The study is focused on the exploration of the role and responsibility of the girl child and their contribution and expectation in education especially in mathematics as a subject. To assist in the improvement of the girl child performance in mathematics, one needs to understand the girl child herself, her background, her dedication and her dreams etc as compared to the boy child. This research incorporated questionnaire survey to mathematics teachers and form (1 – 4) girls in Changamwe secondary school, Migadini secondary school, Bomu secondary school and Mwijabu secondary school.

1.2 The problem statement.

Even though women have made progress in the past few decades they still make up less than one quarter of the STEM work force in the US according to the most recent US census Bureau report from 2011. A number of factors have been driving the girls away from performing well in mathematics. Lack of commitment and cooperation among the students, teachers and parents form the basis of the poor performance. Having and working towards a common goal with dedication and energy plays a great role in student's success in mathematics. But girls show less confidence in their ability to learn than boys do (Beets & Hackett 1983); Fox Brody & Tobin 1985; Matsui, & Ohnishi; 1990). This lack of confidence together with stereotypes that men are better at math than women threatens women and as a result they perform poorly in mathematics and thus holding them back. Girls tend to worry that their ability to perform well on math tests is affected by their gender. This is because all through their growing days they are made to believe that females are less mathematical capable than males. Many parents accept their son's mathematical successes as evidence of innate ability, while they think of their daughter's success as hard work compensating for innate lack of ability (Eccles 1989; Yee & Eccles 1988). Both parents and teachers expect girl to do poorly in mathematics. Their failures are accepted as a necessary shortcoming of being female and their successes are discounted. Lack of role models has made girls shy away from mathematics

as they cannot envision themselves in mathematics careers and also the role models in the field are not visible. Lack of encouragement and a shortage of female role models in math related field have contributed to the shortage. The Kenyan girl student happens to know so much more about socialites and musicians with no idea about any woman scientist.

Math anxiety is also a major setback for the girl child performance in mathematics. Anxious people process information in a highly selective way. They attend to the most threatening elements of the information presented (Eysenck, Macleod & Matheces, 1987; Mogg, Mathews & Weidman 1989; Richards & Frech, 1990). Insecurity & anxiety about mathematics among girls manifest during tests, avoidance of more involving math exercises and avoidance of math classes this together with negative peer pressure towards mathematics contributes to poor grades, erode confidence in a range of academic abilities and limit career goals.

1.3 Purpose of study.

The study sought to establish factors that affect academic performance in mathematics of girls in Changamwe secondary school, Migadini secondary school, Bomu secondary school and Mwijabu secondary school in Changamwe subcounty, Mombasa county. In addition, the study sought to recommend measures to address the identified factors in order to ameliorate the situation.

1.4 Significance of the study.

The findings of a study of this nature may be significant in that the number of strategies it recommends would be used by the schools administration and teachers in improving girl's academic performance in mathematics at the region and Kenya as a whole. The ministry of education can use the study in formulation of future mathematics education policies aimed at enhancing the girl's achievement in academics at the Coast region.

The findings can also be basis for further research on factors that lead to girl's poor performance in mathematics.

1.5 Objectives of the study.

This study was guided by the objectives below:

1. To establish the influence of girls own self towards poor performance in mathematics in Changamwe sub-county.
2. To establish whether parents have an influence towards girls' poor performance in mathematics in Changamwe sub-county.
3. To find out the extent of teachers influence towards girls poor performance in mathematics in Changamwe sub-county.
4. To determine whether the socioeconomic background has an influence towards girls' poor performance in mathematics in Changamwe sub-county.

1.6 Research Questions

The study sought to answer the following questions.

- i. What is the influence of oneself (girls) thinking towards their poor performance in mathematics in Changamwe sub-county?
- ii. Is there a significant relationship between parental influence and girls poor performance in mathematics in Changamwe sub-county?
- iii. Is there a significant relationship between the influence of teachers and girls poor performance in mathematics in Changamwe sub-county?
- iv. Is there a significant relationship between socioeconomic background influence and girls poor performance in mathematics in Changamwe sub-county?

1.7 Limitation of the study

The study was carried out at a sub-county level in four mixed day schools, so it does not reflect factors influencing poor performance of girls in mathematics from other schools in other sub-counties and the country as a whole. Being done at a sub- county level, the study may lack some relevant data which may only be found in schools from other sub-counties apart from Changamwe sub-county mixed secondary school.

1.8 Delimitation of the study

The study focused on four secondary schools in Changamwe sub-county, Mombasa county which is a representative of the population. Under normal circumstances, the study would have been carried out in the entire republic. The researcher appreciates academic performance as an outcome of complex combination of many factors however the study restricted itself on; parents influence, teachers influence, socioeconomic background and girls attitude and interest towards mathematics which influence the performance of girls in mathematics.

1.9 Assumptions

The study assumed that;

- All learners are subjected to similar conditions of learning and are taught by equally qualified teachers
- All sampled teachers were trained and have good knowledge of Mathematics content.
- All respondents cooperated and provided reliable information

1.10 Definition of terms

Math anxiety- A feeling of tension, apprehension, or fear that interferes with math performance.

Motivation - It is a psychological concept trying to explain the effort and quality of behaviors showed in different activities.

Parent - A caregiver of the offspring in their own species.

Performance - Is an extent to which a student, teacher or learning institution has achieved their short and long term education goals.

Self-efficacy -Is a person's belief in his or her ability to succeed in a particular situation.

Self-concept - An idea of the self-constructed from the beliefs one holds about oneself and the responses of others.

Socio-economic - Relating to or concerned with the interaction of social and economic factors.

Teacher - A person employed to direct and guide learning experiences of students in an educational institution.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The aim of this chapter is to review related literature on the possible factors contributing to girls' poor performance in mathematics. In this case, the literature was reviewed from various books and also studies carried out by different researchers both locally and international

2.1 Parents influence on girls poor performance in mathematics.

Experiences at home are important in making learners mathematical interests, motivation and beliefs. Therefore the interaction of learners and parents at home influence to a great extent the learning in school and specifically the learning of mathematics. This is brought by the fact children observe and learn from their parents and apply it later according to the observations made. They therefore tend to look at their parents as role models. Parents have different attitudes towards their sons and daughters. They tend to treat boys and girls differently from birth. Hence boys and girls are socialized differently as they grow up. Boys are engaged in more vigorous activities while girls take more passive roles.

Daughters are brought up for female roles such as child rearing while sons have to devote themselves to career building. (Maccoby & Jacklon, 1974; hunger & Crowford 1992) noted that parents may allow boys more chances for active interaction with the physical world, but they talk more to the girls. Parents believe that females do not have qualities of independence, initiative and assertiveness (Mapele, 1994). They tend to rate daughters as less mathematically able than sons. (Eccless, 1989; Yee & Ecless 1988) also noted that many parents accept their sons' mathematical success as evidence of innate ability while they think of their daughters' success as hard work compensating for innate ability.

The different treatment from parents brings about learners different attitudes depending on the learners observations according to their parents attitude, values and beliefs towards girls and mathematics. This is confirmed by (Orton, 1994) that difference in parental expectations, desires and pressure they exert at home on their sons and daughters has

been attributed for attainment of variations among the sexes. Parent's presumption about mathematics ability predicts children's self-conception in mathematics. Comments said by parents consciously or without much thought are registered in the sub-conscious mind of a child and may influence how he/she perceives mathematics. Hence formation of attitudes among students may have been unconsciously registered from parents particularly and from the society in general. Parental expectations have a notable influence on their children academic results. According to (Marchess & Marton, 2002), research shows that there is an indirect relationship with performance from the learners perception of how much importance his/her parent assign to their children studies at home . (June, 2002) found out that parents expectation encourage their children to pursue goals with hard work, enhance self-efficacy and nurture good study habits.

Learners with illiterate parents can't get assistance on their homework, they become frustrated and this results to poor performance. To assert on this (Castejon & Perez 1998) noted that among family factors of greatest influence are educational levels of parents. Research shows that students with parents who are both college graduates tend to achieve at the highest level.(Odhiambo, 2005) also indicated that parents education and encouragement are strongly related to improved pupil achievement. For the literate parents their attitudes towards mathematics are crucial on their children performance. The remarks they make towards the subject affect their children performance such that negative remarks are not helpful to the children. They make the students to accept their situation and fail to work hard towards coming out of it. In a study that was conducted by Ying and Ching (1991), comparing 894 students from 26 schools in Hong Kong, they revealed that the parental expectations and students achievement in mathematics had a strong correlation. They undertook this study to identify correlations between mathematics achievement and expectations from parents and of students themselves through multiple regression analyses.

2.2 Teachers influence on girls poor performance in mathematics.

Learning of mathematics is largely dependent on the role of the teacher as an instructor or facilitator. Bull (1996) observed that the learning of mathematics was dependent on the teacher such that those who cannot do mathematics can trace their inability almost certainly to the teacher. According Cockcroft (1982) there is no area in knowledge, where a teacher has more influence over the attitudes as well as the understanding of his/her pupils than he or she does in mathematics. A mathematics teacher may influence for good or bad the attitudes towards mathematics of several students and decisively affect many of their career choices. According to (Field man & Thesis, 1982; Good & Brophy, 1987; Rosenthal& Jacobson, 1968) teachers' expectations can have a direct influence on students' grades, with students who are expected to do well consistently outperforming those who are expected to do poorly. According to Fennema and Sherman (1976), teachers are a major determinant in students learning of mathematics and highly determine the achievements of the students.

The teacher's inherent attributes; his/her qualification and training, his/her general behavior and attitudes towards mathematics, other subjects and towards the students themselves have a huge influence on student achievement. In another study by Kinga (2010) on the impact of teachers' attitudes on girls' achievement in Mathematics, teacher's opinion about Mathematics or how Mathematics is taught greatly influences the girls' attitude and beliefs, which in turn impact achievement in the subject. Additionally, learning of Mathematics depends on the way it is presented to the learner, the way the learner interacts with the learning experiences presented and the environment within which the learning takes place (Kinga, 2010). The study showed that 82% of the teachers in the study strongly believed that boys have a natural talent for Mathematics and this attitude influenced teachers' teaching and reaction to the way girls performed in Mathematics. This kind of attitude does not serve the girls well, since the belief that boys can naturally do Mathematics implies that regardless of effort, girls cannot outperform the boys.

A lot of shortcomings have been exposed by research on teachers' attitudes towards mathematics. Geliert (1999) reported that in mathematics education research, it seems to be undisputed that teacher's philosophy of mathematics has a significant influence on the structure of mathematics classes. The teacher's attitudes reinforce the attitudes formed by the students towards learning of new concepts or the consequent similar concepts. Meyer & Koehler (1990) state that one of the most important factors in developing learners mathematical ability is the attitude of the teacher. It builds the basis of whether the learners would develop a liking of mathematics or not. A teacher's way of looking at issues generally and in particular, mathematical concepts influence the learner. A student would like to learn a new concept depending on how the teacher presents it. Costello (1991) also concurs that many teachers often unconsciously reinforce and validates students' perceptions of appropriate gender-related behavior.

Male and female teachers unconsciously form attitudes towards the subject they are teaching thus teachers gender determines how he or she portrays the subject. These attitudes formed by teachers depending on their own gender influence how their students will learn the subject being taught, mathematics included. According to (Oketch, 1982, Mwangi, 1983, Cockcroft, 1982 & Onyango, 2003). Worth to note is that most male teachers prefer to teach mathematics and science subjects. But female teachers mostly prefer language subjects and arts. This scenario is usually consciously registered in the minds of students and in the process they unconsciously form attitudes towards learning in general and particularly learning mathematics. Thus teachers' expectation and attitude are believed to be important factors in determining teaching and learning of mathematics. Gilman & Anderman 2006; suggest that maintenance of high motivation influence psychological and social functioning and facilitates academic performance as well as positive school perception.

Lack of adequate in-service training opportunities for some teachers is a barrier to girls' academic achievement in mathematics. This is confirmed by Mullis (1991) in his findings about the state of mathematics achievement in the USA found some modest evidence of a positive relationship between the extent of in-service education for teachers and learner

achievement in grade 8. According to (Ralston 1999) findings many teachers had exhibited higher levels of negative mathematics attitudes and comparable less mathematics skills than their academic skills. Teachers need to be well informed about the instructional methods to use for specific behaviors of students and also be conversant of the content in mathematics. The more qualified and better trained the teachers are the easier it is to effect better performance among the students.

2.3 Girls own self influence towards poor performance in mathematic.

Students' feelings and perception towards mathematics is a key factor affecting their performance in mathematics. This is confirmed by Donovari (1976) that the attitude that our students develop are likely to stimulate or stop further study of mathematics. Thuo (1985) further asserts that, in Kenya the students' attitude towards mathematics expectation and aspirations contributed to achievement. Many researchers found that the attitude the students have towards the study of mathematics had the highest correlation with mathematics achievement Zadoo and Ranza (2008) Wanga & Thomas (1995). Mathematics has been viewed as a difficult subject and it's for this reasons students have shied away from it. According to Kenya times (April 2001) girls have exhibited negative attitudes to mathematics because they continue to doubt their capabilities to pursue the subject because of the fear that it carries a lot of challenges which only boys can withstand. Girls also think it's a waste of time to concentrate on a subject they would not pass.

Recent findings show that Mathematics' school achievement and grades do not differ significantly between boys and girls (Halpern, 2010). However, Lindberg(2011) acknowledges that there are noticeable differences in the beliefs held by boys and girls. Eshiwani (1974) in his research shows that in general girls develop negative attitude and little aspirations towards mathematics and this tends to affect their performance while Stipek and Granlinski (1991) in their article indicated that girls have lower expectations for themselves in math than boys, and that girls believe they do not have mathematical ability.

The girls' feelings and perception about mathematics is a major factor affecting their attainment and realization of full potential. According to Leder (2005) girls' views of Mathematics are shaped in part by gender based stereotypes that convey misconceptions that differential innate mathematical abilities exist between males and females. (Dweck, 2007) observes that socio-cultural forces impart beliefs that boys are born with a greater aptitude for Mathematics. Environments such as Mathematics classrooms and households that are heavily influenced by beliefs that girls may be disadvantaged genetically when it comes to Mathematics ability can also have a serious negative effect on Mathematics interest among girls.

According to Mwangi (1988) positive attitude towards learning is important because it affects students' motivation to learn, the quality of life within the school and continuing motivation not only to apply & utilize what has been learnt but also seek out further related learning opportunities. This means if a student develops a positive attitude towards mathematics then there are chances of liking the subject hence better performance and vice versa. Most girls harbor doubts about their own ability in mathematics. They see no reason to persist when the difficulty in mathematics goes beyond what they believe to be their limits. This belief of low ability in mathematics makes them not care about good performance. Weiner (1986) asserts that if expectations of future successes are low or if these successes are discounted students will withhold their effort rather than risk failing and confirming their low opinion of ability. This is further confirmed by Steele (1999) who also found that among the talented; the fear of being associated with a negative stereotype impaired intellectual functioning and disrupted test performance regardless of preparation, ability, self-confidence, or motivation.

Research shows that because of their negative attitude towards mathematics girls tend to lack vision and prospects for future life. Their interest to participate, achieve and perform in education also reduces. This is asserted by Barch and Veroff (2004) that anticipation of positive outcome enhances the tendency to achieve while anticipation of negative outcomes blocks or inhibits action. Bandura (1977) persistence hypothesis states that self-

efficacy is positively related to persistence. Those students who persist at mathematics problems in the face of obstacles and frustrations are more likely to get the correct answers than those who despair.

2.5 Socio-economic background influence.

According to researchers the socio-economic status of a family is based on parents' income, education and occupation; the higher the socioeconomic status of parents the higher their children's achievement in mathematics and vice versa. This is asserted by Philips (1998) who found out that parental education and socioeconomic status have an impact on pupils' achievement. Peng&Wrights (1994) analysis of academic achievement (including family income and educational activities) concluded that home environment and education activities explained the greatest amount of variance. A family with high socio-economic status is often more successful in preparing its young children for school because they typically have access to a wide range of resources to promote and support their development. They are able to provide their young children with high quality child care, books and toys to encourage them in various learning activities at home. This in turn, will affect the students' academic achievement in Mathematics.

Financial difficulties and poverty has been a major barrier to better performance among students from low socioeconomic background. Thatai (1970) investigated the scholastic achievement of ninth class students in relation to the income and education of their parents. A Positive correlation was found between the education and income of parents with the scholastic achievement of their children. Many families with low socioeconomic status struggle to make ends meet compared to economically stable families. According to Ndiritu (1996) limited incomes among lower class families have been found to restrict provisions of school fees and necessary materials to ensure good performance and attendance. This causes psychological disturbances among the learners and lowers their self-esteem bringing about feelings of inadequacy and therefore poor performance. This means the family background and context of a child affect his/her reaction to life situations and level of performance.

A study by Mathur and Hundal (1972) on school achievement and intelligence in relation to some socio-economic background factors found that there was a close mutual relationship among factors of achievement and family background. The correlations reported by them were between the parents' income and achievement, and between the parents' education and achievement. They concluded that the higher the family income the higher were the achievement levels of the subjects. Students from poor families are also forced into child labor; they have to work after school to help their parents make ends meet instead of getting time to study. The students also don't have the luxury of good housing and good home environment. Because of their poor background they mostly reside in the congested slums in the town and this affect their performance negatively. Cassidy & Lynn (1991) found out that, a less physically crowded environment, along with motivation & parental support was associated with higher education levels of children. Their parents struggle to provide them with the basic needs leave alone, study rooms, comfortable chairs, lighting, extra learning materials at home and stationery contrary to their counterparts in stable socioeconomic families. This is asserted by Bos (2002) that a wide range of reading material at home can be thought to foster academic interest and serves to encourage learning.

Howley (1989) and House (2002) also contend that students learn better if they are from above average or average income family, with well-educated parents who participate in the school's education process and encourage their children to learn. They established that the socio-economic status of students affected their achievement. Hence, it is concluded that a student belonging to low socio-economic status group will score low score in academic achievement. This may be due to the fact that the students who belong to low socio-economic status group are faced with many adverse circumstances. Due to the lack of interest in the parts of the parents, little attention is paid to the child's school progress. Thus, apart from innate, mental, physical and intellectual deficiencies, there are some unfortunate environmental factors which hinder the scholastic progress of students. It can therefore be seen that many variables like intelligence, achievement motivation, self-concept, academic achievement, attitude, study habits etc. are affected by socioeconomic status of students thus the study sought to establish its effect.

2.7 Conceptual Framework

The study was based on the conceptual framework (Figure 1).

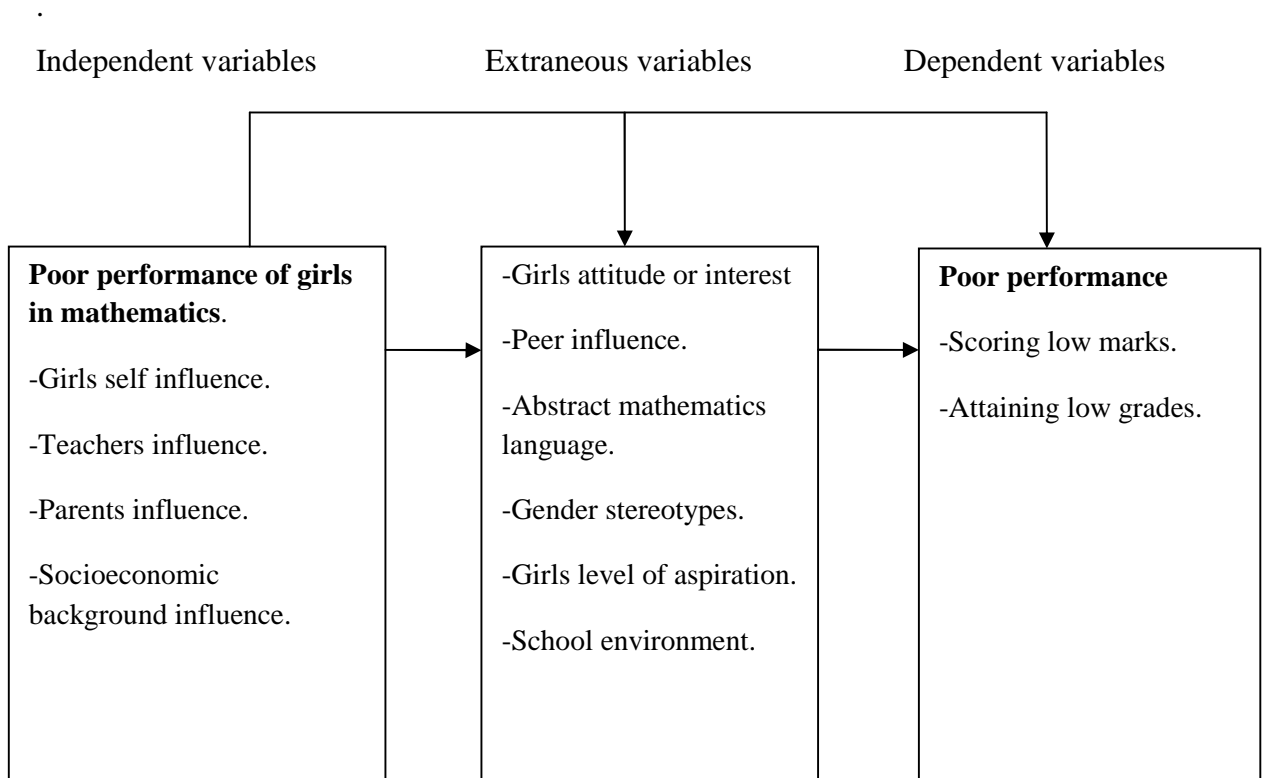


Figure Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY.

3.0 Introduction

This chapter considers the relevant methodology which was used in carrying out the research study. It highlights the research design, study population, sample size, sampling techniques, research instruments, data analysis and ethical considerations. This study was carried out in four mixed secondary schools in Changamwe Subcounty- Mombasa County (day schools). The justification for the selection of the schools was based on haphazard distribution of the variables affecting girls' poor performance in mathematics. Form 1-4 girls and their teachers formed the study sample based on the assumption that they are the directly affected by the poor performance in mathematics. Survey research design was used as it allows the collection of data through a designed questionnaire. A total of 88 respondents (68 girls and 20 teachers) participated in the study; the data was analyzed using descriptive and inferential statistics.

3.1 Research design

A descriptive survey methodology was adopted because of its applicability to this study. According to Orodho (2003, 2012), a descriptive survey design is effective and easy to conduct and it ensures ease in accessing information. This methodology allows the researcher to gather information, summarize and interpret data for purposes of clarification. (Orodho & Kombo, 2002).attest that it is useful in collecting information about peoples attitude, opinions, habits or perception about issues under investigation.

3.2 Study Population

The study population consisted of form (1-4) girls and teachers in the mathematics departments of four schools in Changamwe sub county, Mombasa County. The population studied was 570(i.e.540 girls and 30 mathematics teachers).the schools were; Changamwe secondary school, Migadini secondary school, Bomu secondary school and Mwijabu secondary school.

3.3 Study Sample

The sample consisted of (100) respondents as follows 80 girls at the selected mixed Secondary School and total of (20) teachers from the mathematics departments of the selected schools.

3.4 Sampling Techniques.

Purposive sampling technique was used to select the girls from the study population. Class teachers were approached to give names of 5 girls who could cooperate in the research from each form in the 4 selected schools. A total number of 80 girls were selected. According to (Lisa, 2008) this method of sampling represents the most clear cut instance of phenomenon interested in and helps to achieve the intended objectives as compare to random sampling where may be the respondents chosen are unable to give the desired data. There was no sampling method used on the teachers for they were a few in the mathematics department.

The sampling technique used to select the schools in this research was purposive sampling too. In view of this, at least one mixed school in four of the five zones in Changanwe Sub county was selected making a total of 4 schools. No boys were selected for the research study.

3.5 Research instruments.

One research instrument was used. This was the questionnaires. Questionnaires were used to collect quantitative data from students and teachers. A questionnaire was chosen because it could be presented to each respondent in exactly the same way to minimize the role and influence of the interviewer. The results obtained by questionnaire could also be easily being objectively compared.

3.6 Data collection.

The researcher sought permission from the sub- county education office Changanwe sub-county to carry out the study. After being granted the permission the researcher made introductory visits to the sampled schools where she delivered the questionnaires after

discussions with the principals on how the questionnaires were to be administered. The data was collected during second term. The selected students and mathematics teachers were given questionnaires to complete. The questionnaires were self-administered as all the respondents in the sample were literate. A total of 100 questionnaires were distributed to the sample. Once completed the researcher collected the filled questionnaires from the principal's office for analysis. The total number of questionnaires returned was 88 and all were used in analysis.

3.7 Data Analysis.

The quantitative data received from respondents were expressed in percentage (%) form and then, both descriptive and inferential statistics were used in analyzing and interpreting of data.

3.8 Ethical considerations

The study took into consideration all the possible potential ethical issues. Informed consent was obtained from both the respondents and the administration of the sampled schools. In this study the values of the respondents were given due respect. The respondents were neither interfered with nor contested by the researcher.

CHAPTER FOUR: RESULTS OF RESEARCH STUDY

4.0 Introduction

This chapter presents the findings of the study on factors affecting girls' poor performance in mathematics for selected secondary schools in Changamwe sub- County; Mombasa County based on the data collected from the respondents. The findings were presented according to the study objectives.

4.1 Response Rate

This is the analysis of demographic data in line with gender distribution of respondents. The sampled population was 100, 20 teachers and 80 students. The teachers had a response rate of 100% as all of them returned the questionnaires while the students had a response rate of 85% since only 68 of them returned the questionnaires. According to Mugenda and Mugenda (1999) the response rate is adequate for analysis and reporting hence the data collected during the research study was a good representation of the characteristics of the study population.

4.2 Background characteristics of students' respondents.

The background information of the students was based on the level of study (class) of the girls.

4.2.1 Distribution of students' respondents according to their level of study (class).

Table 1: Distribution of students according to their level of study (class)

Class	Frequency	Frequency (%)
Form one	19	27.9%
Form two	20	29.4%
Form three	17	25.0%
Form four	12	17.6%
Total	68	100%

According to the table above the majority of the respondents belonged to form two as it constituted the highest percentage which was 29.4% while form 1,3 and 4 were represented by 27.9%,25.0% and 17.6% respectively.

4.3. Background characteristics of teacher respondents.

4.3.1 Distribution of teacher respondents according to gender.

The researcher sought to know the teachers gender distribution.

Table 2: Distribution of teachers according to gender

Gender	Frequency	Frequency (%)
Male	11	55.0%
Female	9	45.0%
Total	20	100.0%

The number of male teachers' respondents was 11, making 55.0% of the total number of teacher respondents while that of the female was 9, making 45.0% of the total number of teacher respondents.

4.3.2 Distribution of teacher respondents according to their positions in the school.

The researcher also sought to know the positions of the teachers in the school.

Table 3: Distribution of teachers according to their positions in the school

Position	Frequency	Frequency(%)
Principal	0	0
Deputy principal	0	0
Subject teacher	20	100%
Class teacher	0	0

100% of the teachers were a subject teacher that is to mean they were all teaching mathematics to the students.

4.3.3 Distribution of teacher respondents according to their duration of teaching in the school under study.

Table 4: Distribution of teachers according to their duration of teaching in the school under study

Duration	Frequency	Frequency (%)
Less than a year	2	10.0%
Two-three years	6	30.0%
Above three years	12	60.0%
Total	20	100.0%

From the findings 10.0% of the teachers had taught in the school for less than a year, 30.0% had taught for a period of two to three years while a majority of the teachers 60.0% had taught in the school for years above three years.

4.3.4 Distribution of teacher respondents' level of education.

Table 6: Distribution of teacher's level of education

Level of education	Frequency	Frequency (%)
Bachelor's degree with a postgraduate diploma in education.	2	10.0%
Bachelor of education degree	14	70.0%
Diploma in education	4	20.0%
Total	20	100.0%

From the findings 10.0% of the teachers had a bachelor's degree with a postgraduate diploma in education, 70.0% of the teachers were holders of bachelor of education degree and 20% of the teachers had a diploma in education.

4.4 Girls own self influence towards poor performance in mathematics

The study sought to establish girls' own self influence towards poor performance in mathematics. The results are represented as frequencies with corresponding percentages for strongly agree, agree undecided, disagree and strongly disagree.

Table 5: Table showing frequencies and percentage frequencies for responses of respondents on the statements meant to identify girls' self influence towards poor performance in mathematics.

Statement	Response									
	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
It is my usual practice to solve mathematics problems on my own.	7	10.3%	10	14.7%	1	1.5%	19	27.9%	31	45.6%
It is easier to understand mathematics Than any other subject and it is interesting learning it.	5	7.4%	7	10.3%	4	5.9%	24	35.3%	28	41.2%
Mathematics is my greatest nightmare in school. I'd drop it if it was optional	30	44.1%	22	32.4%	5	7.4%	5	7.4%	6	8.8%
It is quite normal for boys to perform better in mathematics than girls.	40	58.8%	20	29.4%	0	0%	8	11.8%	0	0%
I hate mathematics with passion	30	44.1%	29	42.6%	1	1.5%	5	7.4%	3	4.4%

KEY

F-Frequency

%-Frequency percentage

From the table above:

45.6% and 27.9% of the respondents strongly disagree and disagreed respectively with the statement it is my usual practice to solve mathematics problems on my own while 1.5% were undecided and 14.7% and 10.3% strongly agreed and agreed respectively with the statement.

It can also be seen in the table above that only 7.4% and 10.3% strongly agreed and agreed respectively that it is easier to understand mathematics than any other subject and it is interesting learning it. On the other hand 35.3% and 41.2% of the respondent

disagreed and strongly disagreed with the statements while only 5.9% were undecided about the statement.

44.1% of the respondents strongly agreed with the statement mathematics is my greatest nightmare in school. I'd drop it if it was optional. 32.4% also agreed with the statement while 7.4% disagreed. 8.8% disagreed strongly and only 7.4% were undecided about it. It is also noted that 58.8% of the respondents strongly agreed and 29.4% agreed that it is quite normal for boys to perform better in mathematics than girls. Only 11.8% of the respondents disagreed, none were undecided or strongly disagreed. Finally only 44.1% and 42.6% of the respondents strongly agreed and agreed respectively with the statement I hate mathematics with passion. 1.5% were undecided 7.4% disagreed and 4.4% strongly disagreed.

4.5 Teachers influence towards girls performance in mathematics.

The research sought to establish teachers influence towards the girl poor performance in mathematics. The respondents were asked to indicate their agreement on the statements given in a five point scale of strongly agree, agree, undecided disagree strongly disagree.

Table 6: Table showing frequencies and percentage frequencies for responses of students respondents on the statements meant to identify teachers influence towards girls' performance in mathematics.

Statement	Response									
	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
I like my mathematics teacher's way of teaching mathematics, I understand very well.	3	4.4%	4	5.9%	7	10.3%	25	36.8%	29	42.6%
My mathematics teacher has made me feel I have the ability to perform well in mathematics and pursue it further.	25	36.8%	20	29.4%	1	1.5%	12	17.6%	10	14.7%
My mathematics teacher expects less mathematics performance from girls than boys.	10	14.7%	25	36.8%	10	14.7%	12	17.6%	11	16.2%
I prefer being taught mathematics by a female teacher rather than a male teacher.	10	14.7%	12	17.6%	5	7.4%	22	32.4%	19	27.9%
My mathematics teacher helps each individual learner with solving mathematical problems.	0	0%	2	2.9%	3	4.4%	25	36.8%	38	55.9%

KEY.

F-Frequency

%-Frequency percentage

From the table above it is noted that 4.4% of the respondents strongly agreed with the statement I like my mathematics teacher's way of teaching mathematics, I understand very well. 5.9% agreed on the statement 10.3% were undecided while 36.8% and 42.6% of the respondent disagreed & strongly disagreed respectively. The statement my mathematics teacher has made me feel I have the ability to perform well in mathematics and pursue it further was supported by 36.8% and 29.4% respondents who strongly agreed and agreed respectively, on the other hand 1.5% were undecided, 17.6% disagreed while 14.7% of the respondents strongly disagreed. 14.7% and 36.8% of the respondents strongly agreed and agreed respectively with the statement our teachers treat girls differently from the way boys are treated during the lessons while 14.7% were undecided and 17.6% and 16.2% disagree and strongly disagreed respectively.

14.7% of the respondents strongly agreed with the statement I prefer being taught mathematics by a female teacher rather than a male teacher. 17.6% also agreed with the statement while 32.4% disagreed, 27.9% strongly disagreed and only 7.4% were undecided about it.

It is also noted that none of the respondents strongly agreed with the statement my mathematics teacher helps each individual learner with solving mathematical problems, 2.9% agreed on the statement 4.4% of the respondents were undecided while 36.8% and 55.9% of the respondents disagreed and strongly disagreed with the statement respectively.

Table 7: Table showing frequencies and percentage frequencies for responses of teacher respondents on the statements meant to identify the mathematics teachers' influence towards girls' performance in mathematics

Statement	Response									
	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%	F	%
I have different attitudes towards girls and boys ability towards mathematics	8	40.0%	4	20.0%	0	0%	4	20.0%	4	20.0%
I prefer teaching mathematics to boys than girls as they are highly motivated to achieve higher in mathematics than girls.	12	60.0%	8	40.0%	0	0.0%	0	0.0%	0	0.0%
I occasionally attend seminars for mathematics teachers.	2	10.0%	1	5.0%	1	5.0%	10	50.0%	6	30.0%
I always talk to girls about the importance of mathematics and how they can achieve better performance	12	60.0%	8	40.0%	0	0.0%	0	0.0%	0	0.0%
I occasionally invite resource persons and role models to talk to girls about mathematics.	0	0.0%	1	5.0%	1	5.0%	8	40.0%	10	50.0%

KEY

F-Frequency

%-Frequency percentage

As the table above shows 40% Of the teachers respondents strongly agreed that they had different attitudes towards boys and girls ability towards mathematics,20% agreed while no respondent were undecided. 20% and 20% respondents disagreed and strongly disagreed respectively.

60% of the teachers' respondents strongly agreed to the statement I prefer teaching mathematics to boys than girls as they are highly motivated to achieve higher in mathematics than girls. , 40% of them agreed and none of the respondents were undecided, neither disagreed nor strongly disagreed. 10 .0% and 5.0% of the teacher respondents strongly agreed and agreed respectively to the statement I occasionally attend seminars for mathematics teachers. 5.0% were undecided, 50.0% disagreed and 30.0% strongly disagreed.

60% and 40% of the teachers' respondents strongly agreed and agreed respectively that they always talk to girls about the importance of mathematics and how they can achieve better performance. None of them disagreed, strongly disagreed or was undecided on this. 40% and 50% of teacher respondents disagreed and strongly disagreed respectively that they occasionally invite resource persons and role models to talk to girls about mathematics. None of them strongly agreed while 5.0% agreed another 5.0% was undecided.

4.6 Parents influence towards girls performance in mathematics.

The study sought to establish parents influence towards girls' performance in mathematics. The learners were asked to indicate their agreement on the statements given in a five point scale of strongly agree, agree, undecided disagree strongly disagree.

Table 8: Table showing frequencies and percentage frequencies for responses of respondents on the statements meant to identify parents influence towards girls' performance in mathematics.

Statement	Response									
	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
My parents do not care whether I like mathematics or not, they have never encouraged me to do well in mathematics.	19	27.9%	17	25%	1	1.5%	16	23.5%	15	22.0%
My parents' education level contributes how motivated I am to achieve well in mathematics	22	32.4%	30	44.1%	3	4.4%	8	11.8%	5	7.4%
My parents think boys are better In mathematics than girls	18	26.5%	23	33.8%	8	11.8%	10	14.7%	9	13.2%
My parents are the reasons I hate mathematics	13	19.1%	16	23.5%	5	7.4%	22	32.4%	12	17.6%
My parent often visits my school to check on my academic performance especially in mathematics.	10	14.7%	16	23.5%	2	2.9%	25	36.8%	15	22.0%

KEY

F-Frequency

%-Frequency percentage

The table above shows that 27.9% and 25.0% of the respondents strongly agreed and agreed respectively with statement my parents do not care whether I like mathematics or not they have never encouraged me to do well in mathematics .1.5% were undecided while 23.5% and 22.0% of the respondents disagreed and strongly disagreed with the statement respectively .

The statement my parents education level contributes how motivated I am to achieve well in mathematics was supported by 32.4% and 41.1% of the respondents who strongly agreed and agreed respectively, on the other hand 4.4% were undecided, 11.8% disagreed while 7.4% of the respondents strongly disagreed. 26.5% of the respondents strongly agreed with the statement my parents think boys are better in mathematics than girls. 33.8% also agreed with the statement while 14.7% disagreed, 13.2% strongly disagreed and 11.8% were undecided about it.

19.1% of the respondents strongly agreed with the statement my parents are the reason I hate mathematics, 23.5% agreed on the statement, 7.4% of the respondents were undecided while 32.4% and 17.6% of the respondents disagreed and strongly disagreed with the statement respectively. Lastly 14.7% of the respondents strongly agreed with the statement my parents often visit my school to check on my academic progress. 23.5% agreed on the statement, 2.9% were undecided while 36.8% and 22.0% of the respondent disagreed and strongly disagreed with the statement respectively

4.7 Socioeconomic background influence towards girls' performance in mathematics.

The study sought to establish influence of socioeconomic background towards girls' performance in mathematics. The learners were asked to indicate their agreement on the statements given in a five point scale of strongly agree, agree, undecided disagree strongly disagree.

Table 9: Table showing frequencies and percentage frequencies for responses of respondents on the statements meant to identify influence of socioeconomic background towards girls' performance in mathematics

Statement	Response									
	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
I am always absent in school due to lack of school fees.	20	29.4%	28	41.2%	0	0%	12	17.6%	8	11.8%
My parents can't afford educational resources at home e.g. study tables, chairs and books	30	44.1%	25	36.8%	2	2.9%	5	7.4%	6	8.8%
I work after school to help my parents make ends meet	18	26.5%	24	35.3%	0	0%	12	17.6%	14	20.6%
My home environment motivates me to do mathematics	5	7.4%	7	10.3%	0	0%	24	35.3%	32	47.1%
I could perform better in mathematics if I lived somewhere better than my home.	40	58.8%	10	14.7%	0	0.0%	6	8.8%	12	17.6%

KEY

F-Frequency

%-Frequency percentage

From the table above it is noted that 29.4% of the respondents strongly agreed with the statement I am always absent in school due to lack of school fees. 41.2% agreed on the statement 0% were undecided while 17.6% and 11.8% of the respondent disagreed & strongly disagreed respectively.

The statement my parents cannot afford educational resources at home e.g. study tables, chairs and books was supported by 44.1% and 36.8% respondents who strongly agreed and agreed respectively, on the other hand 2.9% were undecided, 7.4% disagreed while 8.8% of the respondents strongly disagreed.

26.5% and 35.3% of the respondents strongly agreed and agreed respectively with the statement I work after school to help my parents make ends meet while none were undecided and 17.6% and 20.6% disagree and strongly disagreed respectively with the statement.

7.4% and 10.3% of the respondents strongly agreed and agreed respectively with the statement my home environment motivates me to do mathematics. On the other hand 47.1% and 35.3% of the respondents strongly disagreed and disagreed with the statement respectively while none were undecided about the statement. It is also noted that 58.8% of the respondents strongly agreed with the statement I could perform better in mathematics if I lived somewhere better. 14.7% agreed on the statement .None of the respondents were undecided while 8.8% and 17.6% of the respondents disagreed and strongly disagreed with the statement respectively.

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CHAPTER FIVE: DISCUSSION OF RESEARCH FINDINGS

5.0 Introduction

This chapter discusses the findings of the study in line with the objective of the study which was to establish poor performance of girls in mathematics. The researcher investigated on; girls' self-influence towards performance in mathematics, the teachers influence towards girls' performance in mathematics, the parents influence towards girls' performance in mathematics and Influence of the social economic background towards girls' performance in mathematics.

5.1 Girls own self influence towards performance in mathematics

Emotional dispositions have an impact on an individual's behavior, as one is likely to achieve better in a subject that they enjoy, has confidence in and find its usefulness. From the findings on the research study, girls hold negative self influence towards mathematics. They dissociate themselves with mathematics therefore confirming their negative perceptions and attitudes towards mathematics hence explaining for their poor performance. These results are consistent with Gilbert and Calverts (2003) point that most young women do not see themselves as being capable of studying and succeeding in mathematics, therefore they are not interested in it.

The findings can be explained to be as a result of child rearing practices that are gender stereotyped. Whereby the girls are conditioned from an early age that they are inferior to boys and this affects their choice of activity they can engage in. It may also be as a result of frequent and repeated failures or problems when dealing with mathematical tasks, over demanding tasks and pressure to perform well. According to David (1996) attitudes adopted by girls from; parents, teachers, friends and society have a significant influence on the girls' choices and performance in science and mathematics.

An analysis of these findings also shows that it's obvious that girls have a tendency of undermining their own abilities in mathematics; they don't love the subject, are afraid of mathematics and believe that they are not gifted in mathematics. This can be explained by the differences between factors like self-concept, math anxiety, motivation and self-

efficacy between boys and the girls. Boys tend to identify themselves with math more than girls do and therefore explaining the difference in their beliefs and performances. Math anxiety among the girls is high explaining the poor levels of mathematics performance as it interferes with the girls' potential to perform better. According to Bandura (1986, 1997) self-efficacy beliefs predict academic outcome, this is consistent with the finding as a majority of the girls have low self-efficacy and perform poorly according to their responses. Low motivation among girls also influences poor performance in mathematics.

5.2 Teachers influence towards girls performance in mathematics.

A majority of the students' respondents did not like their mathematics teachers teaching methodologies. This result has a positive relationship with girls' poor performance in mathematics. The result is in line with the findings from the teachers respondents where a majority of the teachers confirmed that they don't attend seminars and trainings on mathematics teaching and learning. This could therefore explain the poor teaching methodologies applied by the teachers. Seminars and trainings are important to mathematics teachers as they give them confidence in their subject knowledge and enable them study and understand their students needs so well hence positive results. From the findings teachers also expected less academic performance from girls than boys as they perceived boys to be more gifted. These results are in line with those of the teachers respondents, the teachers confirmed that they held different attitudes to boys and girls and preferred teaching mathematics to boys than girls. They believed boys had greater mathematical abilities than girls. These results are supported by Lemmer (1994), according to Lemmer teachers have different expectations regarding existing knowledge in mathematics for boys and girls. This results in girls losing the interest in learning mathematics hence poor performance. According to Kayalvizhi (2005) girls attitudes are affected by subject teachers that demand modest and inferior behavior from girls.

A large number of girls agreed that their teachers made efforts for them to love mathematics and pursue it further. This is further confirmed by the results from the teachers' respondents where a majority agreed that they do talk to girls about the

importance of mathematics and how they can achieve good grades in it. There are also some setbacks faced though, this includes a high student teacher ratio as the results showed that a majority of the girls agreed that their teachers didn't help individual student with mathematical problems. This is a challenge to the girls as learning mathematics requires more time and individual attention from teachers especially for those with learning challenges and the less motivate ones. Girls also preferred a male mathematics teacher to a female one. The teacher biasness could be as a result of a long history of sexism in mathematics. Female teachers are usually a little insecure about the topics and doubt a lot in class creating more math anxiety among the girls. They also pay more attention to boys' questions and answers than girls hence further discouraging the girls. They don't believe girls are talented. This disbelief tend to make girls shy and feel insecure of their mathematics abilities, they get stressed and restrained while learning. Male teachers are preferred to as they have a more friendly approach to students, they joke more often as they are extroverted. They make learning mathematics interesting.

The findings from teachers' results show that teachers don't bring resource persons and role models to talk to the students about the importance of mathematics. This could imply that they are careless or they have a tight schedule to find time for that. This justifies the girls poor performance as they are not exposed further than class work. According to Kayalvizhi (2005) lack of support, positive influence and encouragement from the teacher are factors that foster poor gender equitable perception lower academic achievement and poor self-concept. From the analysis the above scenarios discourage girls from taking mathematics seriously and later develop negative attitude towards the subject. This is consistent with Omar (2010) findings that lack of sensitivity on the part of teachers to the needs of girls in school deprives them of a congenial learning environment.

5.3 Parents influence towards girls performance in mathematics.

The study also sought to establish the influence of parents towards girls' performance in mathematics. A review by Henderson and Berla (2004) of sixty six studies on the subject of parental involvement concluded that the most accurate predictor of students

achievement in school is not income or social status, but the extent to which families are able to create a home environment that supports learning, communicate high and reasonable expectations for their children`s achievements and become involved parents in their children`s school. The study found out that a good number of parents had a negative influence towards their daughters in mathematics while just a small number of the parents were positive. From the findings one could assume that parents cared less for their daughters as far as mathematics is concerned hence the poor performance. This is consistent to a report by Ryan(2005) that children of passive parents were found to perform poorly academically .One could therefore assume that the poor educational background of most of the parents was the reason behind uncaring behavior among parents to their daughters.

The lack of parental involvement in their daughters` education can result into the parents not receiving enough information about their daughters` progress in school, school progress and teachers lack knowledge of student`s needs. Kathuri (1977) in his studies on Nairobi Secondary school revealed that parents who paid visits to school to find out the progress of the children and attended to school functions do better academically than those whose parents never paid such visits.

This is confirmed by Tact (1996) who stated, the lack of parental support has negative influence that might contribute to girls poor performance in mathematics and to pursue mathematics studies. It can therefore be concluded that parents` attitudes are crucial for girls` attitudes towards mathematics since there is always a relationship between parents` mathematical values and their daughters` achievements. Rollins and Thomas (2008) found out that high parental support and control were associated with high achievement.

5.4 Socio-economic background influence towards girls` performance in mathematics.

The research findings showed that a majority of the respondents thought their socio-economic background was negatively influencing them towards their performance in mathematics. Their home environment and surroundings was not good enough for their

academic progress. These results are consistent with studies in the country by Oloo (2003) which showed that a major problem affecting academic achievement was a home environment of the day school students that was not conducive for reading. Furthermore the findings revealed that girls experienced financial struggles as a majority of their parents are in the low income status thus a low socioeconomic background. From the findings the parents couldn't afford; studying materials at home which fostered good performance, school fees a majority were absent in school due to lack of school fees, and the majority of the parents barely afforded the basic needs leave alone the small luxuries. The results show that the respondents are forced to work after school in order to help their parents meet their needs at home. Thus they end up performing poorly. This confirms Ndiritu (1999) report that limited income among lower class families have been found to restrict provision of school fee and other necessary materials to ensure good performance and attendance.

The findings also show that girls would perform better if they lived somewhere better. This could be due to the influence of the society around. The society may encourage females not to bother themselves with mathematics and instead value domestic activities more than schooling; it could promote drug use and could have bad role models and peers who would influence the girls negatively towards mathematics.

The findings above imply that most of the girls come from the slums thus explaining for the poor socioeconomic background which is clearly responsible for their poor performance in mathematics. According to Hanes (2008) higher socio-economic status levels lead to higher performance of students in studies and vice versa.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the conclusion and recommendations emanating from the findings and discussion of the study. The objective of the study was to establish the factors influencing girls' poor performance in mathematics.

6.1 Conclusion

There are many factors that contribute to the quality of academic performance of girls towards mathematics. This study focused on a number of them. The study concluded that there were sizeable negative attitude of girls towards mathematics and they were not interested in mathematics. Thus girls lacked an enhanced self-concept in mathematics .The study also shows that socioeconomic background is a significant predictor for students' performance in mathematics. The low socioeconomic background explained the girls' poor performance in mathematics. From the findings parents influenced their daughters negatively towards mathematics. But parents should understand that they play a vital role in the girls learning in mathematics and that their efforts are important to improve their daughters' performance in mathematics.

The findings also indicated that most teachers have negative attitudes towards girls' performance in mathematics and this adversely affected the girls' performance. Therefore there is need for teachers to develop positive expectations towards girls' mathematics abilities hence a positive attitude. They should also attend in -service training so that they can improve further the teaching and learning of mathematics.

6.2 Recommendations

Teachers should use instructional strategies that allow learners to work together on projects or assignment that can help increase the girls' interest in mathematics thereby reducing math anxiety among them. Hence better performance. Teachers, parents and all education stakeholders should invite motivational speakers at school and also provide study trips in order to support and encourage the girls in learning mathematics.

Practices that hinder girls from performing well in mathematics e.g. child labor and household chores should be avoided in order to allow for the girls to achieve their best in mathematics as the subject requires much time on practice for better understanding.

Teachers should prepare girls mentally and socially towards mathematics as early as they join form one. They should inform them that they have the same capacity to do mathematics just as well as the boys. Parents and teachers should encourage and influence young girls to become positive about mathematics fields and careers.

Mathematics teachers should continuously seek knowledge on how to make the subject fun interesting, challenging and easy to learn in class. The teachers should involve all students during the lessons and use inquiry based learning activities, this would increase the girls' interest in mathematics and motivate all the students to perform well in mathematics. The authorities should organize information training workshops for teachers to inform them about the different methods and techniques to be used during different stages and information sessions for parents in order to instill positive belief in girls regarding mathematics.

The parents should stop favoring boys over girls and treat both girls and boys equally so as to improve the girls' self-esteem and therefore perform well in mathematics they should also show the girls they believe in their abilities and they have positive expectations towards their performance in mathematics.

The government should put effort to positively influence the society in order to empower girls and a woman as far as mathematics learning is concerned. This is in order to achieve better outcome in mathematics for girls as for boys.

Girls perceive mathematics to be too complicated difficult, boring and masculine subject. Therefore the schools mathematics departments should strengthen their efforts of making mathematics look easy and attractive to the girls through changing girls' negative perception towards mathematics.

The government should subsidize the secondary school fees further and provide sanitary towels for the girls .This is in order to allow for the students to afford staying in school all through and avoid staying home due to lack of school fees and sanitary towels.

Girls who perform well in mathematics should be rewarded to encourage the rest to follow suit.

Further research should be carried out on a large scale including other schools and regions in Kenya to find out the factors that affect girls' poor performance in secondary schools.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER

Magdalene Mjeni Tsuma

Reg No: L40/85221/2016

University of Nairobi, Department of Education and Distance Learning,

P.O Box 30197,

Nairobi.

Dear Sir/ Madam,

REF: LETTER OF INTRODUCTION

I am a postgraduate student of University of Nairobi pursuing a postgraduate diploma in education. I am carrying out a research on poor performance of girls in mathematics in selected mixed secondary schools in Changamwe sub-county, Mombasa County. I am seeking your permission to administer questionnaires to the teachers and students to gather data on the above topic. This is purely on academic grounds and the identity of the respondents does not feature in the questionnaire.

Thank you for your cooperation.

Yours sincerely,

Magdalene Mjeni Tsuma.

APPENDIX II: STUDENTS QUESTIONNAIRE.

SECTION A-BIO DATA

This section appreciates the background information of the respondent (students) in the research study.

1. What is your level of study(class)?
 - a) Form one.
 - b) Form two.
 - c) Form three.
 - d) Form four.

SECTION B-SUBSTANTIVE DATA.

Guidelines for filling part B below

Strongly disagree =1 Disagree =2 Undecided=3 Agree=4 strongly Agree=5

Fill in each space provided using the scale above.

1. Girls own self influence towards mathematics.

The following statements are meant to determine the influence of girls own self towards mathematics.

STATEMENT	RESPONSE				
	Strongly Agree	Agree	Un decided	Disagree	Strongly disagree
It is easier to understand mathematics than any other subject and it is interesting learning it.					
Mathematics is my greatest nightmare in school. I'd drop it if it was optional					
It is quite normal for boys to perform better in mathematics than girls.					
I hate mathematics with passion					

4. Teacher's influence

The following statements are meant to determine teachers influence towards girls poor performance in mathematics.

STATEMENT	RESPONSE				
	Strongly Agree	Agree	Un decided	Disagree	Strongly Disagree
I like my mathematics teacher's way of teaching mathematics, I understand very well.					
My mathematics teacher has made me feel I have the ability to perform well in mathematics and pursue it further.					
My mathematics teacher treat girls differently from the way boys are treated during the lesson.					
I prefer being taught mathematics by a female teacher rather than a male teacher. .					
Our teacher encourages us to work together during lessons irrespective of our gender					
We have many mathematics teachers in our school that take care of all student mathematical needs.					

5. Parents Influence.

The following statements are meant to determine parents influence towards girls poor performance in mathematics.

STATEMENT	RESPONSE				
	Strongly agree	Agree	Un decided	Disagree	Strongly disagree
My parents do not care whether I like mathematics or not, they have never encouraged me to do well in mathematics.					
My parents' education level contributes how motivated I am to achieve well in mathematics					
My parents think boys are better In mathematics than girls					
My parents are the reasons I hate mathematics					
My parent often visits my school to check on my academic performance especially in mathematics.					

6. Socio-economic background influence.

The following statements are meant to determine socioeconomic background influence towards girls' poor performance in mathematics.

STATEMENT	RESPONSE				
	Strongly Agree	Agree	Un decided	Disagree	Strongly Disagree
I am always absent in school due to lack of school fees.					
My parents can't afford educational resources at home e.g. study tables, chairs and books					
I work after school to help my parents make ends meet					
My home environment motivates me to do mathematics					
I could perform better in mathematics if I lived somewhere better than my home.					

THANK YOU FOR YOUR TIME!

APPENDIX III: TEACHER'S QUESTIONNAIRE.

SECTION A-BIO DATA

This section appreciates the background information of the respondents (teachers) in the research study.

1. What is your gender?
 - a) Male
 - b) Female
2. What is your position in the school under study?
 - a) Principal
 - b) Deputy Principal
 - c) Subject/mathematics teacher
 - d) Class teacher
3. How long have you taught in the school under study
 - a) Less than a year
 - b) Two-three years
 - c) Above three years.
4. What is your highest qualification?
 - a) Post graduate diploma in education
 - b) Graduate teacher
 - c) Diploma.

SECTION B-SUBSTANTIVE DATA.

Guidelines for filling part B below

Strongly disagree =1 Disagree =2 Undecided=3 Agree=4 strongly Agree=5

Fill in each space provided using the scale above.

STATEMENT	RESPONSE			
	Strongly Agree	Un decided	Disagree	Strongly Disagree
I have different attitudes towards girls and boys ability towards mathematics				
I prefer teaching mathematics to boys than girls as they are highly motivated to achieve higher in mathematics than girls.				
I occasionally attend seminars for mathematics teachers.				
I always talk to girls about the importance of mathematics and how they can achieve better performance				
I occasionally invite resource persons and role models to talk to girls about mathematics.				

THANK YOU FOR YOUR TIME!