

**SOCIO- ECONOMIC FACTORS AND MATHEMATICS ACADEMIC
PERFORMANCE OF STUDENTS AT KENYA CERTIFICATE OF SECONDARY
EDUCATION OF ST. PAUL'S IGONGA SECONDARY SCHOOL IN KISII
CENTRAL DISTRICT,
KENYA.**

**A Research project Presented to the
Institute of Continuing and Distance Studies
Kampala International University**

**In Partial Fulfillment of the Requirements for the Degree of
Bachelor of Education Science**

By

ONGORO BENJAMIN NYAREKI

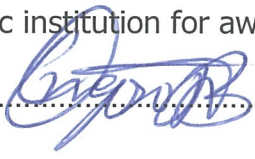
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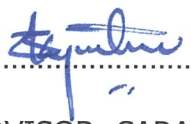
DECLARATION

I ONGORO BENJAMIN NYAREKI REG NO /7140/51/DF declare that this dissertation is my original work and that it never been submitted to any academic institution for award of a degree or the equivalent.

SIGN.....

DATE 8/10/07

The research project has been submitted with my approval.

SIGN .....

DATE 08.10.07

SUPERVISOR: SARAH KYOLABA D.

DEDICATION

To my wife Beatrice and my children Ann, Dollyvis, and Gospel who made the core of my life and who have taught me to keep my eyes on the ultimate price. For their patience and understanding, everything has simply been possible!

ACKNOWLEDGEMENT

I acknowledge the support I got from various people during my research report writing.

I thank God for his care, love and support, my wife for being understanding during my research.

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ABSTRACT

For many years academicians and researchers have debated about factors that influence a student academic performance in mathematics. From this debate, they have come to agree that socio- economic factors are among other factors that influence a student's academic performance in mathematics. This study aimed at establishing socio- economic factors that affect mathematics performance of students at Kenya certificate of secondary education of St. Paul's Igonga secondary school in Kisii central district, Kenya. Objectives of the study were to: determine the profile of the respondents, the performance in mathematics at KCSE level at St Paul's Igonga Secondary School for the last three years, Students performance in mathematics at KCSE level. Socio economic factors affecting students' performance in Mathematics at KCSE level and determine if there is a significant relationship or difference between socio economic factors and students' performance in mathematics at KCSE level. Questionnaires were used to source information on the social economic factors influencing mathematics performance. Data was analyzed using Software Package for Social Sciences (SPSS[®] version 11.5). Most of the student respondents were males indicating gender bias in enrolments whereas many students were between the ages of 15 to 17 years. Entry behavior in mathematics from primary school was high (B). The study indicates that parental economic activities, fees payment responsibility having both parents give frequency of being sent home for fees and availability of instructional materials are highly significant ($P < 0.05$) to students' math emetics performance in mathematics at K.C.P.E level and thus could imply the same at K.C.S.E. Therefore it is recommended that the government of Kenya should allocate more bursaries to enable students learn because majority are often sent home for fees and are from single parent family hence strain financially leading to frequent absenteeism of students due to lack of school fees. Few students pass very well

in Maths from primary level; therefore teachers should put more effort in the subject.

CHAPTER 1

GENERAL INTRODUCTION

Rationale of the Study

For many years academicians and researchers have debated about factors that influence a student academic performance in mathematics. From this debate, they have come to agree that socio- economic factors are among other factors that influence a student's academic performance in mathematics. Recent research done by scholars suggests that class size (Glass and Smith, 1978), teachers' qualification (Ferguson, 1991), school size (Haller, 1993), school inputs such as instructional materials and student attitude towards mathematics influences their performance in mathematics in national examinations.

The study was necessitated by the continued decline in mathematics performance by past students nationally at Kenya certificate of Secondary Education (KCSE) level and this brought a national out cry from curriculum developers, Ministry of education, teachers and parents. Additionally this impacts negatively on the economic development of a nation.

Performance in mathematics at Kenya Certificate of Secondary Education (KCSE) level was influenced by a number of factors. Previous researchers had focused on pedagogical factors without clear intentional analysis of socio economic factors. This research identified the influence of socio economic factors on students' performance in mathematics, and suggests measures to improving it. It is in this view that the researcher undertook this study.

Objectives of the study

General objective

This study determined the factors that influence performance of mathematics at KCSE level.

Specific Objectives

This study sought to;

1. Determine the profile of the respondents terms of:
 - 1.1.1 Age
 - 1.1.2 Gender
 - 1.1.3 Academic level
2. To determine the performance in mathematics at KCSE level at St Paul's Igonga Secondary School for the last three years
 - 2.1 Students performance in mathematics at KCSE level.
 - 2.2 Socio economic factors affecting students' performance in Mathematics at KCSE level.
3. Determine if there is a significant relationship between socio economic factors and students' performance in mathematics at KCSE level.
4. Determine if there is a significant difference between socio economic factors and students' performance in mathematics at KCSE level.

Statement of the Null Hypothesis (Ho)

There is no significant relationship between social economic factors and mathematics performance of the students.

Significance of the Study

The study will benefit the following disciplines:

Ministry of Education Science and Technology (MOEST) in the formulation of future mathematics education policies aimed at enriching students in this subject.

District Quality Assurance supervisors will be enlightened on the situation of physical facilities and resources for learning mathematics

Mathematics teachers as the implementers of mathematics curriculum will be enlightened on the socio- economic which affects students' performance in mathematics and this will help them evaluate their teaching methods and appropriateness of mathematics syllabus content.

Parents will be aware of their role in instilling the right attitudes in their children about the subject and in playing a supplementary role of providing the student with school fees and learning materials. Additionally they will be enlightened on the socio- economic factors that affect students' performance in mathematics.

The Future Researchers will use the findings to evaluate the performance of students in mathematics in terms of other factor apart from social-economic.

CHAPTER 2

LITERATURE REVIEW

Theory

This study was based on the theory of Scandura (1980), which states that rules should be learned which consists of a domain, range and procedure. There may be alternative rules set for any given class of tasks. Problem solving may be facilitated when higher order rules are used, i.e. rules that generate other new rules. Higher order rules account for creative behavior as well as the ability to solve complex problems by making it possible to generate new rules. Unlike information processing theories which often assume more complex control mechanisms and production rules, structural learning theory postulates a single, goal-switching control mechanism with minimal assumptions about the processor and allows more complex rule structures. Structural learning theory also assumes that "working memory" holds both rules and data (i.e., rules that do not act on other rules); the memory load associated with a task depends upon the rule (s) used for the task at hand.

Structural analysis is a methodology for identifying the rules to be learned for a given topic or class of tasks and breaking them down into their atomic components. The major steps in structural analysis are: select a representative sample of problems, identify a solution rule for each problem, identify a solution rule for each problem, convert each solution rule into a higher order problem whose solutions is that rule, identify a higher order solution rule for solving the new problems, eliminate redundant solution rules from the rule set (i.e., those which can be derived from other rules). The result of repeatedly identifying higher order rules, and eliminating redundant rules, is a succession of rules each

consisting of rules which are simpler individually but collectively more powerful than the ones before.

Structural learning prescribes teaching the simplest solution path for a problem and then teaching more complex paths until the entire rule has been mastered. The theory proposes that we should teach as many higher-order rules as possible as replacements for lower order rules. The theory also suggests a strategy for individualizing instruction by analyzing which rules a student has/has not mastered and detaching only the rules, or portions thereof, that have been mastered.

Structural learning theory has been applied extensively to mathematics and also provides an interpretation of Piagetian theory (Sandura & Scandura, 1980). The primary focus of the theory is problem solving instruction (Scandura, 1973). Scandura has applied theoretical framework to the development of authoring tools and software engineering.

Scandura (1973) provides an example of structural learning theory in the context of subtraction;

1. The first step involves selecting a representative sample of problems such as 9-5, 248-13, or 801-302.
2. The second step is to identify the rules for solving each of the selected problems. To achieve this step, it is necessary to determine the minimal capabilities of the students (e.g., can recognize the digits 0-9, minus sign, column and rows). Then the detailed operations involved in solving each of the representative problems must be worked out in terms of the minimum capabilities of the students. For example, one subtraction rule students might learn is the "borrowing" procedure that specifies if the top number is less than the bottom number in a column, the top number in the column to the right must be made smaller by 1.

3. The next step is to identify any higher order rules and eliminate any lower order rules they subsume. In the case of subtraction, we could replace a number of partial rules with a single rule for borrowing that covers all cases.
4. The last step is to test and refine the resulting rule(s) using new problems and extend the rule set if necessary so that it accounts for all problems in the domain. In the case of subtraction, we would use problems with varying combinations of columns and perhaps different bases

Principles

1. Whenever possible, teach higher order rules that can be used to derive lower order rules.
2. Teach the simplest solution path first and then teach more complex paths or rule sets.
3. Rules must be composed of the minimum capabilities possessed by the learners.

Review of the Related Literature

According to Aghenta (1989), in her study, she found that the attitude that one holds towards mathematics appears to be a powerful predictor of achievement in the subject. A prior positive attitude towards science, Technology and, Mathematics (STM) plays a critical role in STM performance. She also found that a poor attitude towards STM was a great barrier to access of STM fields. Conversely, she found that a positive attitude was one of the several factors that facilitated performance in STM. The attitude and self esteem one develops is due to one's socio economic life.

Mordi (1991) also found out that a strong positive attitude towards mathematics and science appears to play a critical role in the STM performance.

Eshiwani (1983), In Kenya, variation in student's participation in education between geographical regions and within socio economic strata is significant.

Students from arid and semi arid areas of Kenya lead nomadic ways of life and this forces them to be moving from one place to another in search of grass and water for their animals, while their counterparts from productive agricultural areas are in school. This means that, such students will not attend to their studies for a long period of the year leading to dislike of mathematics when in school because the subject requires regular practice hence affecting their performance in the subject. It has been difficult to provide the schools of the area with boarding facilities to have the students stay in school while their parents move with the animals in search of grass and water as their only economic activity is the keeping of cattle, goats and sheep. The rate of school drop out and absenteeism is high. These have been necessitated by household socio economic status, socio cultural attitudes attached to education and use of children in labour. Eshiwani also notes that, many students in Kenya generally have negative attitude towards mathematics and this attitude tends to depress their achievement in mathematics.

Wasanga (2002) notes that the mathematics syllabus in Kenya is too long and in an effort to cover the syllabus, teachers have no time to deploy teaching methods that may captivate the imagination or develop critical thinking in young people. He noted that mathematics is best learnt when it is related to real life situations. Burdened with the lack of adequate instructional materials and equipment, teachers' resort to teacher centered learning approaches such as lecture methods. The students are therefore passive learners who are expected to listen and only observe. This diminishes the interest of students in the subject because the content is too abstract and in many situations, has no relevance to their daily lives. He also notes that, the cost of education is high leading to high school drop out and absenteeism due to school fees and other levies. The parents are expected to provide school uniform, textbooks and other learning materials especially for the practical oriented subjects in science and mathematics these have been a great burden on parents. The cost sharing

strategy requires that parents take responsibility for the construction of buildings, including laboratories and Home Science rooms. This has led to increased decline in performance in mathematics and Science because of parents' inability to contribute to the additional costs in education in providing school fees, text books and other school levies.

Bali (1997), found that student who had a low self-confidence performed poorly in mathematics and science subjects, which diminished their access to engineering courses. Low self-esteem hinders students from asking questions and attempting to solve problems on their own. Students lack confidence because of the way they have been socialized, boys fearing talking to female students and vice versa, and sometimes because of their socio economic status.

Musau (2001), Noted that performance in mathematics at all levels of education in Kenya has been generally lower than in other subjects. Learners especially females, have expressed fear of the study of mathematics as a subject. Perhaps this is so because mathematics is a subject in its own special class. Studying this subject involves sequential problems solving techniques while studying most of the other subjects may involve straight reading that may have nothing to do with solving a problem. To develop mathematical skills, Musau, therefore, suggests that, a student tenaciously practices solving problems of one kind repeatedly in order to perfect the skill.

Musau also found that, the numbers of students in a class are too large to allow the teacher to give a personalized attention to students. Musau also notes that boarding schools have been classified expensive and unaffordable in these days of economic hardships facing African countries. The experience of most countries nevertheless, points invariably to better performance when students are in boarding schools rather than in day schools, especially in the rural areas.

Frendenthal (1991), Is of the view that mathematics performance is affected due to the fact that, mathematics is not connected to reality, he is of the opinion that it be relevant to every day life situations. 'Reality, refers not only to connection with real-world, but also refers to problems situations which are real in students' mind.

National commission on Teaching and America's Future (1996), asserts that students who were taught by well qualified teachers with majors in Mathematics scored highly in national examinations. These teachers have mastery of the subject content, pedagogical strategies for teaching it to the particular student, buffeting socio economic circles and also the teacher's enthusiasm for learning that which relates to increased student performance. Students perform least well if taught by teachers who are least well prepared and perform well when taught by well qualified and prepared teachers. Hence the qualification of the teacher contributes a lot to the performance of the student in an examination.

International Institute for capacity building in Africa (2002), The center has found that one of the problems in the African systems of education inherited from colonial governments is that of curriculums that emphasized on rote learning which is divorced from application to the realities of life. The President of Uganda Yoweri Museveni attending International Institute for capacity building seminar in Africa once recalled his school days and how he was discouraged from learning mathematics and science subjects. Teachers would teach badly, introducing new concepts without explaining their genesis and expecting students just to "cram" this without understanding them. It was really incredible the way some teachers were turning students against mathematics and science. "If you want to pass your examination and get a good job, you take any concept as it is and memorize it." The socio economic status then would not allow students to change schools, but to persevere. While rote learning remains an important part of education, an education system which fails to develop higher

level cognitive processes will obviously lead to the failure of its students in a global market where more than rote learning is required.



CHAPTER 3

RESEARCH METHODOLOGY

Research Design

This study employed descriptive survey method to determine socio economic factors affecting students' performance in mathematics at KCSE level. It was relevant because it is used to assess attitudes and opinions about events, individuals or procedures (Gay, 1992). The design was in agreement with the views of (Orodho, 2004), and those of Lockesh (1984), who contend that descriptive research studies are designed to obtain pertinent and precise information concerning the current status of a phenomena and whenever possible to draw valid conclusions from facts discovered.

Research Environment

The research study was conducted at St. Paul's Igonga secondary schools in Kisii Central District – Kenya.

Research Respondents

This study involved students enrolled in form one, form two, form three, form four and teachers.

Research Instruments

This study utilized researcher-devised instruments, which are questionnaires as the main instruments to collect data. Best and Khan (1992), notes that questionnaires enable the person administering them to explain the purpose of study and give meaning of items that may not be clear. In addition questionnaires are suitable to collect the required important information from a large number of the respondents.

The questionnaire were used to source information on the social economic factors influencing mathematics performance at KCSE level at St. Paul's Igonga secondary school in Kisii Central District. The instrument contained only close-ended questions. Close – ended items guided the respondents to give specific responses as given by the researcher. This instrument comprised of parts A and B. Part A. determined background information such as age, gender, class, and grade scored at primary, among others. Part B determined the factors influencing mathematics performance of students at KCSE level of St. Paul's Igonga secondary in Kisii Central District

Data Collection Procedures

A letter was sent to the head teacher asking permission to conduct a research on determining socio economic factors affecting students' performance in mathematics of students at KCSE level. The study population comprised of the 370 current students of St. Paul's Igonga Secondary School operational as KNEC examination center within Kisii Central District of Kenya, and 15 teachers. The sample of the respondents was done according to (Gay, 1992), who suggests that ten percent of the target population is representative enough to generalize characteristics being investigated.

Using stratified sampling the respondents were divided into five categories according to their learning level. Thus form one, form two, form three, form four, and teachers considering gender. This gave rise to 37 students, 2 teachers. Stratified sampling helped to achieve desired representation of various subject populations as supported by Mugenda (1990). Primary and secondary data was sought from the source. The researcher administered the questionnaires to each respondent and collected the data within two weeks. This ensured achievement of a good return ratio and help respondents to get a chance to seek clarification on items, which proved to be difficult. After collecting data the researcher did documentation analysis thereafter.

Statistical Treatment of Data

The frequency and percentage was used to determine the profile of respondents as to: socio demographic data (age, gender and academic level). Inferential statistics was used to analyze the relationship and difference between socio economic factors affecting students and mathematics' performance at KCSE level. The data was analyzed using Software Package for Social Sciences ((SPSS[®] version 11.5). This was according to Harper, (1998) who observes that use of a tabular layout enables any desired figures to be located more quickly and makes comparison between different categories to be made more easily.

Formula: Since the data was categorical, multiple regression analysis was used to establish the relationship of various variables. The difference was considered to be statistically significant as the p-value obtained is less than 0.05.

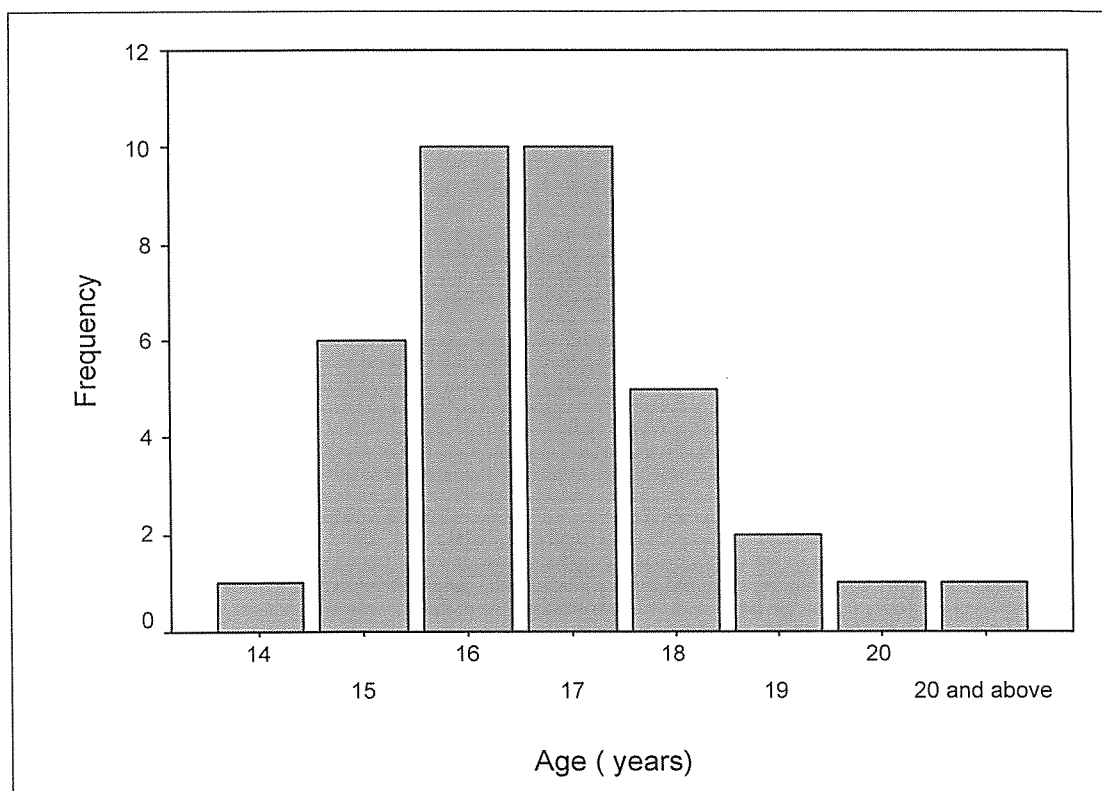


Figure 1: Age of students

Majority of the students were aged between 15 to 17 Years. This study reveals that students in the school are at good academic standing in career pursuit but it does not reveal what forms the students are from.

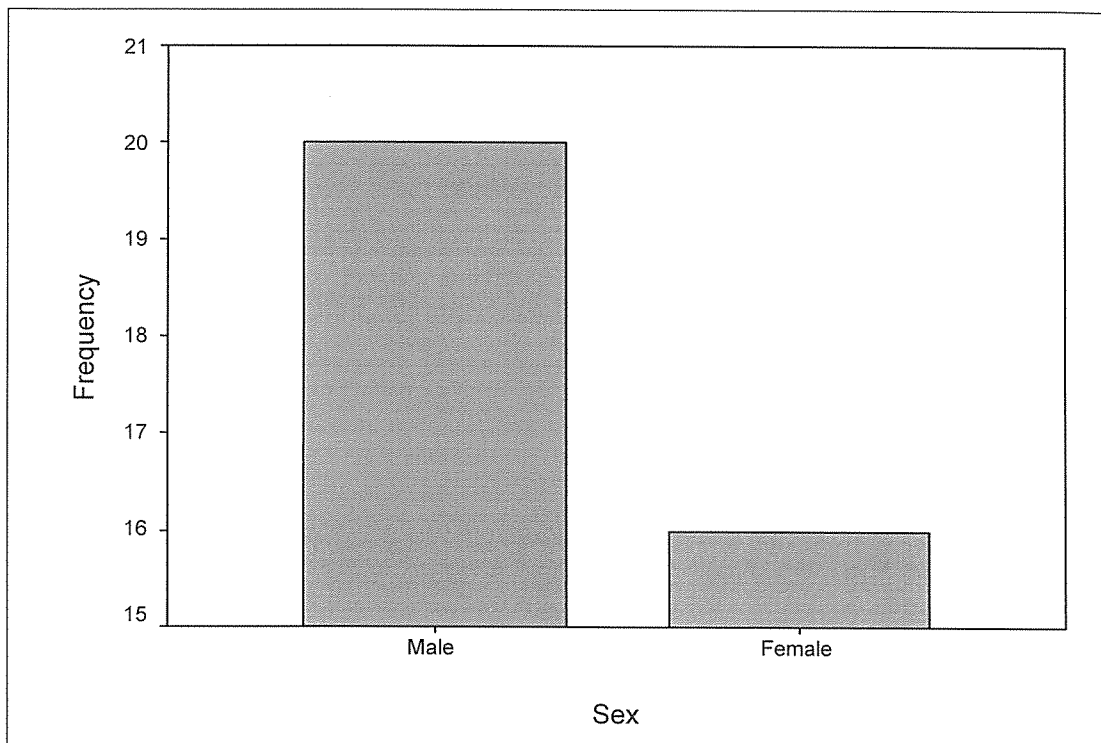


Figure 2: Gender of Respondents

Most of the respondents were Males. This is an indication that majority of the students in the school are Males. Few Females are enrolled in the High school.

Gender	Frequency	Percentage
Male	20	55.6
Female	16	44.4
Total	36	100

Table 1: Gender of respondents

4.2 Performance in mathematics at KCSE level at St Paul's Igonga Secondary School for the last three years

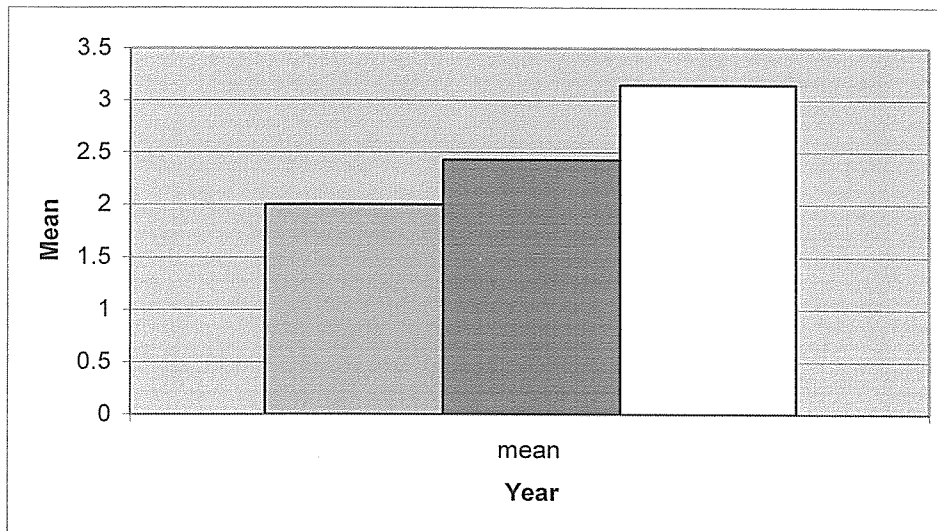


Figure 3 Mean of students performance for the last 3 years

	Grades											
Year	Mean	A	B+	B	B-	C+	C	C-	D+	D	D-	E
2004	2.004	1	2	1	1	1	1	1	2	7	18	24
2005	2.433			1		2		5	3	6	11	25
2006	3.150	1						4	1	4	5	5

Table 2: Igonga Secondary KCSE Performance for the Years 2004, 2005 and 2006.

The performance in mathematics at KCSE is improving from 2004 to 2006 as indicated by the mean ascent.

4.3 Socio economic factors affecting students' performance in Mathematics at KCSE level.

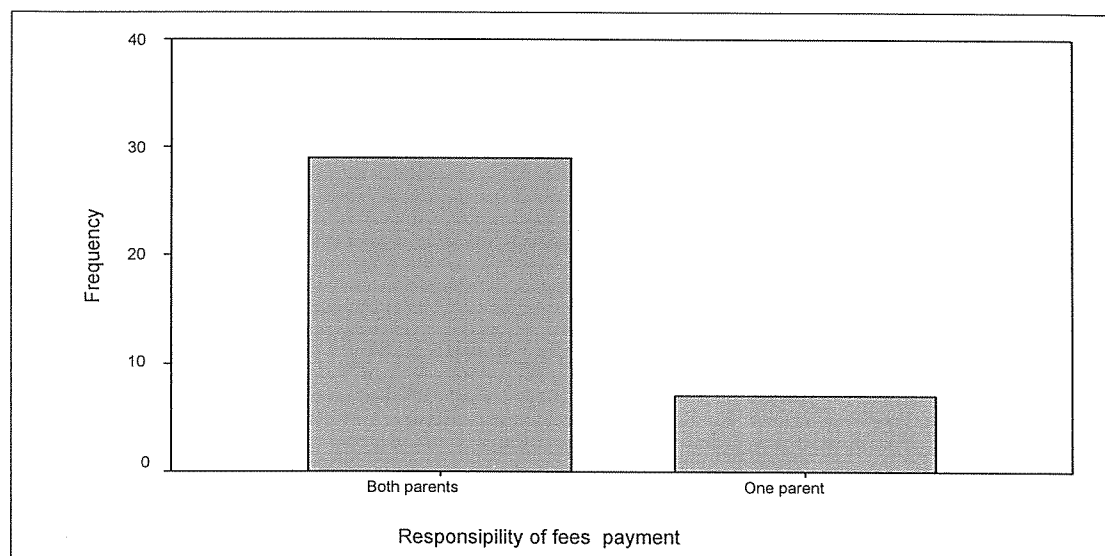


Figure 4: Responsibility of students' fees payment

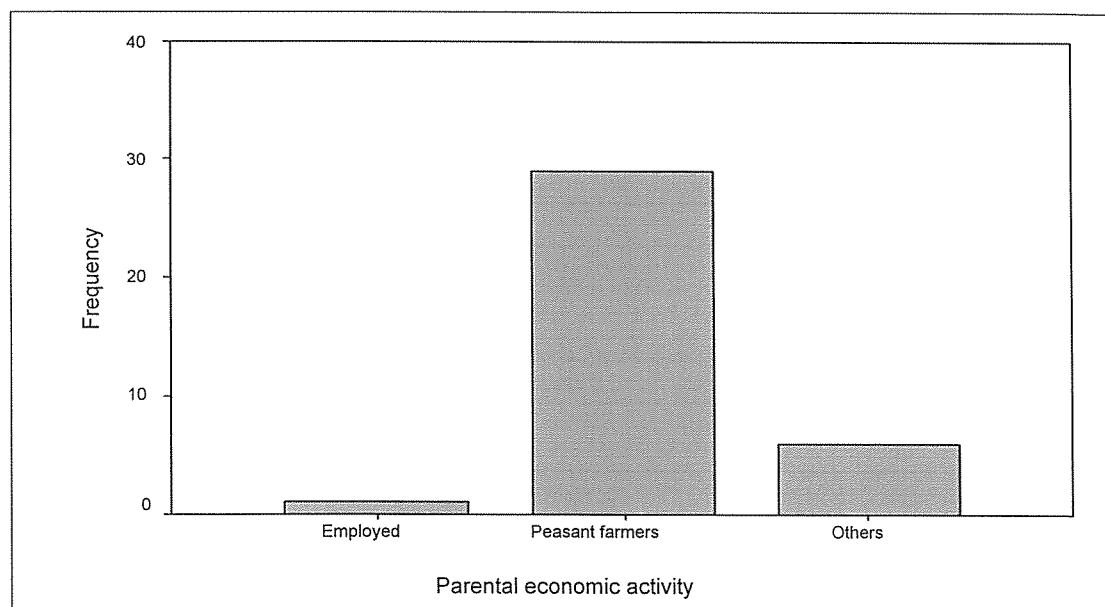


Figure 5: Parental Economic Activities

Relationship or difference between socio economic factors and students' performance in mathematics at KCSE level.

Table 2: Relationship of various socio-economic factors to Mathematics performance at KCPE level

<u>Factors</u>	<u>Values</u>	<u>Frequency</u>	<u>Percentage</u>	<u>P-value</u>
KCPE	A	2	5.6	-
	B	21	58.3	-
	C	9	25.0	-
	D	4	11.1	-
Parents economic activities	Employed	1	2.8	0.00*
	Farmer	29	80.6	
	Business	6	16.7	
Who pays fees	Parents	28	80.6	0.00*
	Bursary	7	19.4	
How frequent sent for fees	Often	12	33.3	0.00*
	Not Often	17	47.2	
	Not at all	6	16.7	
	Others	1	2.8	
Whether have both parents	Yes	29	80.6	0.00*
	No	7	19.4	
Availability of instructions materials	Strongly Agree	9	29.0	0.00*
	Agree	13	36.1	
	Disagree	12	33.3	
	Strongly Disagree	2	5.6	

(* = Significant relationship at $p < 0.05$)

The parents economic status, who pay school fees, how frequent they are sent home for fees, whether they have both parents and availability of instruction materials, significantly affect performance of the students ($p < 0.05$). This was done using KCPE performances as the basis for performance in their KCSE Mathematics and Science subjects.

CHAPTER FIVE

Summary of Findings, conclusion Recommendation and Areas for

Further Research

Findings

Most of the student's respondents were males indicating gender bias in enrolments whereas many students were between the ages of 15 to 17 years, which according to Piaget's theory of cognitive development is appropriate for the study.

High population of students have both parents and this is essential because they can provide materially and morally for their education and such parents pay fees for their children, but unfortunately students are frequently sent home for fees maybe as a result of low per capita income of parents, as they are peasant farmers.

Entry behavior in mathematics from primary school was high (B) meaning they should score good grades in mathematics in secondary school and this students agree that the school has enough materials for studying mathematics. This also indicates a good foundation in math at primary school level and many students prefer seven subjects though the score is low.

Most of the parents of the respondents were not science oriented and this can have a negative impact in performance as they can lack encouragement from their role models and though the students' scores low in mathematics, majority like to be doctors meaning their career ambitions may not be achieved. However majority of their community members strongly agree that mathematics is

essential. Generally students agree that parents provide essential instructional materials and they have

Therefore the study indicates that parental economic activities, fees payment responsibility having both parents give frequency of being sent home for fees and availability of instructional materials are highly significant ($P < 0.05$) to students' academic performance in mathematics at K.C.P.E level and thus could imply the same at K.C.S.E.

Conclusion

According to the findings of this study the researcher can conclude that despite the fact that social-economic factors do affect students' academic performance, there are other factors that were found to be affecting academic performance of the student in mathematics at K.C.S.E.

Recommendations

The government of Kenya should allocate more bursaries to enable students learn because majority are often sent home for fees and are from single parent family hence strain financially leading to frequent absenteeism of students due to lack of school fees.

Few students pass very well in Mathematics from primary level; therefore teachers should put more effort in the subject. Counselors should advice students on career aspirations because there is a contradiction between the students' subject combination and career aspirations. The mean of Mathematics at KCSE level is still low hence teachers should use the available materials to teach Mathematics effectively.

The parents as the first teachers of their children at home should always make sure they encourage the study of such subject since they are the basis of economics development of a country. Motivation from the parents is very essential to the children since they act as model from which their children look towards.

The teachers as their profession suggests should learn how to deal with individual differences of their students. As already indicated that some children have different problems ranging from attitude to economic and social problems which affect the academic performance of students.

Areas for Further Research

The following areas would be of great importance to future researchers;

Effect of the following on pupils' performance in mathematics

1. Cognitive factors
2. Environmental factors
3. Behavioral factors

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APPENDIX A

TRANSMITTAL LETTER FOR THE HEAD TEACHER

Mr. Samuel Ongoncho,
Head Teacher, St. Paul Igonga Secondary school,
P. O. Box 972, Kisii-40200, Kenya.
July 10, 2007.

Dear Sir,

I am a graduating student of Kampala International University wanting to carry out research on the impact of socio economic factors on students' performance in mathematics at KCSE level. Therefore I am requesting for permission to conduct the study in your school.

Respectfully yours,

Your help will highly be appreciated.

Yours faithfully

OGORO BEJAMIN

APPENDIX B

STUDENTS QUESTIONNAIRE

The purpose of this questionnaire is to collect data that will be used in a study to find out the Social Economic factors and mathematics performance in St. Paul's Igonga Secondary School in Kisii Central District Nyanza province of Kenya. I will be very grateful to your assistance in collecting data by filling in this questionnaire. The information you give will be used for the purpose of this study only and will be treated with utmost confidentiality.

Profile of the Respondents

Gender: Male ☐ Female ☐

Age 14.....16 ☐ 17.....19 ☐ 20 and above ☐

Academic level :

Form 1 ☐

Form2 ☐

Form 3 ☐

Form 4 ☐

Marital status: Single ☐

Married ☐

Degree of Mathematics Performance Format Direction , use the rating scales below to answer question 10-15 indicate the number you have chosen on the space provided.

4.....Strongly agree (agree with no doubt at all)

3.....Agree (agree with some doubt)

2.....Disagree (disagree with some doubt)

1.....Stogly disagree (disagree with no
doubt)

Socio Economic Background Information:

I have both parents ☐

I'm an orphan ☐

Have divorced parents ☐

Of single parent ☐

School fees are paid by:

Parent ☐

Bursary ☐

Others ☐

How often are you sent home for school fees?

Often ☐

Not often ☐

Not at all ☐

Economic activities of parent (s)

Employed ☐ Farmers ☐

Businessmen/Businesswomen ☐ Others ☐

Is the profession of your parent science oriented (e.g. Nurse)

Father Yes ☐ No ☐

If yes please indicate his profession-----

Mother Yes ☐ No ☐

If yes please indicate her profession-----

Academic information

1. Grade scored in mathematics at primary Kenya Certificate of Primary Education

(KCPE) A ☐ B ☐ C ☐ D ☐ E ☐

2. The subject you like most:

Science oriented ☐ Humanity oriented ☐

3. Do you have mathematics study group? Yes ☐ No ☐

4. If yes what benefit have got from the study group?

.....

5. What is the group's attitude towards mathematics?

Positive ☐ Negative ☐

6. What is the attitude of your parents/guardian towards mathematics?

Positive ☐ Negative ☐

7. What is the attitude of the community towards mathematics?

8. Positive ☐ Negative ☐

8. What do you aspire to be-----

9. What are your aspired career three (3) subject combination.----

.....10. The teacher uses the right method in teaching mathematics.

.....11. You had an excellent mathematics foundation at primary level.

.....12. Mathematics is essential for future career.

.....13. Instructional materials are readily available.

..... 14. There are many community grad aunts that have done
mathematics and science.

..... 15. Parents readily provide the supplementary learning
materials required in mathematics.

TEACHERS' QUESTIONNAIRE

The purpose of this questionnaire is to collect data that will be used in a study to find out the Social Economic factors and mathematics performance of students in St. Paul's Igonga Secondary School in Kisii Central District Nyanza province of Kenya. I will be very grateful to your assistance in

collecting data by filling in this questionnaire. The information you give will be used for the purpose of this study only and will be treated with utmost confidentiality.

Profile of the Respondents

Age Bracket 20 – 25 ☐ 25 – 30 ☐ 30 – 35 ☐ 35 – 40 ☐

40 – 45 ☐ 45 – 50 ☐ 50 – ☐

Gender:

Male ☐ Female ☐

Marital status:

Married ☐ Single ☐ Divorced ☐

Widowed ☐

Degree of Mathematics Performance Format Direction, use the rating scales below to answer question 5-13 indicate the number you have chosen on the space provided.

4.....Strongly agree (agree with no doubt at all)

3.....Agree (agree with some doubt)

2.....Disagree (disagree with some doubt)

1.....Strongly disagree (disagree with no doubt)

Socio Economic Information

Level of Education:

University degree ☐ College diploma ☐

College certificate ☐ Secondary level ☐

Employment status:

Teachers' service commission employee (TSC) ☐

Board of governor (BOG) employee ☐

Income per month Ksh

- 1,000 – 10,000 ☐
- 10,000 – 20,000 ☐
- 20, 00 – 30,000 ☐
- 30,000 – 40,000 ☐
- 40,000 – 50,000 ☐
- Over Ksh 50,000 ☐

Number of years in the service

- 1 – 5 ☐
- 6-10 ☐
- 11 – 15 ☐
- 16-20 ☐
- 21-25 ☐
- Over 25 ☐



Academic information

1. Do you enjoy teaching mathematics
Yes ☐ No ☐
2. If yes why.....
3. If no why not.....
4. What motivates you to teach mathematics-----?
-5. The syllabus coverage is adequate.
-6. Students are often involved in hands on activities.
-7. Instructional materials are readily available.
-8. Students admitted to St. Paul Igonga School have the best grades in mathematics.
-9. Mathematics teachers are well paid by TSC and BOG.
-10. I'm capable of handling mathematics.
-11. The time allocated for mathematics lesson is adequate.

.....12. I'm committed to teaching mathematics.

.....13. Mathematics syllabus is relevant.

APPENDIX C

PLAN FOR DATA PRESENTATION

Table 1: Profile of the Respondents

Category	Frequency	Percentage
Age		
Early Adolescent		
Middle Adolescent		
Late Adolescent		
Total		
Gender		
Male		
Female		
Total		
Academic level		
F1		
F2		
F3		
F4		
Total		

Table 2: Degree of freedom of the Respondents

Category	Mean	Rank
	Interpretation	

Total			

Table 3:Level of Academic Performance

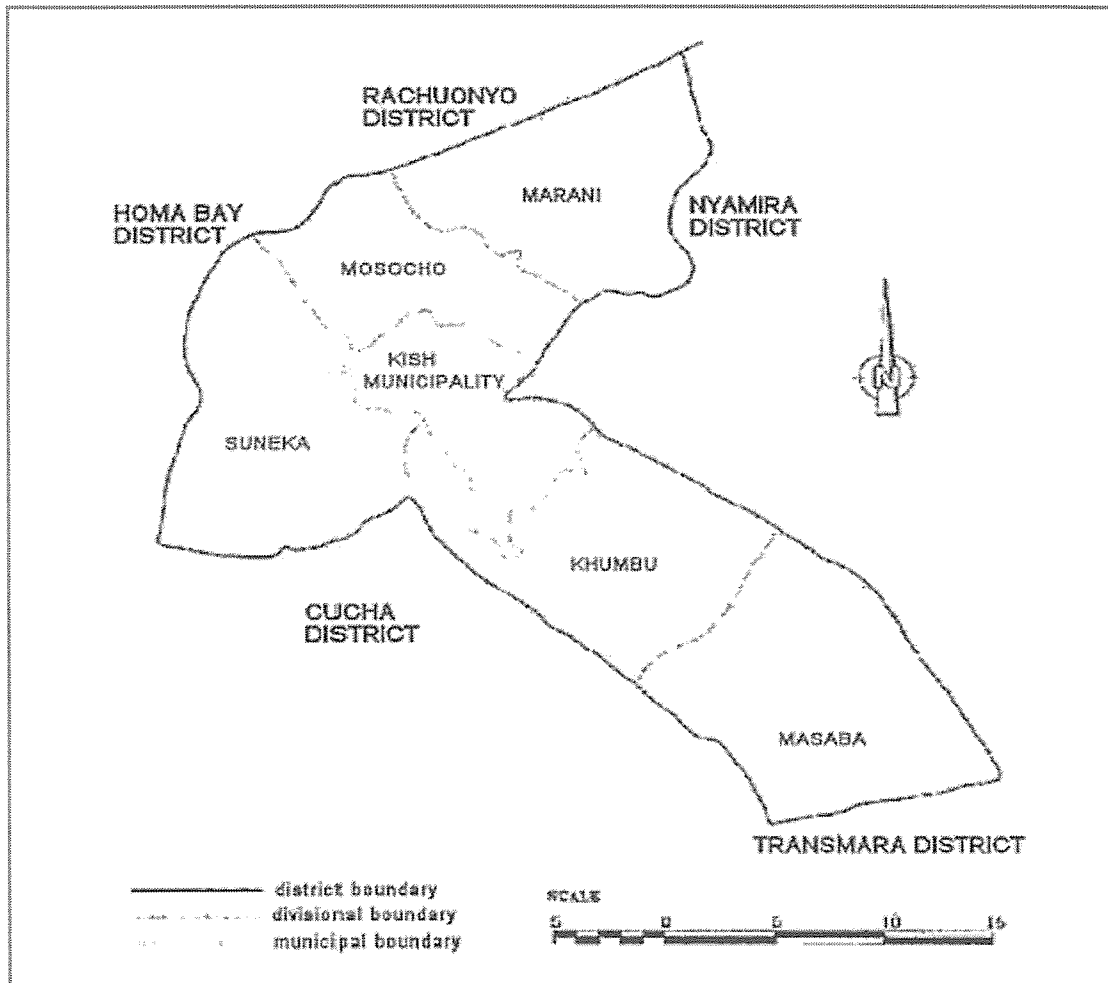
Category	Frequency	Percentage
Total		

Table 4: Significant Relationship between socio economic factors and academic performance in mathematics at KCSE level.

Area	Computed r-value	Critical r-value	Decision on Ho	Interpretation

APPENDIX D

MAP OF RESEARCH ENVIRONMENT



APPEDIX E
CURRICULUM VITAE

PERSONAL BACKGROUND

Name: Ogoro Benjamin Nyareki
Reg. No: BED/7140/51/DF
Age: 43 Years
Gender: Male
Civil Status: Teacher
Address: P. O. Box 1183, Kisii, 40200, Kenya
Date of Birth: 17/12/1963

EDUCATIONAL BACKGROUND

1994 – 1995: Diploma in Technical Education in Building and Civil Engineering:
Kenya Technical Teachers College

Jan 1992 – Dec 1992: Advanced plumbing craft part III: Kimathi Institute of
Technology

1989 – 1991: Craft part II and I: Rift Valley Institute of Science & Technology

1983 – 1986: Division II in the Kenya Certificate of Secondary Education:
Nyanchwa Mixed High School.

From 1975 – 1982: Certificate of Primary Education CPE: Igonga Primary School

RESEARCH EXPERIENCE

Course: Bachelor of Education

"RESEARCH TITLE"

Socio- economic factors and mathematics performance of students at Kenya
Certificate of Secondary Education of St. Paul's Igonga Secondary School in Kisii
Central District, Kenya.

