SOCIO-ECONOMIC FACTORS AFFECTING ENROLMENT OF MALE STUDENTS IN PUBLIC SECONDARY SCHOOLS IN KIRINYAGA COUNTY, KENYA

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A Thesis Submitted to the Department of Educational Administration and Planning in Fulfilment of the Requirements for the Award of the Degree of Doctor of Philosophy in Economics of Education, University of Nairobi

2017

Declaration

This Thesis is my original work and has not been presented for the award of a degree in any other university.

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Dedication

This thesis is dedicated to my loving wife Lucia Wairimu, my daughters, Grace Njeri, Leah Wanjiku and my son Gilbert Wamichwe, for their support and encouragement during the entire period of study. Further dedication is to my late parents, James Wamichwe and Grace Njeri, for their total sacrifice in enhancing my education and also for their guidance and advice on values and importance of education.

Acknowledgements

The undertaking and completion of this course would not have been possible without the assistance and support of certain individuals to whom I remain grateful to the core. I feel indebted to my supervisors and mentor, namely Dr. Grace Nyaga, Dr. Loise Gichuhi, Dr. Mari Nelson and Dr. Moses Murithi. May you live to the expectation of this noble duty.

I equally pass my sincere gratitude to my late parents, James Wamichwe and Grace Njeri. Your sacrifice and guidance on matters relating to education cannot he under-rated. Your sacrifice and moral support remain a living testimony that guidance and motivation is an important factor to a successful learning.

Special thanks to my family, in particular my wife Lucia Wairimu, daughters Grace Njeri, Leah Wanjiku and son Gilbert Wamichwe, who encouraged and gave family support during my long duration in my studies. May your encouragement, be reciprocated during your hours of need.

Lastly, my appreciation to my friends and institutions of learning, in particular the staff of the University of Nairobi, who supported me all through my studies. May the Lord bless you in your endeavours.

Abstract

The male student enrolment in Kirinyaga County has been increasing at a decreasing rate. It has been observed that more females than males are participating in education in secondary schools. This situation is unique and peculiar and a reversal of the gains made at primary levels where more male students than female students were enrolled. According to research students Enrolment is attributed to three basic socio-economic factors that is home based factors, school based factors and environmental based factors. Thus, this thesis is an attempt to determine the socio-economic factors that influence the Enrolment of male students at the secondary level of education in Kirinyaga County, Kenya. The study had three objectives which were formulated to find out the effect and relationship between home based factors (parent education, household income, age) school based factors (cost of education, education resources, managerial skills of head teacher) and environmental based factors (youth and adult based economic activities, alcohol and substance abuse). The study employed cross sectional survey as a research design based on primary data collected among the participating standard eight students who completed school in the year 2014. The target population consisted of 6317 standard eight male students, the 2014 cohort from 195 public secondary schools. The research was based on literature review of studies and reports from different scholars, which affirmed that certain issues affecting male student enrolment were closely correlated with home based factors, school based factors and environmental based factors. The tracer method of data collection was used to collect data in which students were traced from their homesteads, secondary schools and place of work. Data collection was based on sample size of 395 of which 395 questionnaires were administered and 352 responded. The analysis applied included inferential statistics and descriptive analysis in analyzing and interpretation of the data. The results from the findings indicated that household income, parental education, parental occupation, availability of adult and youth based activities, lack of education resources and distance from school influenced the low Enrolment of male students in secondary schools in Kirinyaga County, Central Region of Kenya. The recommendation from the study were that (a) households be encouraged to do savings and investment so as to increase the house hold income and therefore provide for education requirements for both primary and secondary schools. This will increase the level of enrolment which will lead to accumulated human capital hence spiral economic effects in all sectors of the economy. (b) More emphasis should be exerted toward boy-child education in order to enhance his enrolment in secondary school in Kenya. (c) The school managers, teachers and stakeholders should be trained and on the need to enhance gender balance in enrolment and offer guidance and counseling to the boy-child on the importance of education. (d) The urgent need to eradicate manufacturing and consumption of illicit brews, as well as the requirement of tuition free secondary education.

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AAUWEF	American Association of University of Women Education Fund
AAUW	American Association of Women Universities
EFA	Education for All
EMIS	Education Management Information System
GER	Gross Enrolment Rate
GPI	Gender Parity Index
KCSE	Kenya Certificate of Secondary Examination
KNEC	Kenya National Examination Council
KNUT	Kenya National Union of Teachers
MOE	Ministry of Education
NER	Net Enrolment Rate
PDE	Provincial Director of Education
PCR	Primary Completion Rate
UNDP	United Nations Development Program
UN	United Nations
UPE	Universal Primary Education
KCPE	Kenya Certificate of Primary Education
SPSS	Statistical Package for Social Sciences
NACOSTI	National Commission for Science, Technology and Innovation

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The public debate surrounding equity in educational enrolment and especially the increasing interest and focus on the under-achievement of male students in education continues to escalate in intensity and scope. Enrolment data indicate a course of legitimate concern about enrolments levels for male students (National Centre for Education Statistics, 2010). Although the public outcry about the issue is relatively recent, recognition of the issue is not (The Education Alliance 2007; World Bank, 2010).

A study conducted by the American National Centre for Education Statistic (2006) noted that there is less emphasis on male students' enrolment leading to education inequality. This inequality may have resulted in lack of concern about the difficulties male students face in school. The report cited the National Assessment of Education (1992) progress results in which female students out performed male students. The report concluded that female students were more likely to be retained in school than male students, because male students are more likely to drop out of school and get involved in drugs, alcohol and crime resulting in low enrolment (Digest of Education, 2014; National Centre for Education Statistics, 2016).

The issue of inequality in educational enrolment in school is not limited to countries. In North America, a study conducted by the Canadian government in 2004, indicated that more female students were enrolled than male students and that their enrolment difference was not influenced by socio-economic background, but other factors such as biological and psychological controlled variables. The study also suggested that males may fall "off- track" as they develop as leaders resulting in the development of less than positive attitudes towards enrolment. (Human Resource and Social Development Canada,2004).

In the European countries, the female enrolment rate exceeds the male Enrolment rate by 10% (Ivosevic, 2010). However, most of the continents have only a slight advantage in terms of enrolment. In most cases the ratio is close to having one male student per one female student. Exceptions are Tajikistan and Lichtenstein which have less than one third of women in their total enrolment rates. In central Asia, some countries such as Mongolia and Kyrgyzstan have a slightly higher female enrolment and graduation rate. Overall, the majority of European countries have 55% and 45% of female and male enrolment respectively which means that, out of the total number of students enrolled in high school 55% were females while 45% were males hence more males than females are enrolled (Ivosevic, 2010).

According to UNESCO (2008) reasons for lack of enrolment in schools are multiple and complex and may depend on countries levels of development. The factors may include, age of student, cost of education, alcohol, drug and substance abuse, youth and adult based economic activities, overcrowded and poorly equipped schools, inadequate human resources, as well as home based factors such as parental income and education. The UNESCO report (2008) found out that schools have the potential to act as powerful support mechanisms for students enabling them to handle external factors without dropping out of school.

Nkinyanji (1980) found out that school environment may be a major determinant of male student enrolment. He stated that certain features of truancy that emerge show that most truants came from poor home backgrounds have little motivation, lack role models and are overage students. According to the report the problems are highest in Sub-Saharan Africa when compared with other developing countries of Latin America, the Caribbean, South and West Asia. In Africa the international bodies and educationists began to look into ways girls and women were fairing in education in the 1960's. By the year 1970, the female initiative on education was put in place by some African governments to encourage the enrolment of the girl child. All attention was drawn to the girl child and the welfare of the boy child was not brought into picture, and consequently the boy child has continued to suffer silently without much attention and in the real sense has become vulnerable to

the factors affecting enrolment, such as cost of education, alcohol and drugs abuse, child labour and lack of learning resources (Mwango, 2014).

According to the UNESCO Report (2015) Enrolment in Sub Saharan Africa increased significantly at all levels in the period between 2010-2015. The number of children enrolled in primary school increased sharply in 2015, by 43 million. The Sub-Saharan African gross intake rate was also the highest in the world by 23% which accounted for 42% in the world's total primary school enrolment. In the year 2015, the transition rate from primary school to secondary school was 62%. More boys than girls transited to secondary school at a rate of 60% and 57% respectively. This implied that more males than females were enrolled in secondary school in Sub Saharan African, thus creating a gender disparity of 3% as observed in Benin, Ivory Coast, Ethiopia, Guinea Mali and Togo (Global Monitoring Report, 2015).

The United Nations Children Fund (UNICEF, 2004) cautioned against the neglect of boy-child education. Too much emphasis on girl-child education, though appropriate was leading to neglect of issues contributing to boy-child education. A study conducted in Ghana by the Ghana Education Service (2012) estimated Ghana's primary school enrolment for both boys and girls to be at 83.3% while gross enrolment for boys was 86.2% and 80.3% for girls. However, it was established that the determinants for boy child participation and retention in public secondary schools outnumbered that of girls in some

educational institutions in Ghana. Gender issues need to be tackled from different fronts, that is, from policy level, school level and community where the gender issues are directly experienced and lived. Much has been done at the policy level in some African countries such as Ghana, Nigeria and Tanzania, but very little at school and community level (Ogbay, 1999).

According to the Global Monitoring Report (2015) Sub Saharan Africa has low Enrolment rates and slight gender disparity. The gender parity index increased from 0.85 to 0.92 in the period between 1999 and 2012. However, despite the increase in females enrolment, Sub Saharan Africa remains one of the regions with the highest gender disparity index, with a ratio of 10% as observed in countries like Angola, Congo, Chad, and South Sudan, while in countries, like Burudi, Saotome, Zambia, Congo, Gambia, Senegul and Seychelles gender disparity is moderately low in primary school. However, despite the progress made at the primary level, gender disparity at the secondary the level has been much lower in Sub Saharan Africa decreasing from 0.82 to 0.84 in the period between 1999 to 2012, with the exception of Swaziland.

In Eastern and Southern African regions, enrolling and completing basic education had always been out of reach for many children particularly male students. However, in the period between 2007 to 2011, an increasing number of students had been enrolled in school and a higher number than ever before

is completing the primary level of education (Universal Primary Education, 2015). In the period between 2000 to 2011 the number of children in primary school rose dramatically from 42 million to 67 million in the regions, namely Ethiopia, Eritrea, Somali, South Sudan, Kenya, Uganda, Ruanda, Burundi, Tanzania, Zambia, Mozambique and Malawi among others. However, despite the increased enrolment, gender disparity is still noted, within the continent with net Enrolment rate of 89% and 86% for girls and boys respectively in the primary school education level (Millennium Development Goals of Universal Primary Education Report, 2015).

According to UNICEF (2010) there is a strong correlation between education and socio-economic status of a household. The household socio-economic status is a very powerful predictor of school and dropout behavior. In most cases school dropout is due to poverty and poor economic conditions of the household, Parents cannot bear or afford school expenses for their children. Incidents of poverty are estimated at 47% in Kenya where 79% of poor people live in the rural areas and 21% in the urban areas (Kenya National Bureau of Statistics, 2014). In terms of intersection with poverty in households most families depend on the boy child as an income contributor especially in situations of poverty stricken families where the cost in real terms is too high and schooling is seen as a poor investment which provides no sure access to better employment (Bhagwati & Kamat, 1997). Further, Najema (1993) argues that poverty and financial crisis force families to cover shortfalls, which have

a devastating impact on the household and the education systems as far as boy's education is concerned. Gender difference have their oppressive tendencies right from birth, boys and girls are treated differently (Mwango, 2014). Girls education is considered most important for development since it is considered that "to educate the girl you educate the entire family" (King, 1991), though it is equally important to educate both female and male students. FAWE (1997) enumerates a number of reasons in favor of educating a girl-child, since educating a girl is deemed as having the highest returns on socio- economics in developing countries, besides having a multiplier effect and this empowers women to bring about other necessary changes like family size, increased income and market productivity.

However, females cannot achieve the aforementioned benefits single handedly; they need the support of males, hence the importance for male education. Thus educating both male and female brings more benefits to the society (Muller, 1990). In Kenya, there has been remarkable improvement in the retention rate with the primary completion rate increasing from 88% in 2010 and 90% in 2013, and steadily increasing to 104 in 2014. In the year 2014 there were fewer Standard eight graduates as compared to 2015. Central region recorded the highest primary completion rate (PCR) overall, with males taking the highest share. These gains are later lost, perhaps due to the lack of attention to boy child education and other factors that affect the male child enrolment, such as age due repetition of classes and over staying in school.

The lack of emphasis on the boy-child's education in Kirinyaga County, Central region has led to the transition rate of the girl-child increasing as compared to the number of male students attending schools in the region. Further, most mixed secondary schools in the region have been converted into girls' boarding schools that leave the boy-child with fewer options and fewer educational resources leading to low enrolment. (Education News, 2012) The situation is worsened when scores of parents who should be role models to their children have been reported to be consuming too much illicit brew that may consequently lead to the decrease in birth rates and consequently low population growth rate (Education News, 2012) as shown by Table 1.1 on population of Kenya by region and gender.

Table 1.1: Population of Kenya by Region and Gender (2009)

Region	**Total**	**Male**	**%**	**Female**	**%**
Nairobi	3138369	1,605,230	51	1,533,139	49
Central	4383743	2,152,983	49	2,230,760	51
Coast	3325307	1,656,679	50	1,668,628	50
Eastern	5673123	2,783,347	49	2,889,776	51
North Eastern	2310757	1,258,648	64	1,052,109	46
Nyanza	5442711	2,617,734	48	2,824,977	52
Rift Valley	10006805	5,026,462	50	7,980,343	50
Western	4334282	2,091,375	48	224,907	52
Total	38615097	19,192,458		20,404,639	

Source: (2009 Census) Kenya

From Table 1.1 the population of females is higher than that of the males. This applies to almost all regions with the exception of Nairobi, and North Eastern Region. This population trend is thus expected to be reflected at all enrolment levels in both primary school and secondary schools meaning that the population of females in primary schools should be more than males as reflected in the population of Kenya. However, while the population of females is higher in most of the regions, the national primary school enrolment indicates more males than females were enrolled. Similarly the central region of Kenya also indicated a reversal of what would have been normally expected where more males than females are enrolled in primary education. This distinctive enrolment goes against the population statistics at the national level as well as in central region and is actually a reversal of what is expected as shown by subsequent Tables (1.2 - 1.10) on education Enrolment and participation at the national level and in the central region of Kenya respectively.

Table 1.2: The National Primary School Enrolment Rate by Gender and Percentage from 2009 – 2011

2009		2010		2011		2012		2013		2014	
male	female	male	female	male	female	male	female	Male	female	male	female
51	49	51	49	51	48	51	49	51	49	50	49

Source: Ministry of Education, Science and Technology 2014

Table 1.2 shows the enrolment status at primary school level in the period between 2009 to 2014. From the Table it is clear that the Enrolment for males stabilized at 51% while that of females at 49%. This implies that out of the total number of students enrolled in primary schools in the year 2014, 51% were males and 49% were females. This indicates that more males than females were enrolled at the primary level of education by an average variation of 2%. This is expected to trickle down to the regional primary schools enrolment as shown by Table 1.3.

Table 1.3: Primary School Crude Enrolment, GER and NER by Region and Gender for 2014.

Region	Total number of enrolment	Percentage of males and females enrolment		GER		NER	
		male	female	male	female	male	female
Nairobi	468754	49	51	84	84	77	78
Rift Valley	2768588	54	46	107	101	88	75
Western	1476435	50	50	119	118	96	95
Nyanza	1625652	50	50	111	113	99	98
Central	9533597	51	49	114	114	97	99
Coast	775462	50	50	104	99	80	78
North Eastern	1473387	50.4	50	116	117	95	97
Northen Kenya	377274	59	50	76	53	61	45
Total	18499149	52	48	104	100	86	83

Source: Ministry of Education, Science & Technology 2014

Table 1.3 shows the regional enrolment status, the total number of students enrolled, the Gross Enrolment Rate (GER) and the Net Enrolment Rate (NER) by gender and regions in the year 2014. From the Table, it is clear that all the regions of Kenya registered a higher percentage of male enrolment with the exception of Nairobi, which registered 49% and 51% males and females respectively. Rift Valley and North Eastern region were however skewed toward a higher male enrolment at 54% and 59% respectively. Central region and North Eastern region registered at 51% and 49% for males and females respectively, thus stablising at the same level with the NER. The GER and NER for all regions were quite high, some regions scored above 100%. This regional enrolment status is expected to be reflected in secondary school enrolment in all regions of Kenya as shown in Table 1.7 on secondary school enrolment and also the National Primary Completion Rate as shown by Table 1.4.

Table 1.4: The National Primary School Completion Rate by Gender from 2009 – 2014 in Percentage

2009		2010		2011		2012		2013		2014	
male	female	male	female	male	female	male	female	Male	female	male	female
53	47	52	48	51	49	51	49	51	49	51	49

Source: Ministry of Education Science and Technology 2014

Table 1.4 indicates the primary completion rate in the period between 2009 to 2014. Table 1.4 shows that the male completion rates averaged at 51% while the female's completion averaged 49%. This completion rate resembles the enrolment status at primary school level in the same period. This implies that out of the total number of students who sat for Kenya Certificate of Primary Education (KCPE) 2014, 51% were males and 49% were females. Holding other factors constant, this completion rate is expected to be reflected in secondary school enrolment in all regions of Kenya, as analyzed by Table 1.5, 1.6, 1.7 and1.8 respectively.

Table 1.5: Population of Secondary School Going Age (14-17) Years by Gender and Region 2010 Kenya

Region	**Male**	**Female**
Nairobi	84104	103587
Central	177642	173317
Coast	139542	138412
Eastern	271508	261889
North Eastern	165182	109358
Nyanza	269612	262588
Rift Valley	475872	450605
Western	210368	209105
Total	1793830	1708861

Source: EMIS, MOE 2009

Table 1.5 shows the population of secondary school going age by gender and region. From the Table, it is evident that more males than females were expected to join secondary school with the exception of Nairobi and Nyanza. This scenario is adequately proven by the national secondary school enrolment where more males than females participated as shown by table 1.6. However, subsequent tables on secondary school enrolment status in central region indicates otherwise.

Table 1.6: Secondary School Enrolment by Gender from 2009 –2014 in Percentages

2009		2010		2011		2012		2013		2014	
Boy	Girl	Boy	Girl	Boy	Girl	Boy	Girl	Boy	Girl	Boy	Girl
54	47	53	46	54	46	53	47	53	46	52	48

Source: Ministry of Education, Science and Technology 2014

Table 1.6 indicates the enrolment status at secondary school level. From the table, it is discernable that the secondary school enrolment resembles that of primary level enrolment. However, it is worth mentioning that there was an increase in the percentage of male enrolment as compared to the primary school enrolment. The enrolment averaged at 54% and 46% for males and females respectively. That means that out of all the students enrolled at secondary school cycle of education during this period 54% were males while 46% were females. This situation is normally expected to be reflected in the regional secondary school enrolment as indicated by Table 1.7.

Table 1.7: Secondary Schools Enrolment GER and NER by Gender and Regions for 2014

Region	Total Population	percentage of males and females enrolled		GER		NER	
		male	female	male	female	male	female
Nairobi	69934	54	44	31	26	28	23
Rift Valley	515553	60	40	51	47	41	39
Nyanza	427685	55	45	78	69	66	60
Central	370434	48	52	102	113	79	86
Coast	132781	54	46	49	41	37	31
North Eastern	426805	50	50	90	91	72	76
Northern Kenya	47873	67	33	24	12	18	9
Western	314889	52	48	72	66	59	54

Source: Ministry of Education, Science & Technology 2014

Table: 1.7 indicates secondary school GER and NER. However GIR and NIR could not be indicated due to lack of supporting data, despite the aforementioned challenge, data for GER and NERs indicate that the enrolment status in secondary schools in the year 2014. From the table, it is evident that there were remarkable improvements in the general enrolment status in

secondary schools as shown by Table 1.8 on variation of transition from primary to secondary school education.

Table 1.8: The Variation from Primary School to Secondary School by Gender and Region (extract from Table 1.3 and 1.7)

Region	primary Enrolment 2014	secondary Enrolment 2014	deviation from primary to secondary Enrolment (wastage)	primary male Enrolment from Table 1.3 %	secondary male Enrolment from Table 1.7 %	Variation rate (%)	
						male	female
Rift Valley	2768588	515553	2253085	54	60	6	+6
Nairobi	468754	69934	398820	49	54	5	+5
Nyanza	1625652	427685	1197967	50	55	5	+5
Coast	778462	132781	645681	50	54	3	+3
Western	1476435	318889	1157546	50	52	1	+1
Central	953598	370434	583164	51	48	-3	-3
Eastern	1473387	426805	1046582	50	50	0	0
Northern Kenya	377,374	47873	329501	59	67	15	+15

Source: Ministry of Education Science and Technology 2014

From the Table 1.8 it is a fact that almost all the regions of Kenya had a remarkable improvement in male students enrolment from transition to secondary school although with an overall higher wastage; however, it is paradoxical to note that the enrolment in the central region of Kenya was a reversal of what took place in primary school male enrolment and also against the observed enrolment trends of other regions in secondary school enrolment. The central region enrolment for males reversed by 3% while that of the females increased by the same percentages as further explained by Table 1.9. Holding other factors constant, the status quo enrolment at the primary level should have transited equally to all regions of Kenya. However, the central region male student in secondary school enrolment went against the gains made at the primary school level as shown by Table 1.9.

Table 1.9: Male Student Transition by Figure and Percentage from Standard Eight to Form One in Central Region of Kenya from 2014 to 2015

County	**Std 8 (2014)**	**Form one (2015)**	**variation in figures (difference)**	**% transition rate**
Nyandarua	9776	6066	3710	62
Kirinyaga	6317	3758	2559	60
Kiambu	16292	11776	4516	72
Nyeri	9804	7544	2554	77
Muranga	11638	8481	3157	73
Total	53827	37625	13496	**69**

Source: Ministry of Education, Science and Technology (Central Region), 2014

Table 1.9 shows the enrolment of standard eight students for the counties in the central region of Kenya. From the table more males than females were enrolled at the primary level of education in the year 2014. However, a close analysis of the secondary school enrolment in the year 2015 shows a reversal of the gains made in 2014 on enrolment in primary school in central region.

Among the counties in central region, Kirinyaga County seems to be the most affected on the issue of male enrolment. In the year 2014, the county had 6317 male students in standard eight. The population of males was more than the females. However, in the year 2015 only 3758 males (62%) transited to secondary school as shown by Table 1.9. Besides, the county had the highest variance of 38% (Table 1.9.) compared to other counties of central region of Kenya, which recorded a moderate level of transition. This enrolment situation has attracted the attention of the educationists and the leadership in the region as attested to by the following statements:

> "The society in central region has been focusing more on protecting the girl child than the boy child. There are few boarding schools for male students compared to female students in the region. The result is that the boy child becomes an easy prey to alcoholism, domestic conflict and bad company. The (social grouping) remains the greatest threat to male students' education in the region" (KNUT, 2014).

"The boy child in central region has been neglected at the expense of uplifting the welfare of the girl child. It has been observed that a lot of focus and attention was being accorded to the girl child thus leaving boys to cope with life factors by themselves which often end up contributing to their failure in life. The boy-child faces numerous factors in the society among them the temptation to engage in criminal activities such as drug abuse at the expense of his education" (Mureithi, 2010).

"Measures should be put in place to protect the boy child in Mount Kenya region. The girl-child is doing better in all levels of education enrolment" (Mwai, 2010).

"There is a need to protect the male student in Central region. The male students' enrolment is alarming and worrying, whereas more female students in other regions drop out leaving the male to continue with his education, the situation is a reverse in Central region. The reversal in male students' attendance in school coupled by the current insistence on gender parity that is in favour of female students could further marginalize the male students" (Ongeri, 2011).

1.1.1 Socio- Cultural Aspect of Kirinyaga Resident

The term socio- culture refers to issues that define a society's way of life. They are large scale forces within cultures and societies that affect the thoughts, feeling and behavior of a society, such factors include attitude, child

rearing, religion, language, politics, social organization, technology and values of a certain community.

Kirinyaga County is located in Mount Kenya region and majority of the residents belong to Kikuyu community; thus the socio- cultural set of the majority is the kikuyu way of living. The kikuyu men must undergo extent of initiation (age 13-16 years) in order to be regarded as a proper men or male adults. This earns the men respect in the society and its always pleasure, respect and prestige for a household to present one of their sons for this important exercise. This implies that a household has a mature male and "protector". This culture though good for health purpose and socio-cultural aspect, could also be a hindrance to enrolment. Once boys are initiated to adulthood, they regard themselves as mature enough to marry and raise families. Thus, the initiated may abandon school, engage in any form of economic activity in order to gain income, which will enable him to marry and raise family, thus leading to low enrolment.

Thus arising from the aforementioned, the low enrolment, coupled with the culture, together with the outcry from the regional leadership requires investigation in order to determine the causal factors underlying this kind of occurrence.

1.2 Statement of the Problem

From the background to the study it is clear that the rate of male students' enrolment is decreasing while that of female student's is increasing Kirinyaga County. The situation in Kirinyaga County is peculiar. The number of male students participating in secondary school is low as compared to the same number that graduated from primary school. This contrasts the natural expectation as explained by the following facts. The population of females (school going age) is lower in Kirinyaga county, yet more females are enrolled against the normal distribution of the population of the official school going age, (Ministry of Education, 2009). Further, the enrolment of females at primary school is low in most regions of Kenya, but their enrolment has not shifted in transition to secondary school as indicated by their enrolment trend.

The enrolment indicators at the primary level show that more males than females are enrolled against the population trend in Kirinyaga County. One would expect the same trend to continue from primary to secondary level. The fact that there is a continuous trend of female students outshining male students at secondary level enrolment attracts concern. In addition it is only in Central region where, with the exception of North Eastern, there is a consistent trend of female students outshining male students in secondary school enrolment. Lastly, the regional leadership outcry (KNUT, 2014; Mwai, 2010; Ongeri, 2011) on male enrolment trend is weighty and shows that there is a problem in male enrolment and therefore a gap to fill.

According to regional educationists, the male students' enrolment in Kirinyaga County is unique. This situation attracts attention and concern as to why it is happening. Thus this study is set to determine the factors affecting the enrolment of males in secondary schools in Kirinyaga County with a key concern that home based factors could be a key driver to low enrolment as supported by various pronouncements by community leaders that young boys are continuously engaging in "bandits militia" in the region and engaging a lot at taking illicit brew.

1.3 Purpose of the Study

The purpose of the study was to determine socio-economic factors affecting the enrolment rate among male students in public secondary schools in Kirinyaga County.

1.4 Objectives of the Study

The study sought to achieve the following:

1. To assess the effect of home based factors on enrolment of male students in secondary school in Kirinyaga County.
2. To evaluate the effect of school based factors and their effect on the male students' enrolment in Kirinyaga County.
3. To determine whether or not environmental factors affect the enrolment of male students in secondary school in Kirinyaga County.

1.5 Research Questions

1. What impact do home based factors (house-head income, parental education, and family size, age) have on enrolment of male students in secondary education in Kirinyaga County, Central region of Kenya?
2. What effect do school-based factors (head teacher managerial skills, cost of education, and availability of schools) have on the enrolment of male students in public secondary education in Kirinyaga County, Central region of Kenya?
3. To what extent do the environmental factors (adult-based activities, youth-based economic activities, role model and peer influence, social grouping, drugs and substance abuse) affect the enrolment of male students in public secondary school in Kirinyaga County, Central region of Kenya?

1.6 Significance of the Study

1. The study provides a basis for government decision making regarding factors that influence low enrolment of male students in secondary school, and hence come up with concrete means to address the problem appropriately, meaning that informed decision, regarding male enrolment will be made based on the findings.
2. The results from this study will assist the schools in discerning the variables that are likely to undermine gender parity in the provision of education. The variables discerned will be used to formulate and

implement policies friendly to gender parity in education which will be of benefit to both the boy child and the parent.

3. The findings from the study will be an incentive to other scholars who will be motivated to carry out further research in the areas being addressed by the study. This further research will be able to predict enrolment which will benefit the nation in her both current and long term economic planning.
4. The results from this research are of importance to policy formation and implementation regarding factors influencing economic growth and development. This is due to the fact that human capital development is an important ingredient to economic growth as outlined in Vision 2030 in Kenya.
5. The findings will be of paramount importance to the boy child and the parent since they will be made aware of the pertinent issues that hider male student transition rate to secondary school. This will enable the male student to transits to secondary school once he overcomes the challenges indicated. Parents will be a beneficiary of the study since they will be able to understand the challenges facing the boy child. This will enable them to plan properly for both boys and girls hence giving them equal chances to educational opportunities thus leading to gender parity in education.

1.7 Limitation of the Study

1. The study faced the limitation of the respondents being unwilling to release sensitive and crucial information, the researcher convinced the respondents to give accurate information as per the research questions.
2. In addition, the availability of data was a major concern. The regional data for the period between 2009 to 2013 was not available hence there were difficulties in doing cohort analysis for the said period, in addition to accessing gross intake rate and net intake rate.
3. Geographical mobility posed a problem in some areas of Central region thus collection of data proved to be difficult. The researcher solved the problem by improvising on the mode and means of transport and communication according to the nature of the problem.
4. Errors and omission also occurred during the collection of the data thus acting as restrictive conditions. Once errors and omissions were detected the researcher retested to validate the information collected.

1.8 Delimitation

The study was set to be carried out in Kirinyaga County Central region and therefore its findings should be applied with caution to other regions of Kenya, since the scenario in Kirinyaga County Central region is different from other regions of Kenya. In addition, the study confined itself to socio-economic forces that influenced the enrolment within the school environment thus other non-socio-economic variables such as early marriages, tribal clashes,

dysfunctional families, poor upbringing, indiscipline in school, negative attitude towards educating boy child, cultural believes, health issues (HIV) among others were not examined.

1.9 Assumptions of the Study

The study was based on the following assumptions:

(i) Given the same conditions in Kirinyaga County, Central region of Kenya transition rate from one level to the other should not exhibit any gender bias. It is therefore expected that transition rate for both male and female students should be at par.

(ii) Given the level of economic development in Kirinyaga County, Central region of Kenya the household allocates the same learning resources to male and female. It therefore means that both the male and female student have an equal share of household education resources.

(iii) Learners in the same environment should exhibit the same progression from one level to the other. Thus, transition rate for both male and female student should be proportionate.

1.10 Hypothesis of the Study

i. There exist a relationship between socio economic factors and male student enrolment.

ii. Null hypothesis; there is no relationship between socio economic factors and male student enrolment.

1.11 Significance of Key Terms

Boy child refers to any male under the age of 18years.

Female students refers to any female enrolled in secondary school regardless of her age.

Gender refers to the socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women.

Gender parity refers to a numerical concept referring to equal number of male and female relative to their respective numbers in the population.

Girl child refers to any female under the age of 18 years.

Male student refers to any male enrolled in secondary school regardless of his age.

Outlawed cult (social grouping) refers to a traditional cult involving large masses of people with a common socio-cultural goals and tradition.

Enrolment refers to the act of being involved or taking part in the learning process. It comprises of graduation rate, retention rate, performance, transition rate, Enrolment rate among others.

Poverty refers to the state of having little or no money and few or no material possessions i.e. inability to afford the three basic human wants e.g. food shelter and clothing.

STATA	refers to a general purpose statistical software package created in 1985 by State Corp.
Socio-economic	refers to a branch of economics that explain how economic activities affects and shapes socio processes.
Enrolment	refers to the number of persons enrolled for a course or in a school.
Gross intake rate	refers to the total number of new entrants in the first grade of a cycle regardless of age expressed as percentage of the official theoretical school entering age
Gross enrolment	refers to total enrolment of a specific level of education regardless of Age expressed as a percentage of eligible official school age population correspondence to the same level of education in a given year.
Net enrolment	refers to enrolment of the official age group for a given level of education expressed as a percentage of the corresponding population.
Net intake rate	refers to total number of pupils of official school entrance age who are enrolled expressed as a percentage of the population of the same age.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The purpose of this section is to review the literature related to male students' enrolment in secondary school and, also the theoretical frame work underlying the gender difference in secondary school enrolment. The section is divided into different topics, namely; general overview, the theories underlying gender differences in learning and enrolment and socio-economic factors influencing low enrolment of male students in secondary school.

2.2 Essence of Socio- Economic

The term socio-economic also referred to as social economics is the socio science that studies how economic activities affect and shapes social processes. It is also a branch of economics that focuses on the relationship between social behavior and economics. Thus socio- economics is essential study that its benefits are consumed by various stakeholders, namely the community, the education sector, the political class, culture, education sector among others. Education is a long term investment which requires, proper planning and budgeting. For proper planning and budgeting to take place certain economic parameters are required, for instance the rate of enrolment, poverty levels of a society, cost of education, the population of school going age, labour market demand and supply, inflation status, price indices, global economic activities, world economic emerging issues, the national per capital

income, the gross national product and gross domestic product. All the aforementioned falls under economics, which are critical in policy formulation, formation, development and implementation in education sector. This therefore implies that the study in socio- economics is of paramount importance in decision making in education sector. Thus the knowledge acquired from socio economic will enable the education sector to achieve both short term and long term goals, aspiration and objectives.

2.3 Theoretical Literature

2.3.1 The Conflict Theory

The conflict theory came to light in the 1960's, According to the theory, education is perceived to be an advocate of socio-economic in-equalities and aims at preserving the power of those who dominate socio-economic activities in a society. The advocates of the conflict theory argue that the cost of education should be funded by the property tax. This implies that those schools that are in affluent areas will receive better education than those in less affluent areas, since the affluence areas residents are able to afford the various costs associated with better education. Students who attend such schools gain substantial advantages in acquiring higher education and therefore are able to access high-paying jobs. Students who attend less affluent neighbourhood schools do not get such advantages and are less likely to access college education, and therefore they end-up not accessing high paying jobs. The conflict theorists contend that, not only do socio-economic favour the

education of the affluent areas, but so does the school testing. Thus conflict theorists perceive education not as a socio-economic benefit process but as an economic tool for maintaining economic power structures for the affluent (Stark & Rodney, 2007).

However, this theory is criticized by functionalist theorists who perceived education as an agent of preserving and changing the socio-cultural status quo. The more a student is educated, the more liberal he/she is, and the less the student is educated, the more conservative he/ she is and vice versa.

2.3.2 The Human Capital Theory

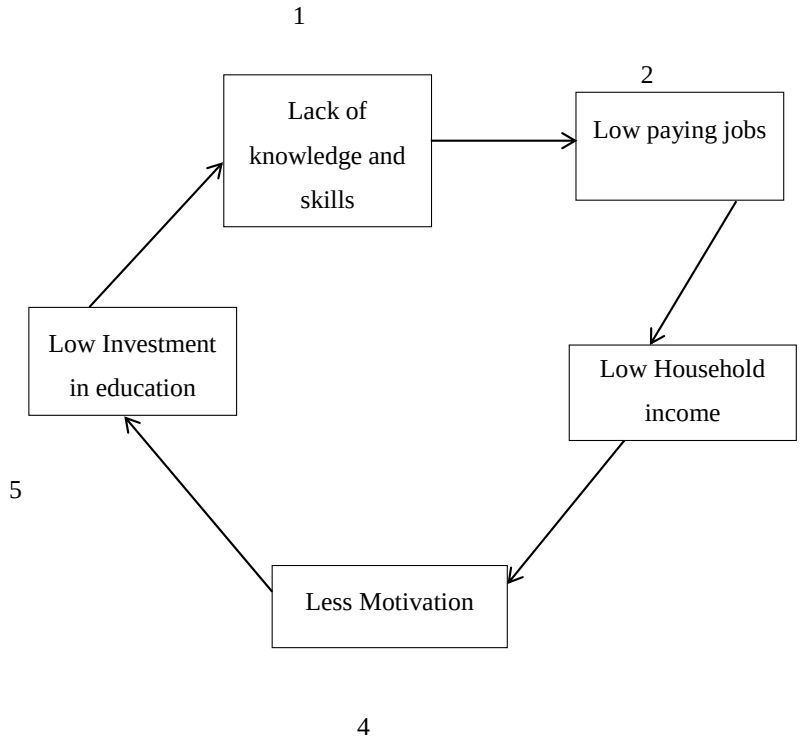
The human capital theory was introduced by Becker in (1975). According to the theory, investment in human-capital closely resembles others types of investment desiring socio-economic benefits in the future. That the knowledge and skills the worker has, and which are derived from education and training, generate a certain stock of productive capital. Thus, the student will choose to undertake this investment, if the present value benefits, out-weigh the present value-cost. That is the cost benefit analysis of education.

The theory can he interpreted in various ways. It can be seen in the context of socio-economic factors that affect enrolment (home based, school based and environment based). Parents who are educated or have high levels of education and have access to gainful employment, are more likely to educate

their children. The parent knowledge and experience on the various socio-economic benefits of education, motivates him or her to wish the same for his/her children. Moreover, due to high level of education and high paying jobs (household income) the household has the resources required to meet the cost of education, leading to an enhanced enrolment.

Educated households which have moderate incomes act as role model to their children who in essence would like to emulate them. Thus, the children from such households will be more willing to enroll in schools in order to copy their parent; while on the other hand, the less educated parents will be less likely enroll their children to school, partly due to the limited experience and knowledge on the benefits of education. Besides the limited household income which may not meet the cost of basic needs. Moreover, his/her low economic status does not act as a role model to his/her children and thus the children are demotivated to enumerate them. Thus, the children of such households will be less enrolled and will engage their children into child labor in order to supplement the household income, hence the vicious cycle of poverty as explained hereinafter.

Figure 2.1: Vicious Cycle of Poverty



2.4 Related Literature on Variables Affecting Education Enrolment

Education enrolment refers to the act or the process of being involved in the learning process. According to UNESCO (2008) reasons for enrolment in school are multiple and may depend on a country's level of development. The report indicates that students may drop out of school due to lack of safety, overcrowding, poor schools resources and inadequate teachers. Bella and Mputu (2004) in the UNESCO report (2008) noted that lack of enrolment will occur when home based resources coincides with students' lack of confidence

in the schools ability to give them adequate support. Thus the school has the potential to act as a powerful support mechanism to sustain students in school and be able to deal with external difficulties without making the students drop out of the school environment.

According to Nkinyangi (1980) the school environment is a major determinant of the level of school enrolment. He argues that, certain features of truancy mostly emanates from poor home backgrounds where the student has little motivation to attend school. In this environment, the child tends to be a loner and appears unhappy, have few friends outside the school and during truancy, the student may commit anti-social acts which may lead to dismissal from school hence less enrolment.

The World Bank (2002) reported that the 8-4-4 system of education in Kenya is overloaded and may affect students' enrolment negatively. The case is supported by Sifuna (1997) who claims that an overloaded curriculum will cause pressure on the learner due to the reduced time that affected the child's motivation. According to Mwangi (2009) student wastage in school is caused by repetition, indiscipline, and poor communication break down between teachers and students. The UNESCO (2008), observed that over aged students are more likely to repeat grades and eventually drop out of school. The report indicated that repetition of grades is highest, in Sub-Saharan Africa, when

compared to other developing countries of Latin America, the Caribbean, South and West Asia.

Peer pressure may also influence students' enrolment in school (Constantinos, 2009). According to the International Journal of Adolescence, the opinion of student peers may have more weight than the parent or the teacher. The student who feels isolated or rejected by other people is likely to engage in risk behaviour in order to fit in the group. Bullying will as well influence the enrolment of students in school. Bullying as defined by Valerie (1991) is repeated attack verbal, psychological, social and physical by those in authority on those who are powerless with intention of causing distress for their own gratification. Students who stammer and those who have special education needs are more likely to be bullied. According to Olwells (1993) the school should develop policies regarding bullying. This is because students fear attending school due to bullying which will result in less enrolment.

Head teachers' managerial skills are critical in influencing the enrolment of students. According to Mapesa (2008), the head teachers' role is to ensure a learner friendly environment. The head teacher as an administrator should integrate all functions in the school as an organization and satisfy the socio-economic needs of all the students. He further argues that the school administrator should show continuous concern and drive towards students' achievement through provision of teaching and learning resources. He should

constantly, appropriately and effectively communicate to and with the student and solve problems by applying the best approach. Beside he should equitably and consciously take disciplinary measures, motivate and show respect to all. The head teacher's leadership style may attract rebellion or enhance learning. Simwa, Kandenya & Mosigo (2007) argue that school leadership styles have influence on retention and enrolment. The head teacher is required to be familiar with the Ministry's policies on access, equity and retention and discourage practices that are gender biased.

2.5 Factors Influencing Enrolment of Male Students in Secondary School

2.5.1 Home Based Factors

i) Household Income And Adult-Based Economic Activities

In determining access to education by children, household income is found to be an important factor; this is because there are many costs associated with schooling and educational process ranging from school fees, uniform PTA fees and the opportunity costs of sending a female child to school. Household income is linked to a range of factors; that is when children start school, how often they attend, whether they have to temporarily withdraw and also when and if they drop out (Barrera-Osorio et al; 2011 Glewwe & Chang 2010). The link between socio-economic and educational background of the parents and children in educational process had been highlighted by a number of studies keen at examining the relationship between students with their socio-economic status. All the studies agreed that children's enrolment, retention

and completion can seriously be affected by the socio-economic status and educational level of the parents which resulted in poverty. (Porteus et al, 2000; Ackers et al, 2001; Ranasinghe & Hartog, 2002; Vavrus, 2002;Hunter & May, 2003; Dachi & Garrett, 2003; UNICEF, 2005; Birdsall et al, 2005; Bruneforth, 2006; Cardoso & Verner, 2007; Zhang 2008; Zhao & Glewwe,2010; Wang 2010). Poverty could be regarded as the most common primary contributory reason for many children to be out of school. Glewwe (2010) calls poverty a plausible explanation of school disruption. Wang (2010) also mentioned poverty as a contributing factor for children's dropout in rural areas of China. Children from better off house-holds are more likely to remain in school, whilst those who are poorer are more likely never to have attended, or to drop out once they have enrolled.

A research conducted in rural China by Glewwe & Kreme (2006) found that poor and resource constrained children are more than three times likely to drop out of school than other children from well to do families. The links between wealth and school retention have been described in more detail by Colclough (2000). In African tradition "amongst those out-of-school, the mean wealth index for school drop-outs was generally higher than for those who had never enrolled children at school were, on average, from better-off households than those who had dropped out, who were, in turn, from richer backgrounds than school-age children who had never enrolled". Poor households tend to have lower demand for schooling than richer households: whatever the benefits of

schooling, the costs, for them, are more difficult to meet than is the case for richer households. The pressure on children from poorer backgrounds in particular, to withdraw from school increases as they get older, particularly as the opportunity cost of their time increases (Colclough et al, 2000: 25). In Africa traditional schooling has been found to have links with socio-economic factors. According to Barrera-Osorio et al, (2008) the most important of these factors include direct and opportunity costs of schooling, limited employment opportunities, socio-economic status, parental and family investment behavior, the economic value of girls, rural and urban residence, and the level of parental education.

The major reasons parents offer for not educating their children or for removing them from the school are no more than the fees for registration and admission, examination, Parent Teachers Association (PTA) fees, the cost of books and uniforms, the provision of other daily monetary demands to their daughters, and the cost of transportation to and from the school on daily basis. These reasons have been discussed from several perspectives. Graham-Browne (1991) and Nejema (1993) argue that low socio-economic status which include poverty and fiscal crises, force families to have shortfalls and which have a devastating impact on household's spending and the education system as far as children's education is concerned. Glewwe & Chang et al (2010) link the severity of direct costs with the shift of educational costs to parents in the name of cost sharing. In general, several studies suggest that the

direct costs or a financial constraint affect children's education and lead to their low participation in schools.

According to Fiszbein & Shady (2009) the opportunity costs of schooling are associated with labor shortage, resources and services lost due to sending children to school. Child labor is indispensable to the survival of many rural households in Sub-Sahara Africa: agricultural work, domestic work (cooking, collecting fuel. fetching water) marketing as well as child care services are required from children. The need for domestic labor has gown also with the rapid growth of urban areas. Poor rural parents responded by sending their children into the domestic labor market in exchange for regular cash income. (Kukreti & Saxena, 2004;, Kotwal, Neelima & Rani, 2001; Dorsey, 1989).

The relationship between certain household characteristics, poverty and school Enrolment has been empirical evidence from other countries is rich and the main results seem to be in agreement with a prior expectation of a close link between poverty and female student's dropout. The World Bank (2004) observed that there is a link between children's educational attainment, enrolments, retention completion and household characteristics and poverty (Garba & Sanda, 2007). A research study conducted by Sanda & Garba (2007) based on data collected from 600 rural households of Sokoto State, Nigeria provided empirical evidence on the extent to which poverty and household demographic characteristics may affect educational attainment and school

attendance of children. The results confirmed significant gender difference in educational attainment and school attendance, with female children at a serious disadvantage.

The household income may play a leading role in the low Enrolment of male students in education. Due to global economic meltdown, many economic activities in Kenya have been adversely affected, for instance, the coffee and tea sector. The two have been the main economic sectors in Kenya for a long time, but the global economic depression coupled with poor pricing have forced residents to abandon them and seek other income generating activities. As claimed by KNUT (2009), the absence of major economic activities in some parts of the country has led to poverty in many households. Children, especially male students in those households, have opted to drop out of school at an early age and are forced by poverty to seek manual/casual employment either at local plantations, jua kali or in the neighbouring urban areas, in order to supplement the household income. This claim is also supported by the leadership in the region. According to the leaders this situation results in poor Enrolment both in primary and secondary school levels of education as shown by the aforementioned data on GER, NER and KCSE registration (KNUT, 2009).

ii) Parental Education and Occupation

Educational levels of the parents have been found to be an influential factor on their children's education. According to Ersado (2005) educational level of

household members is an influential factor particularly on children and it determines their access to schooling. The notion is widely accepted as the most consistent determinant of child education. Besides, a higher parental or household head level of education is associated with increased access to education. (Ainsworth et al, 2005; Al Samarrai & Peasgood, 1998; Ersado, 2005; Connelly & Zheng, 2003; Grant & Hallman, 2006; Hunter & May, 2003; Duryea, 2003; Rose & Al Samarrai, 2001; Seetharamu, 1984 cited in Chugh, 2004). Parental education and retention in school has been linked together by putting forward many reasons and opinions of scholars. It has been observed that non-educated parents cannot provide the support or often do not appreciate the benefits of schooling (Juneja, 2001; Pryor & Ampiah, 2003).

According to Al Samarrai and Peasgood, (1998: 395) the probability of girls enrolling in primary school can be increased by 9.7% and secondary by 17.6% by their married mother's primary education and it has no significant effect on the Enrolment of boys. They claim that, by educated mothers giving preference to girls‟ schooling, means that, mothers have a relatively stronger preference for their daughters‟ education and that their education affords them increased household decision-making power and increased economic status. Glick and Shan's (2000) research results were in line with Al Samarai and Peas good (1998) in their research finding in urban poor environment in West Africa. The outcomes of his research favored the female children by relating the improvements in fathers‟ education to the schooling of both sons and

daughter. But mother education has significant impact only on daughters-schooling. In order to bolster sustained access to education for many children, Ersado (2005) suggested the provision of adult education programmers to counter the educational deficit facing many households.

Research studies shows that there is a high correlation between earnings and parental levels of education, Hanushek and Kain (2007). He argues that parents with more education are likely to earn more than parents with low levels of education. This is due to the various opportunities that require knowledge and skills, thus a household with a low level of education will have low income which may be inadequate to educate all children at the secondary school education. In most cases the parent may opt to educate some of his children particularly girls and abscond boys since boys can be employed easily in informal sectors from which they can supplement parental income. This may lead to less enrolment of boys in the secondary school level of education.

iii) Family Size (Fertility Rate)

Fertility rate may be an influencing factor, in enrolment according to Coleman & Ernest (1966). Highly educated parents are less likely to have a big family while parents with a low level of education are more likely to have large families. The household income for the family with low level of education may not be able to support the needs of all family members especially the cost of education. Thus, in such a family the participation rate is minimal since the

derived income is consumed by the basic needs (Coleman, Ernest, Carol, McPartland, Mood, Weinfeld& York, 1966).

2.5.2 Environmental Factors

i) Youth-Based Economic Activities and Enrolment

Traditionally, men are generally expected to be more aggressive, both physically and verbally and also the bread winner and "protector." According to Sayer (1982) men enjoy taking risk and play fighting games and enjoy "dares". More men than women are convicted for crimes especially crimes of violence. Thus, the traditional set-up has influenced men to take risks in order to accomplish the societal expectation. Many male students are expelled from school since they dare to go against the school rules and regulation. Besides, the male students also take the risk of dropping out of the school in order to venture in economic activities that will make them economically empowered (Knut, 2009). Thus, the male students may not value education, as much as they would value money. The fact that the tradition values the economic status of man more than educational status, male students at an early age will opt to drop out of school, find gainful employment, get married , become the head of the family, provide the household necessities and eventually raise the family. In addition, they will struggle very hard to gain more money thus seeking recognition in the society, since a rich or wealthy person is more recognized than an educated man in our social cultural set-up. This concept may trickle down to school enrolment, leading to a situation where retention, completion

and graduation rate for female students will be higher than that of male students, like it is in the Central region secondary schools in Kenya (Ongeri, 2010).

ii) Role Model as Motivating Factor in Education Enrolment

The concept of role model has been researched from as early as 1970, but definitional ambiguities have plagued the professional literature particularly in relation to the "Mentor", Pleiss and Fedhusen (1995). Gibson (2003) referred role model as "cognitive construction based on attributes of people in social roles an individual perceives to be similar to him or herself to some extent and desires to increase perceived similarity emulating them".

A study conducted by the Jamaican Education Department (2004) Bailey and Parry (2000) found that the ratio of boys to girls Enrolment have been shifting steadily in favour of girls, especially in upper high school and beyond. The cause of the shift was identified as the function of the "modern male role model", which Bailey (2000) referred to as "Feminization of Education" "Parry (2000) and Samms-Vaughan (2006) argued that, "the modern male role model" has two distinct function. That is, the decline of "appropriate male role model" and the rise of "inappropriate male role models". The appropriateness versus inappropriateness of role model has been generally found to be a leading cause of negative and positive Enrolment rate in high school students, (Leo-Rhynie 1993) According to Samms-Vaughan (2006) children and young

person groups up in communities where there are wide choices in role models, such as ministers, leaders, and other professionals.

Young person's observe the life styles of the persons and makes choices on the "wealthy and power" and also make choices between the "wealth and powerful" and the" modest life of others". In a study conducted by Leo-Phynies, (1992), it was found that the role models influence education enrolment and career choices. Bryant and Zimmerman (2003) conducted a research study involving 700 adolescences, 90% of the respondent named their parent and other relatives as primary role models, in addition to famous and successful personalities. These finding were also supported by Oberles (1974) who investigated gender differences in role model, among rural Texas adolescents. According to his finding more boys than girls endorsed famous and glamorous figures such as movie stars, athlete, TV presenters and high profile public figures; while the girls endorsed less glamorous figure such as teachers, and school counselors, extended families and friends. The personalities endorsed by the boy were "talent oriented" as compared to those endorsed by girl student who in turn were educated (Teachers). This implies that the male student put more emphasis on personalities regardless of their education background which may have had trickle-down effect on male enrolment and career choices (Leo-Phynic 1993).

iii) Socio-Cultural Factors and Enrolment

Socio-cultural factors may influence the enrolment of male student. A study conducted by Fatuma, Ilikoye, Nyambura and Guantai, (2013) revealed that the contemporary family was characterized by parent, mainly mothers who made explicit effort not only to keep their daughters in school but also motivate and support them to attain educational successes both in the process of the school cycle and in the benefits of the outcome. The findings also revealed that many parents constructed their daughters as worthwhile investment whose economic and material returns to the parent were guaranteed. Boys were constructed as self-centered and less likely to support their parent after completing school. In the same study it was also found out that, the schooling culture has increasingly made the girl-child self- confident, both socially and in academic performance. For example, the school workforce was mainly made up of females rather than males which portrayed an explicit enthusiasm of empowering the girl child through education.

Culture has also been linked to low education enrolment. Karanu and Osamba, (2015) in their study, on the role of culture and enrolment, found that the male circumcision contributed to 42% of the school dropout rate in Samburu County, which greatly affects school enrolment. It was also observed that circumcision “rites” paves the way for the young dropouts to marry, own property (cattle and sheep) and become a worrier to protect the communities’ property, since owning cattle and being famous is more prestigious than value

for education that most young adult dropout of schools in order to practice "moralism".

Culture is passed from one generation to another, (World Vision, 2016). According to the study by the World Vision, (2016), parent's views on education will highly determine the children view and perception on education. This is because the old generation has a lot of influence on the young generation. Thus, parents respect for the values of education will be reflected for their children's value for education. Kibiego (2010) in his research study found out that culture attributes such, as respect and manners are more pronounced in the conservative African Society, than the values of education. He further argues that, the members of immediate family are child's first teachers. It is the family that would bring the children through ward and deed". According to his research, people's way of life, including customary practices and economic activities have direct and indirect influence on education and their overall effect on children enrolment.

Sichinga (2005) investigated the major causes of low enrolment in "young children in Malawi schools". The findings established that, the major causes were early marriages, domestic chores, poverty, and lack of exposer. Some communities such as Muslims had a negative attitude toward education. The findings also found out that socio-cultural beliefs also influenced decision to

enroll or not to enroll their children to school thus impacting negatively on enrolment.

Research study conducted by Kihumba (2007) on dropout rate in Igembe district revealed that, the major causes of drop-out in school was "miraa business" That the community has a cultural belief that only boys can harvest "miraa' since they are light bodied, swift and tender. These qualities allow them to climb the "miraa trees" with minimal problems. According to his finding, "the boys have graduated from climbing miraa trees to wrapping of the leaves and packing into granny bags and then loading", at the expense of education, thus leading to low enrolment in the region.

iv) Outlawed Social Grouping and Enrolment

Outlawed social grouping has far reaching effects on enrolment of students (American Journal of Public Health, 2014). In the report study by the American Journal of Public Health, it was found out that student who join outlawed groups (gangs) were not only faced by the risk of being incarcerated, receiving illegal income but also less likely to finish schooling and more likely have poor health. Amuda (2014) in his study, he found out that, joining a "gang' served as turning point, creating consequences that cascade into other areas of life for years afterward.

Researchers have identified a number of factors that it is there put youth at risk of gang involvement. According to research conducted by Snyder and Sickmund (1995) the school failure was found as a leading cause of youth joining outlawed groups. The study shows that, easy access to illicit drugs, and the perceived financial rewards of drugs dealing posed as attractive alternative for youth with inadequate education and limited employment opportunities. It was also found out that, most recruits have poor self-image, low self -esteem, and attempt to seek the recognition they failed to receive from home or school.

The United States Education and Justice Department (2006) conducted research on indicators of school crime and safety, in their findings it was found that the schools that experience gang related violence incident increased from 71% to 81% from 1999 – 2004 respectively . The same study also revealed that the percentage of students who reported gang presence at school increased from 21% to 2003 to 24% in 2005 respectively. The report argued that, though there is no direct connection between gang activities and school violence, the initiation of gang activity in the neighbourhood and school, does frequently coincide with increased violence in school which hampers the school programme and subsequently withdraw of student from school, hence low enrolment.

Knut (2009) observed that the society in central Kenya has neglected the boy child. The negligence has made the boy child to join illegal groups which are known to engage in risk undertaking, such as unlawful manning of bus station, extortion of money and other dangerous assignment. The aforementioned activities are undertaken at the expense of schooling hence law Enrolment (MOE Central Region, 2009).

2.5.3 School Based Resources

i) Educational Resources and Enrolment

Education, as long term investment is a product of three resources, namely; human resources, materials resources and financial resources. (Sue, Miller, Wiltz, 2008). The availability of the aforementioned resources can be a barrier to enrolment and quality education. (Unicef 2000). The teacher, as human resource plays a vital role in the enrolment and retention of the student. Ecker (1994) in one of his studies found a common characteristic among 516 teachers (respondent) who have been using computer based instructional materials with great comfort. Berth (2004) in his study, equated teachers growth with student growth (enrolment), that, "probably nothing within a school has more impact on student in terms of skills, development, self-confidence or classroom behavior than personal and professional growth of the teachers. His findings were supported by Oyoak (1996) who observed that, the availability of teaching and learning resources in school are essential in executing successful education programme.

Onyejemez, (1991) in his study found that no meaningful learning can take place in the absence of proper and variety of instructional materials in school. According to Ibe (1998) provision of education instructional resources, are important ingredient in learning. That instructional material act as object and means of communicating process that stores and distribute human experience and knowledge and therefore the availability of the information carrying devices.

Quek, Wong and Fraser (2002) in their studies, found that male student perceived, chemistry laboratory to be less equipped than female student did. The male student felt that they had less roles and restriction on the chemistry equipment than the females felt. Financial resources may constrain the provision of infrastructural facilities, which in turn may lead to drop-out. In research conducted by Mwango (2013) it was found out that, the free secondary tuition resulted to understaffing and overcrowding. The ban of tuition and development levies made it impossible to provide funds required for retention though the introduction of free tuition was noble, lack of facilities may reverse the gains realized on the introduction of the free tuition secondary education.

Cynthia (2013) in her research study on education and urban schools, found that lack of supplies, learning materials, opportunity to learn and deteriorating physical plants, were often the characteristics of high poverty urban schools

and the deficiencies diminishes student engagement (enrolment) and achievement. This is supported by Lewis,et.al., (1999), in his research study, he observed that physical facilities as well as classroom based facilities in urban schools predicted student enrolment, that is a school with a good infrastructural facilities will attract more enrolment and vice versa.

The availability of school, school facilities and the school setup may be more of a contributing factor to low enrolment for male students than female students. In a study done by Quek, Wong and Fraser (2002) male students found a chemistry laboratory to be less equipped than female students did. The male students also felt that they had less rules and restriction on the chemistry equipment than female students thought. Thus, an environment that does not favour male students may be a threat to male students' retention in school hence low enrolment. In addition some regions like Kirinyaga County have more girls' schools than boys' schools, pointing to the fact that there is a negative bias on boy's education. A significant amount of resources have been invested in girl child factor, as evidenced by the number of NGOs, government sponsored Thesis and affirmative action on the girl child therefore neglecting the boy child. This may have resulted in the low Enrolment of male students both at primary level and secondary level (MOE, Central region, 2009).

ii) Managerial Skills (Head Teacher)

The teacher, as human resource, has enormous impact on the enrolment, retention and completion of a student. (Unicef 2000). The Met-Life Foundation, (2011) in their study reports on "major impact on the teachers abilities to address student varied needs" found that 59% of the teachers believed to have the capacity. In the same findings, the students gave a low opinion on the ability of teachers to accommodate student's distinct needs and instruction. The student who had considered dropping out of school or who did not expect to go beyond high school, tended to give their teachers much lower grades in this area. In addition, the study revealed that student who indicated that they receive satisfactory level of individuals attention from their teachers were less likely to have considered dropping out school and more likely to join college degree. In the same report, students with diverse learning needs, and who had been told by the teacher that they have learning problems, or disability, gave a low opinion of the teachers abilities to address their needs and more likely to drop out of school.

Cherie, and Izar Martimez (1995) in their study concluded that the school inability to offer wide range of curriculum alienate the student and the alienation affects student self-confidence, self-esteem, and responsibility for self-direction which may in turn lead to dropout hence low enrolment.

2.6 Summary of Literature Review

This summary review of the literature synthesizes the current status of male student enrolment locally and globally. The review centres on the low enrolment of male students and attempts to link the likely variable that leads to low enrolment of male student.

In central region of Kenya, contrary to the national global pattern of enrolment, much of the literature shows a better transition rate for females than males and there lacks literature that shows that males are transiting better than females.

Arising from the above, this research is therefore different from the common norms where female students' enrolment is assumed to be weaker compared to male student transition rate at secondary school. Thus this review has centered on possible factors that could lead to the low enrolment rate of male student. The factors reviewed are household income, parental education, socio-cultural factors, adult and youth based economic activities, and managerial skills of the head teachers among others. The reviewed literature will guide this researcher to examine whether or not the aforesaid factors affect low Enrolment of male students in Kirinyaga County central region of Kenya.

2.7 Theoretical Framework

2.7.1. Education Production Function Theory

The study is based on Pritchett and Filmer's (1997) theory on education production function. Pritchett and Filmer discerned the relationship between the education inputs versus output. According to the theory, the efficiency of education output depends on the quality and quantity of the education inputs that is quality of the school system, quantity of time the parent spends with child and parents' educational attainment. Though the proponents of the theory criticize it as a theory based more on technology than behavioural relationship the proponents of this theory find it useful in describing the relationship between education inputs versus output. Thus the theory is appropriate in explaining how socio-economic factors (independent variable) such as home based, school based and environmental factors affect enrolment (dependent variable) of students in school.

2.7.2 The Male Student Enrolment Model

$$Y_m = f(E_f, S_f, H_f \ \cdots \cdots \cdots e)$$

Where:

Y_m= Male student enrolment (dependent variable)

E_f= Environment factors

s_f= School based resources

H_f = Home based factors

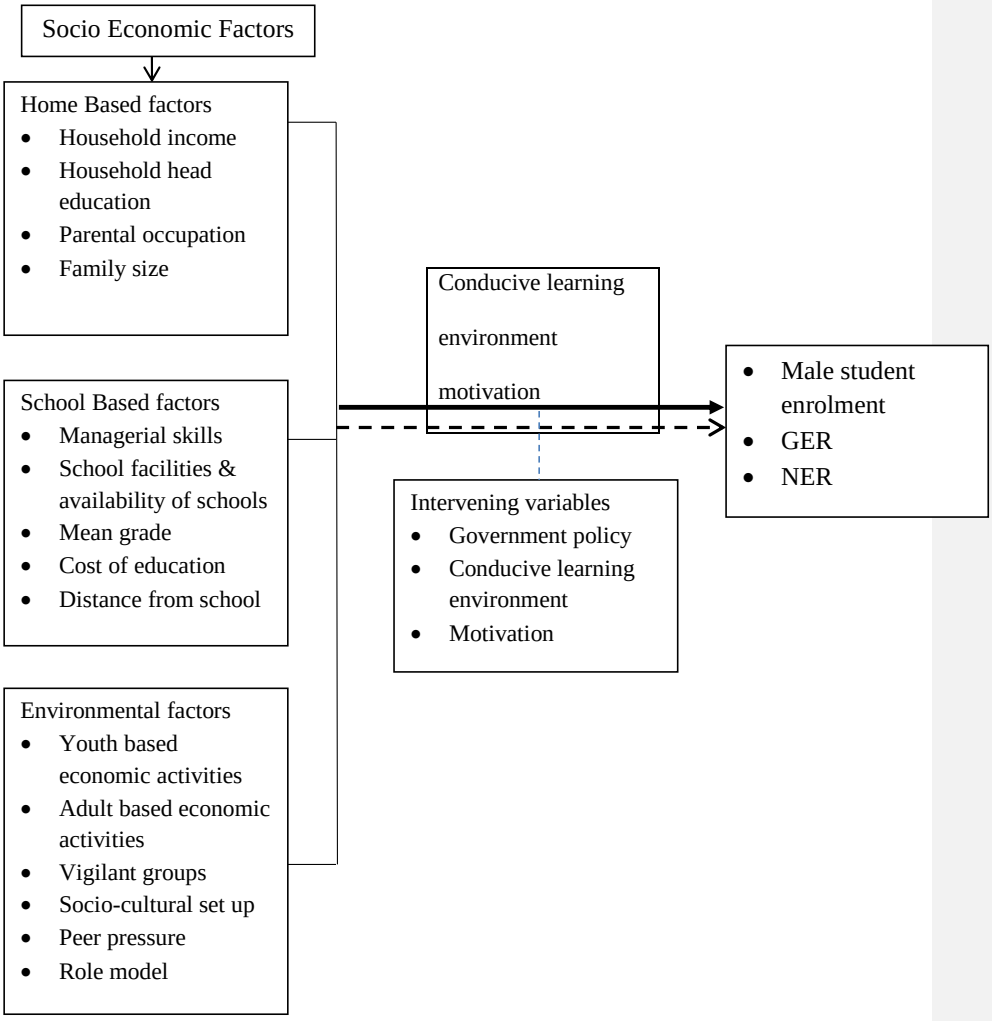
The model explains the relationship between dependant variables versus independent variable. From the model, male enrolment (Y_m) is the dependent variable while the following variable which constitutes the objective clause are independent variables. These independent variables are;

a) Home based socio- economic factors (H_f) – The home based variable is an independent variable. It comprises of household income, household head education, parental education and family size. The enrolment of male student depends on the said variable.
b) School based socio- economic (S_f)- This factor is independent variable, and have the following variables, managerial skills of headteachers, school facilities and availability of schools, mean grade, cost of education and distance from school. The male student enrolment depend on this variable.
c) Environment based socio- economic factor (E_f)- Enrolment depends on environment factors. This variables comprises of the following such variables; Youth based economic resources, Adult based economic resources, vigilant groups, socio- cultural set-up and role model.

The aforementioned variables are derived from objectives and constitute the research question as indicated in the conceptual framework in figure 2.2.

2.8 Conceptual Framework

Figure 2.2: Socio-Economic Factors Influencing School Enrolment of Students in Secondary School



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

Research methodology refers to means through which the research was carried out. Thus this section describes the research design that was adopted for the study including the target population; sample size and sampling procedure, instrumentation, data collection and data analysis techniques.

3.1 Research Design

This study has adopted a cross-sectional research design. A cross section research design involves collecting data of the population of the concern at a point in time. In this section the unit of analysis was students who completed class eight in Kirinyaga County. Hence the design is based on primary data collection among the participating students who had completed class eight (2014) in Kirinyaga County. The design collected data on both dependent and independent variables identified in the study objectives. A tool of data collection was constructed and used to collect quantitative data. Hence quantitative data was collected to achieve hypothesis testing that concurred with the research questions and research objectives.

The data collection instrument was based on a structured questionnaire that solicited responses from individual students and the head of the institutions from the sampled students.

3.2 Location of the Study

The study was conducted in Kirinyaga County. This region is part of the former central region and is divided into four sub counties namely; Kirinyaga East, Kirinyaga West, Mwea and Kirinyaga Central.

3.3 Target Population

The target population was 6317 (standard 8 students 2014), from 195 public primary schools. This was derived from statistical abstracts in the county Education Office (Kirinyaga).The tracer method of data collection was used to collect data from students and from among the 195 public primary schools. The students were traced from schools to their homesteads. The headteachers from the selected 6 schools were used to identify the students.

3.4 Sample Size and Sampling Procedure

According to Orodho and Kombo (2002) sampling is the process of collecting a number of individuals or objects from a population such that the group contains an element representative characteristic found in the group. The "Yamane" (1967), formula was used for determining sample size. According to Israel (2009) this formula is used for calculating sample sizes. In this formula, Glenn recommended a 95% confidence level and .5% level of precision. Thus, the sample size was: $n = \frac{N}{1+N(e)^2}$

Where n = required sample size

N = Target population

e = Level of precision

From the above formula, the sample size was

$$n = \frac{6317}{1 + 6317\,(.05)^2}$$

$$= \frac{6317}{16}$$

$$= 395$$

Once the sample size was derived the proportionate sampling was conducted, which was used to generate the sample.

Where as

395 = Sample size

6317 = Target Population

3.5 Research Instrumentation

The researcher developed the questionnaires which consisted of both closed and open-ended questions to be answered by the sampled population. The self-administered questionnaire consisted of the sections A, B and C. Section "A" was administered to 395 students (standard eight in 2014) and sought information on personal data. Section "B" elicited data on the socio-economic factors influencing male enrolment in secondary schools in Central region. Section "C" sought information on views toward the enrolment of males in the secondary school.

The questionnaire was pre-tested before administration. Dawson (2002) states that pilot testing assists researchers in discerning if the questionnaire will obtain the required results. According to Polit and Beck (2003) a pilot study or a pre-test is a small-scale version or trial done in preparation for major study. According to Cooper and Schilder (2011) and Creswell (2003) 5% - 10% should constitute the pilot test. Pre-testing assists in determining the strength and weakness of the survey concerning the question, format, wording and order.

3.5.1 Validity of the Instruments

Validity refers to as the accuracy and meaningfulness of inferences which are based on research results. Thus validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. The sampling validity was used. According to Mugenda and Mugenda (1999) sampling validity is a situation where the researcher selects a representative sample of indicators from the domain of indicators of the concept. The instrument was given to two groups of experts; one group was required to assess what concept the instrument was trying to measure. The other group was asked to determine whether the set of items or check list accurately represented the concept under study, when the two groups concur, then the instrument was considered valid. The pilot study was done in Laikipia West Sub County; this is because the region has a similar socio-economic set-up to Kirinyaga County.

3.5.2 Reliability of the Instrument

Reliability is referred to as the degree to which a research instrument can be depended upon to yield consistent results after a repeated trial. It enhances accuracy, clarity and adequacy of the instrument. To test reliability, Crombach's alpha reliability correlation coefficient was used (Sekaran, 2003). According to Sekaran (2003) the closer the reliability is to **1**, the higher the internal consistence of reliability. Reliability for the research instrument was assessed using the Cronbach's alpha coefficient where the results found that the range of Cronbach alpha coefficient was between 0.721 and 0.792 for home based, school based and environmental factors. This resulted in a mean of 0.763 on the reliability test. A coefficient of 0.7 is recommended for a newly developed questionnaire and therefore 0.777 was considered to be adequate for the study (Sekaran, 2003).

Table 3.1: Reliability Analysis of Research Instrument

Variable Set (category of factors)	**Cronbach's Alpha**
Home based factors	0.777
School based factors	0.721
Environmental factors	0.792
Mean	**0.763**

3.6 Data Collection Procedure

The researcher sought the required mandate from the National Commission for Science and Technology and innovation from and the respective county director of education (Kirinyaga). Collection of the data was done using questionnaires. The tracer method of data collection was used in which students were identified by headteacher and traced from their homestead, secondary schools and working places. Once the students were traced the headteachers organized for a meeting where they were issued with questionnaires and impressed upon to fill it. Research ethics were adhered to while administering the questionnaires and collection of data.

3.7 Data Analysis

Once the data was collected it was coded, cleaned and entered into a computer program where Binary Logit Regression and Principal Component Analysis was performed to analyse the data using Statistical Package of Social Sciences (SPSS) in order to test the strength of the dependent variable. The choice of Binary Logit Regression Model was guided by the fact that the dependent variable is a discrete and dummy which required maximum likelihood estimation, (Pindyck & Rubinfeld, 1985). To perform both descriptive and inferential statistics, SPSS and STATA computer packages were used. SPSS was mainly used for descriptive statistics while STATA was used for inferential statistics which included odd ratios and P-values. Descriptive statistics included percentages, frequencies, mean and standard deviation

while the inferential statistics included chi-square, cross-tabulation, and Binary Logit Regression.

3.8. Ethical Consideration during Data Collection

The researcher applied and requested for permit from National Commission for Science, Technology and Innovation as well as the county education office. Once granted, the researcher collected data while observing the ethical issues outlined in the permit.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The study sought to determine socio-economic factors affecting the Enrolment of male students in public secondary schools in Kirinyaga County, Central region. This chapter presents the summary statistics, regression results and a discussion based on other studies. Primary data from gathered from 352 respondents from the study area (Kirinyaga Central) was used to measure the two dependent variables. Data cleaning and screening was done to come up with the final data that met the requirements of the study.

4.1.1 Response Rate

Response rate, according to the America Association for Public Opinion Research (2011) is the rate of completed questionnaires with reporting units divided by the number of eligible reporting units in the sample. Primary data was collected using a questionnaire where three hundred and ninety one questionnaires were administered. Out of 395 questionnaires administered three hundred and fifty two were returned representing a ninety percent (90%) response rate as indicated in the Table 4.1 below. The response rate is considered adequate given the recommendations by Saunders, Lewis and Thorn hill (2007) who suggest on response rates exceeding 50%.

Table 4.1: Response Rate

Response Rate	Frequency	Percent
Returned	352	89
Unreturned	43	11
Total	**395**	**100**

4.2 Distribution of Sample

Following the national population data from the Kenya National Bureau of Statistics (KNBS, 2009), probability proportion to size was used to select cluster areas of Kirinyaga County to form a sample for primary data collection. The sample was derived from four sub-counties as indicated by Table 4.2.

Table 4.2: Distribution of Sample by Sub-County

Sub-County	Sample Distribution	Proportion (%) of Total
1. Kirinyaga East	49	14
2. Kirinyaga West	32	9
3. Mwea	179	51
4. Kirinyaga Central	92	26
Sum of responses	**352**	**100**

4.3 How variables were measured

All variables in the study were nominal or discreet in nature. None of them were continuous which precluded the study to only discreet choice modeling as appropriate for analysis.

4.4 Dependent Variable (IV)

Enrolment: Enrolment status was the dependent variable in the study. Male respondents were categorized as either enrolled or not enrolled to secondary schools. This qualified the variable a binary response type hence coding was done so that, enrolled =1, not enrolled =0 as follows.

$$\text{Enrolment status} = \begin{cases} 1, \text{if respondent was enrolled to secondary school} \\ 0, \text{otherwise} \end{cases}$$

4.5 Independent Variables (IVs)

Age was also measured as a dummy but of multiple type whereby:

$$\text{Enrolment status} = \begin{cases} 1, \text{if respondent was aged 12-14 years} \\ 2, \text{if respondent was aged 15-17 years} \\ 3, \text{if respondent was aged 18 years and above} \end{cases}$$

A positive relationship was expected between age and Enrolment to secondary school.

Academic grade attained by student at Kenya Certificate of Primary Education (KCPE), year 2014 was measured in terms of grades A, B, C and D. In the sample the grades represented ranged from B to D. Respondents with higher

grades were expected to be more likely to enroll to secondary schools than those with lower grades.

$$\text{Academic grade of student at KCPE} = \begin{cases} 1, \text{if respondent attained Grade B} \\ 2, \text{if respondent attained Grade C} \\ 3, \text{if respondent attained Grade D} \end{cases}$$

Household income was measured in terms of total amount of money in Kenya Shillings (Ksh) earned from all sources and by all members of the household. This monthly household income was broken down into three income groups as follows.

$$\text{Household income in Kenya Shillings} = \begin{cases} 1, \text{if household earned less than Ksh 6,000} \\ 2, \text{if household earned between Ksh 7,000 - 10,000} \\ 3, \text{if household earned more than Ksh 10,000} \end{cases}$$

Higher household income was postulated to result to higher Enrolment to schools.

Average school fees measured the amount of fees in Kenya Shillings charged per term by secondary schools within the locality of respondent. This fee was also grouped into three classes as shown below.

$$\text{Average fees} = \begin{cases} 1, \text{if school termly fees is} < \text{Ksh 10,000} \\ 2, \text{if school termly fees is Ksh 11,000 - 15,000} \\ 3, \text{if school termly fees is} > \text{Ksh 15,000} \end{cases}$$

Higher fees levied by schools were expected to reduce male student Enrolment rates.

Mean grade of school chosen was measuring the mean score of the school at KCSE in year 2014 which the respondent either wanted to enroll or was enrolled in. This mean grade ranged from B to D and was coded as follows.

$$\text{Academic grade of student at KCPE} = \begin{cases} 1, \text{if school chosen scored mean Grade B} \\ 2, \text{if school chosen scored mean Grade C} \\ 3, \text{if school chosen scored mean Grade D} \end{cases}$$

To measure *distance to nearest sec school,* respondents were asked to indicate how far in kilometers the nearest school was located from their home. This distance was also grouped, as follow:

$$\text{Distance to the nearest school} = \begin{cases} 1, \text{if school is located 1 - 2km away} \\ 2, \text{if school is located 3 - 4km away} \\ 3, \text{if school is located 5 - 6km away} \end{cases}$$

Economic activity was classified into crop/livestock farming, small enterprise business, a combination of farming/business and casual labor. Respondents were required to specify which economic activity their parents undertook for livelihood. The coding was done as follows.

$$\text{Economic activity} = \begin{cases} 1, \text{if crop/livestock farming} \\ 2, \text{if business/trade} \\ 3, \text{if farming and business} \\ 4, \text{if casual labor} \end{cases}$$

Finally the number of secondary schools in the neighborhood of the respondent was also assessed. This was coded as follows.

$$\text{Distance to the nearest school} = \begin{cases} 1, \text{if None} \\ 2, \text{if } 1-2 \text{ schools} \\ 3, \text{if } 3-4 \text{ schools} \\ 4, \text{if 5 or more schools} \end{cases}$$

4.6 Summary Statistics

To have an initial feel of the data set the researcher established descriptive statistics which enabled us to find out measures of central tendency and comparison of means by enrolment status. Individual attributes in the study were investigated with respect to gender, age, academic grade, household income, economic activity, distance to school and number of schools available.

Given that the variables were nominal, non-parametric statistics were the most suitable. Hence relationships among variables/attributes perceived to influence enrolment of male students were verified using Chi-square (χ^2) statistics. The null hypothesis for χ^2 - statistic is that there exists no relationship in means of attributes between males and females:

Null Hypothesis: ($H_o : Cov(Attribute, Enrolment) = 0$)

Alternative hypothesis: $H_a : CovAttribute, Enrolment) \neq 0$).

From the sample size of 352 male respondents, enrolment status to secondary school education was such that, 175 (49.6%) of them were enrolled in secondary schools whereas 178 (50.4%) were out of school. This finding differs just slightly from the enrolment data from County Education Office

(2015) which indicated that male enrolment (Rate) in Kirinyaga County was much lower at 47%. Table 4.3 shows the summary statistics of the variables used in the study.

Table 4.3: Summary Statistics

Attribute	Total	Enrolment Status		X^2-statistic
		Enrolled	Not enrolled	
Age				
12- 14 years	107 (30%)	45 (42%)	62 (58%)	5.15 (2df)*
15-17 years	243 (69%)	127 (52%)	116 (48%)	
18 years and above	2 (1%)	0 (0%)	2 (100%)	
Academic grade (student)				
Grade B	67 (19%)	36 (54%)	31 (46%)	
Grade C	218 (62%)	115 (53%)	103 (47%)	2.79 (2df)
Grade D	67 (19%)	28 (42%)	39 (58%)	
Household income (Ksh)				
Less than 6,000	114 (32%)	52 (46%)	62 (54%)	
7,000- 10,000	212 (60%)	110 (52%)	102 (48%)	8.67 (2df)***
Above 10,000	26 (7%)	20 (77%)	6 (23%)	
Distance to nearest sec school				
1 -2 Kms	192 (54%)	91 (47%)	101 (53%)	
3-4 Kms	126 (36%)	61 (48%)	65 (52%)	3.54 (2df)**
5-6 Kms	34 (10%)	12 (35%)	22 (65%)	

Average school fees				
Below 1,000	7 (2%)	4 (57%)	3 (43%)	
10,000-15,000	124 (35%)	61 (49%)	63 (51%)	2.17 (2df)*
Above 15,000	221 (62%)	109 (49%)	112 (51%)	
Mean grade of school chosen				
Grade B	2 (1%)	1 (50%)	1 (50%)	
Grade C	339 (96%)	169 (50%)	170 (50%)	0.77 (2df)
Grade D	11 (3%)	4 (36%)	7 (64%)	
Economic activity				
Farming/livestock	177 (50%)	87 (49%)	90 (51%)	
Business/trade	137 (39%)	64 (47%)	73 (53%)	3.86 (2df) ****
Farming and business	20 (6%)	14 (70%)	6 (30%)	
Casual labor	19 (6%)	10 (53%)	9 (47%)	
No of sec schools nearby				
None	4 (1%)	0 (0%)	4 (100%)	
1 – 2 schools	136 (39%)	66 (49%)	70 (51%)	
3-4 schools	189 (54%)	89 (47%)	100 (53%)	27.71 (3df)****
5 or more schools	23 (6%)	23 (100%)	0 (0%)	

Notes: n=530, * Statistic significant at 10% (p<= 0.1); ** Statistic significant at 5% (p<= 0.05); *** Statistic significant at 1% (p<= 0.01); τ - F statistic

4.6.1 Age of the Respondents

Table 4.3 and Figure 4.1 show that the majority of the respondents were aged 15 to 17 years representing 69% of the sampled respondents. Male respondents between the ages of 12 to 14 years of age accounted for 30.4% and those between the age of 18 and above accounted for 0.6%. A Chi-square

test was conducted to determine whether age had any relationship with enrolment or if the two variables were independent of each other. A significant chi-square of $\chi^2 = 5.15$ was established, at 2 degrees of freedom, between age and enrolment. Results of the chi-square statistics revealed that there was a relationship between age cohort and enrolment.

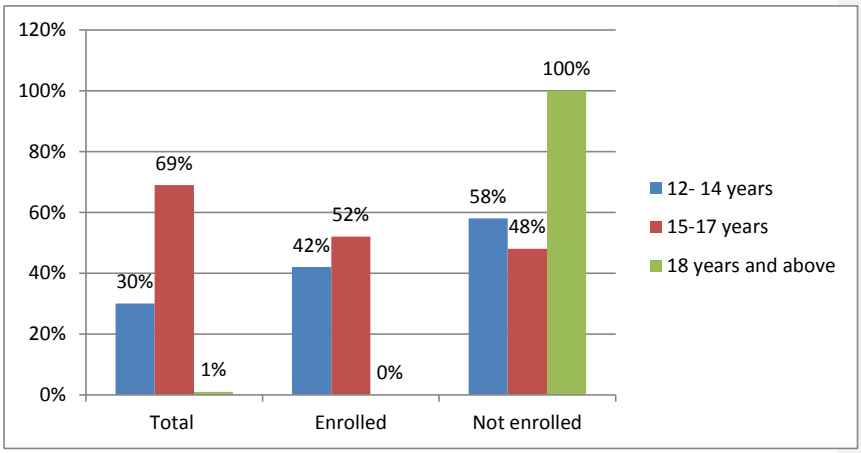


Figure 4.1: Age Profiles of Respondents by Enrolment Status

In Figure 4.1, percentage frequencies for age are disaggregated by enrolment status. For each particular age group, the % of males who are "enrolled" and "not enrolled" is calculated. Thus to get a total of 100% requires adding up the % of respondents for "enrolled" and "not enrolled" categories. This means that disaggregation is done across enrolment status so that adding the frequencies within any of the two categories would not sum up to 100%.

Looking at the variable age vis-à-vis enrolment of male students, 15 to 17 years age group dominated the lot of students who were enrolled to secondary schools at (52%) followed by 12 to 14 years age group (42%). None of the secondary school male students in the sample was aged above 18 years which is unlike the case of the not-enrolled respondents. On the contrary, the largest proportion of students who were not enrolled to secondary schools was the age group 12 to 14 years. This finding is attribute Table to several factors including the time of study and the fact that most students enter high schools at age 14 to 15 years.

The finding goes along with the expectation of the National Center for Educational Statistics of the US (2016) who found that young adults between the of age 18 and 19 years are typically transitioning into post-secondary education or the workforce. Nevertheless, the overall enrolment rate for both secondary level and the postsecondary levels for young adults of the 18-19 cohorts increased from 57 to 68 percent between 1990 and 2014 in the USA especially between 2000 and 2014.

4.6.2 Academic Performance of Respondents at Primary Education National Exams

Academic performance of the respondents in primary school national examination was measured by academic grades attained in the Kenya Certificate of Primary Examination (KCPE) for year 2014. Feedback by respondents indicated that none of the respondents scored grade A in KCPE.

Majority (61.9%) of the respondents attained Grade C while 19% attained Grade B and another 19% Grade D. The findings imply that the majority of the male students attained good grades at primary school national certificate that could have allowed them to enroll in various secondary schools in the region. The pass mark set by the Kenya National Examination Council (KNEC) was 250 marks (Oketch and Mutisya, 2013).

However, looking at the data for respondents who are enrolled versus the not-enrolled students, Table 4.3 shows that, only 54% of respondents who attained KCPE Grade B were enrolled. Equally, 53% of Grade C and 42% of Grade D respondents were enrolled. Moreover, a higher proportion of students with grade B were enrolled than the proportion of students with grade D. This finding points to the presence of a slight or weak relationship between KCPE grades and Enrolment to secondary schools for the male respondents.

4.6.3 Household Income

The respondents were asked to indicate their household income per month. Table 4.3 and Figure 4.2 show that 60% of the respondents had a house hold income of between Kenyan shillings (Ksh) 7,000 to 10,000 per month while 32% reported a monthly income of less than 6,000 shillings. Only 8% had an income of above 10,000 shillings per month. The study findings imply that the students were largely from low income households and this might explain why there was low enrolment in secondary school especially so for the boy child.

World Bank and UNESCO defines low income as income not exceeding $628 per year (or Ksh 62,800 per annum and Ksh 5,000 monthly income) using the Quarter 1 2016 exchange rate (World Bank, 2014). Hence this is an income just above the poverty line of $1.25 per day.

A chi-square statistic of 8.67 (2df), highly significant at 1% level of testing was established meaning that there was a relationship between household income and enrolment status. The findings indicated that, 46% of male respondents from households with a monthly income below Ksh 6,000 were enrolled compared to 54% who were not enrolled. On the other hand, 77% of male respondents from households earning more than Ksh 10,000 per month were enrolled compared to 23% who were not enrolled. This also indicates that income is a possible determinant of male student Enrolment to secondary schools.

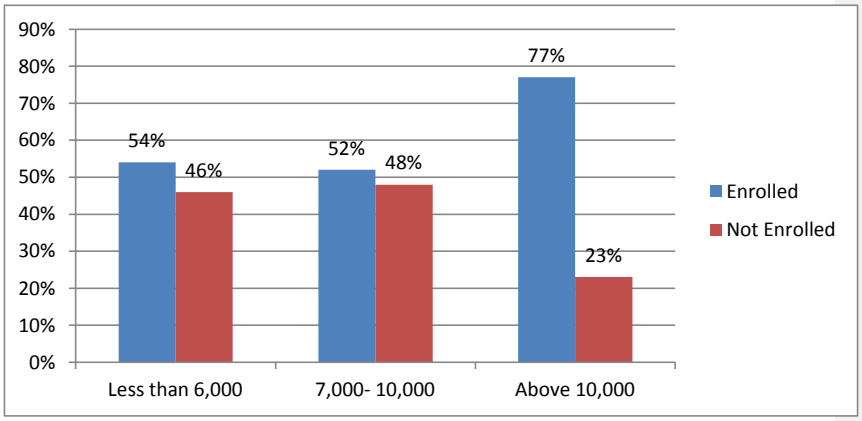


Figure 4.2: Household Income (Ksh) by Enrolment Status of Respondent

This is despite the presence of subsidized secondary education which was meant to ensure maximum access and completion rates (Odhiambo, 2015). According to reports by (Mokua, 2013; Adan and Orodho, 2014) subsidized secondary education was implemented in February 2008 by the Grand Coalition Government towards reducing the cost of learning, accelerate access as well as increase transition rates from primary to secondary. However there are costs that burden households such as development and operation levies which remain high despite subsidy by the government. These costs can hamper access to secondary education by learners as has been observed by Ode, Babayeju and Obalowu (2013) in Nigeria.

4.6.4 School Fees Charges

The study was intended to find out the average schools fees charged by the school per term, Table 4.3 and Figure 4.3 illustrates that 62.5% of the respondents indicated that the schools charged above 15000 shillings while 35.2% reported school fees was between 10,000 to 15000 shillings and 2% of them reporting school fees of below 10000 shillings respectively. A significant chi-square ($\chi^2 = 4.17$) was calculated between school fees and male enrolment meaning that the amount of fees charged had a relationship with access to secondary school education.

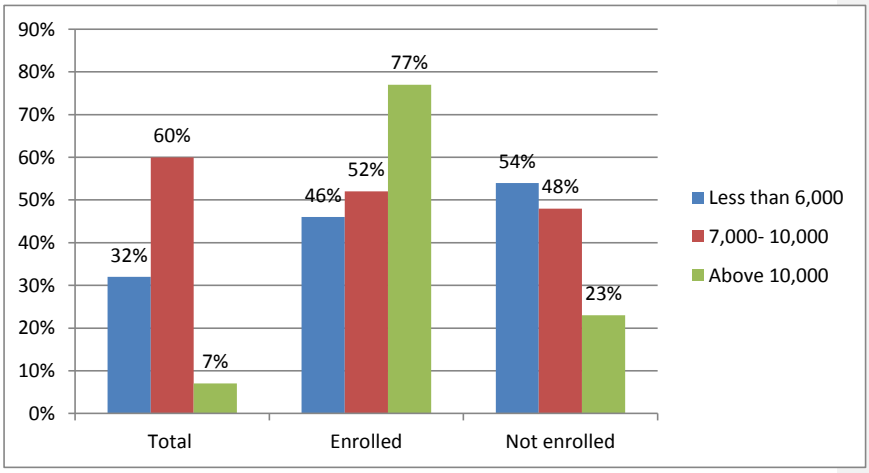


Figure 4.3: School Fees Charged (Ksh)

Notes: Percentage frequencies for income disaggregated by enrolment status. For each particular age category, the % of males who are "enrolled" versus "not enrolled" is calculated. Thus to get a total of 100% requires adding up the % of respondents for "enrolled" and "not enrolled" respondents. This means that disaggregation is done through across enrolment status so that adding the frequencies within any of the two categories would not sum up to 100%.

A total of 4 students were enrolled against 3 students who were not enrolled in the category of schools that charged below Ksh 1000 per term. Among schools charging Ksh10,000 to 15,000 every term, a 49% of respondents were enrolled. In the category of schools charging more than Ksh 15,000 per term, 109 students also representing 49% within the sub-sample were enrolled.

This shows that the low student enrolment could have been attributed by the fact that the school fee charges were high. However to verify this possible effect, further investigation by regression analytical technique was necessary.

4.6.5 Preferred School Mean Grade

The respondents were asked to indicate their preferred school's mean grade in year 2014. The results are presented in Table 4.2 and Figure 4.4.

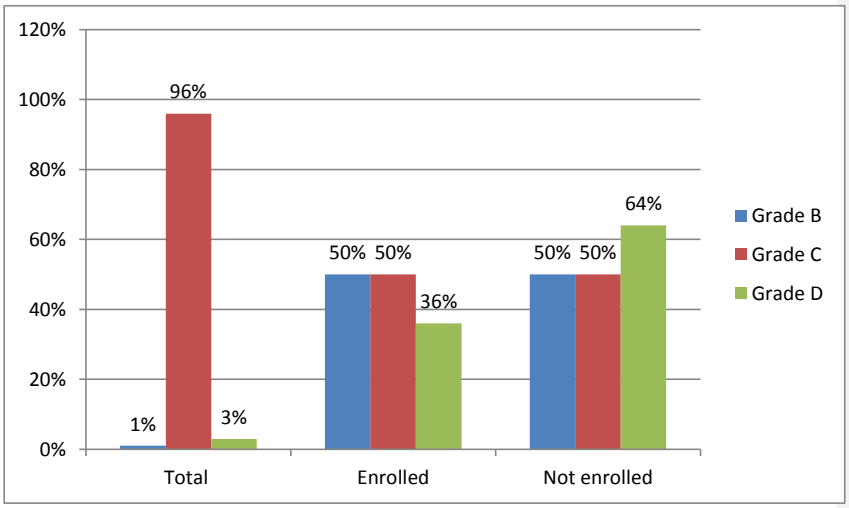


Figure 4.4: School Mean Grade

Respondents who were already Students in a secondary school were asked to state the KCSE mean score of their school in year 2014 whereas "out of school respondent" were asked to state the grade attained by their school of choice in the same year. Results showed that none of the schools mentioned attained grade A in the Kenya Certificate of Secondary Education (KCSE) exams.

Some studies show that enrolment can be influenced by performance at lower levels of schooling (Namukwaya and Kibiringe, 2014). Majority (96%) of the respondents indicated that their preferred school had attained grade C in the year preceding the survey while 3.1% indicated Grade B. From the study findings there was no difference between grades attained by respondent-preferred schools based on enrolment status of the male respondents. This is confirmed by a low chi-square of 0.77 (2df) which was not significant even at 10% level of testing. Hence it was possible that the mean grade attained by the secondary school which male respondents either wished to join or was studying had no relationship with their enrolment status to secondary schools.

4.6.6 Distance to the Nearest School

The study sought to find out the distance in kilometers from the respondent's home to the nearest secondary school so as to determine whether distance had any relationship with male student enrolment to secondary schools. Figure 4.4 shows that 54.5% of the respondents indicated the nearest secondary school from their homes was between 1-2 kilometers while 35.8% 3-4 kilometers and 9.7% between 5-6 kilometers respectively.

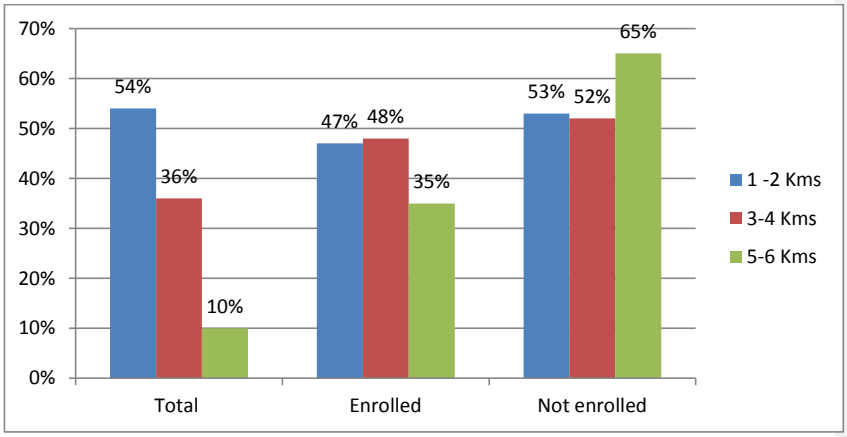


Figure 4.5: Distance to the Nearest School (km)

Table 4.3 and Figure 4.5 indicate that among male respondents located 1-2kms from the nearest school, 47% of them were enrolled while 53% were out of school. This is compared to an enrolment of 48% and 35% among male's located 3-4kms and more than 5kms respectively from the nearest school.

Different studies, such as Odhiambo (2015) and Namukwaya (2014) have explored for the effect of distance on enrolment and found that students who have to walk long distances are less likely to enroll in academic programs. The findings indicated that male respondents located further away had lower enrolment which is confirmed by statistical evidence in support of the two variables.

4.6.7 Economic Activity

Respondents were asked to state their parental occupation in order to find out whether it had any relationship to enrolment by males in secondary schools. Four possible categories of economic activities undertaken by parents were farming, business/trade, a combination of farming and business and casual labor. Table 4.2 and Figure 4.5 have presented the results. In Figure 4.5, percentage frequencies for economic activity are also disaggregated by enrolment status. For each economic activity, the % of males who are "enrolled" and "not enrolled" is calculated. This means that to get a total of 100% requires adding up the % of respondents for "enrolled" and "not enrolled" categories.

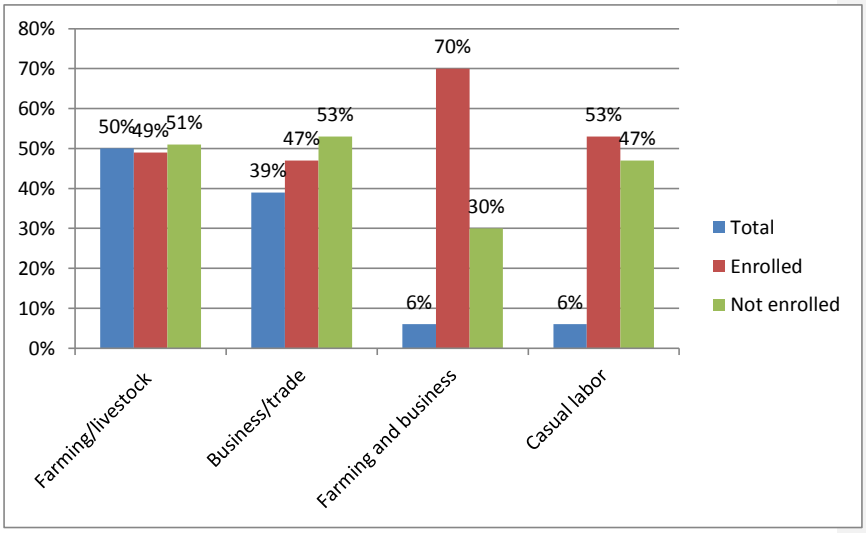


Figure 4.6: Economic Activity of the Household Head (Parent)

Half of the respondents, 177 (50%) said their parents practiced crop and/or livestock farming, 137 (39%) said their parents practiced small enterprise business or trade, 6% said that their parents combined business and farming economic activities while another proportion reported that their parents were casual laborers.

A weak chi-square statistic of 3.86 was established indicating that there was no relationship between male student enrolment and economic activity of the parent. Specifically among respondents who were enrolled in secondary schools the majority of their parents were either practicing farming or small scale trade activity. Notably, 70% of students whose parents practiced mixed economic activity were enrolled to secondary school. Also, 53% of students whose parents were casual laborers were enrolled in secondary schools.

4.6.8 Availability of Alternative Secondary Schools

Another enquiry aimed at finding out the number of secondary schools which provided alternative places for enrolment of male learners nearby. Table 4.1 shows that, 1% of respondents lacked a secondary school or any optional school in the neighbourhood. Another 39% had 1 – 2 schools nearby. About 54% of respondents could access 3-4 schools nearby whereas 6% could access more than 5 schools in the neighbourhood.

Inferential analysis calculated a high χ^2 of 27.71 (3df) that was highly significant at 1% level of testing. This implied that there was no independence of access to a variety of schools and enrolment, in other words, enrolment to secondary schools was related to availability of alternative schools near the male respondent.

All the respondents who said they had no school in the neighborhood were not enrolled to secondary school education. On the other hand, all the respondents who reported to have more than 5 schools in the neighbourhood were enrolled. Nonetheless, there were lower proportions of learners among respondent who reported to be living near 1-4 schools which can go against this early observation.

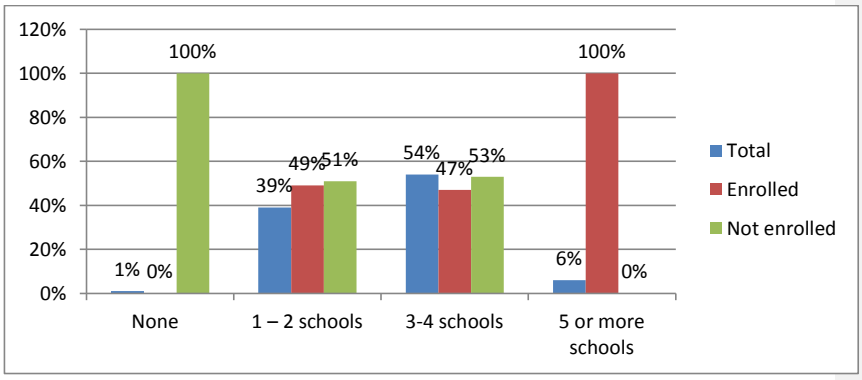


Figure 4.7: Availability of Schools Nearby

4.6.9 Sampling Adequacy

To examine whether the data collected was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis, and

two other main tests were performed namely Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. For a data set to be regarded as adequate and appropriate for inferential statistical analysis, the value of KMO should be greater than 0.5 (Field, 2000).

Findings in Table 4.5 indicated that KMO statistics for home based, school based and environmental factors were 0.5, 0.712 and 0.779 respectively and that they were all significantly high. Overall, the lowest KMO statistic among the three factors was 0.500. In addition, the Bartlett's tests of sphericity were also highly significant (Chi-square for home based factors was 183.694, 1 degree of freedom, at $p < 0.05$; χ^2 for school based factors was 405.031, 10 degrees of freedom, at $p < 0.05$; for home based factors was 426.758, 6 degrees of freedom, at $p < 0.05$).

Table 4.4: KMO and Bartlett's Sphericity Tests

Test	Home based Factors	School based factors	Environmental factors
Kaiser-Meyer-Olkin Measure	0.500	0.712	0.779
Bartlett's Chi- Square	183.694	405.031	426.758
Bartlett's d.f.	1	10	6
Bartlett's Sig.	0.000	0.000	0.000

All the composite factors, that is home based factors, school based factors and environmental factors, had a KMO statistic greater than the critical level of significance of the test which was set at 0.5 (Field, 2000). These results

provide an excellent justification for further statistical analysis to be conducted.

4.7 Factor Analysis

Factor analysis was conducted after successful testing of validity and reliability using KMO coefficient and Cronbach's alpha results. Factor analysis was conducted using Principal Components Method (PCM) approach. The extraction of the factors followed the Kaiser Criterion where an eigen value of 1 or more indicates a unique factor. Total Variance analysis indicates that the 2 statements on home based factors and male enrolment can be factored into one factor. The total variance explained by the extracted factor is 81.96% as shown in Table 4.5.

For home based factors, extraction of the factors following the Kaiser Criterion confirmed that the 5 statements on school based factors and male student's enrolment could be grouped into one factor with a total variance explained by the extracted factor of 48.243%. Table 4.6 has the results. On environmental factors, extraction of the factors following Kaiser Criterion also had a total variance analysis which allowed for the 4 statements on environment based factors affecting male student Enrolment to be grouped into one factor. The total variance explained by the extracted factor is 62.063%.

Table 4.5: Total Variance Explained by Various Factors (Factor Analysis)

	Component	Initial eigen values			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
a	1	1.639	81.968	81.968	1.639	81.968	81.968
	2	0.361	18.032	100			
b	1	2.412	48.243	48.243	2.412	48.243	48.243
	2	1.125	22.496	70.74			
	3	0.552	11.047	81.787			
	4	0.458	9.169	90.956			
	5	0.452	9.044	100			
c	1	2.483	62.063	62.063	2.483	62.063	62.063
	2	0.678	16.962	79.025			
	3	0.455	11.385	90.411			
	4	0.384	9.589	100			

Notes: Extraction Method: Principal Component Analysis; a = home based factors; b = school based factors; c = environmental factors.

Table 4.6 shows the factor loadings for sub-constructs of home based factors, school based factors and environmental factors. All the statements attracted coefficients of more than 0.4 hence all the statements were retained for analysis. According to Rahn (2010) and Zandi (2006) a factor loading equal to or greater than 0.4 is considered adequate, stable and deemed to lead to desirable and acceptable solution.

Table 4.6: Factor Loadings for Various Categories of Factors

Factors	Statement	Component Matrix
Home based factors	Household head income	0.905
	Parental occupation	0.905
School based factors	Cost of education	0.561
	Availability of learning resources	0.672
	Managerial skills (Head teachers)	0.76
	Distance from home	0.73
	The school mean grade	0.731
	Cost of education	0.561
Environmental factors	Availability of adult-based economic activities	0.816
	Availability of youth based economic activities	0.837
	Role model	0.669
	Alcohol and substance abuse	0.818

Notes: Extraction Method: Principal Component Analysis

4.7.1 Descriptive Analysis on Home Based Factors and Male Enrolment

The respondents were asked to what extent home based factors influenced individuals to join or not to join secondary schools. Table 4.7 shows that 49.4% of the respondents indicated that household income influenced school enrolment to a very great extent, while 44.3% to a great extent and 2.6% indicated to a fairly extent. Only 2.8% of the respondents that felt that household income do not influence school enrolment at all. In addition 71% of the respondents indicated that parental occupation influenced school enrolment to a great extent while 22.4% indicated to a very great extent. This sums up to 93.4% of those who indicated parental occupation influenced student's enrolment to a great extent.

Table 4.7: Home Based Factors and Male Enrolment Descriptive

Statement	Not at all (%)	Little extent(%)	Fairly great extent(%)	Great Extent(%)	A Very Great Extent(%)	Mean (S.D.)
Household head income	2.8	0.9	2.6	44.3	49.4	4.37 (0.823)
Parental occupation	2.8	1.1	2.6	71.0	22.4	4.09 (0.738)
Average	**2.8**	**1.0**	**2.6**	**57.7**	**35.9**	**4.23 (0.781)**

Notes: Standard deviations in parentheses

Means of greater than 1 and less than 1.5 implied that the home based factors influenced student enrolment to no extent. Means of greater than 1.5 and less than 2.5 implied that home based factors influenced student enrolment to a little extent. Means greater than 2.5 and less than 3.5 implied that home based factors influenced student enrolment to a moderate extent. Means greater than 3.5 and less than 4.5 implied that home based factors influenced student enrolment to a greater extent. The means of greater than 4.5 implied that home based factors influenced student enrolment to a very great extent.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of near 1 indicates that the responses are moderately distributed, while that near 0 indicates that there is no consensus on the responses obtained. An average of 0.781 for all statements on home based factors indicates that the responses are moderately distributed.

4.7.2 Descriptive Analysis on School Based Factors and Male Students' Enrolment

The respondents were asked to indicate to what extent school based factors influenced individuals to join or not to join secondary schools. Table 4.21 shows that 68.8% of the respondents concurred that cost of education influences student enrolment to a very great extent, 21.9% indicated to a great extent summing up to 90.5% of those who agreed to a great extent that cost of education indeed influences student enrolment to a great extent. Sixty eight point five percent (685%) agreed to a great extent that availability of learning resources affects student enrolment while 20.5% indicated to a fairly extent and 6.85 indicated to a very great extent. In addition, a majority (64.2%) of the respondents indicated that managerial skills of headteachers influences student enrolment to a fairly great extent, while 25.3% indicated to great extent and 5.7% indicated to a very great extent.

The respondents were asked to indicate whether distance from home indeed influences student's enrolment into secondary schools, 62.2% indicated to a fairly great extent while 26.4% indicated to a great extent and another 7.1% indicated to a very great extent. In regards to whether the school mean grade, a majority (66.5%) of the respondents indicated that school mean grade influences student enrolment to a fairly great extent and 26.4% indicated to a great extent. The findings imply that the students value the school mean grade and this influences their decisions on whether to enroll in secondary schools or

not. It therefore implies that students with good grades and from schools with a high mean grade are more likely to join secondary school than students from poor performing schools.

Table 4.8: School Based Factors and Male Enrolment Descriptive

Statement	Not at all(%)	Little extent(%)	Fairly great extent(%)	Great Extent(%)	A Very Great Extent(%)	Mean (S.D.)
Cost of education	2.8	1.7	4.8	21.9	68.8	4.52 (0.89)
Availability of learning resources	2.3	2.0	20.5	68.5	6.8	3.76 (0.706)
Managerial skills (Head teachers)	2.6	2.3	64.2	25.3	5.7	3.29 (0.722)
Distance from home	2.8	1.4	62.2	26.4	7.1	3.34 (0.752)
The school mean grade	2.6	2.8	66.5	21.9	6.2	3.26 (0.729)
Average	**2.6**	**2.0**	**43.6**	**32.8**	**18.9**	**3.63 (0.760)**

Notes: Standard deviations in parentheses

The means of greater than 1 and less than 1.5 implied that the school based factors influenced student enrolment to no extent. Means of greater than 1.5 and less than 2.5 implied that school based factors influenced student enrolment to a little extent. Means of greater than 2.5 and less than 3.5 implied that school based factors influenced student enrolment to a moderate extent. Means of greater than 3.5 and less than 4.5 implied that school based factors influenced student enrolment to a greater extent. Means of greater than 4.5 implied that school based factors influenced student enrolment to a very great extent.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of near 1 indicates that the responses are moderately distributed, while that near 0 indicates that there is no consensus on the responses obtained. An average of 0.928 for all statements on school based factors indicates that the responses are moderately distributed.

4.7.3 Descriptive Analysis on Environment Based Factors and Male Students' Enrolment

The respondents were asked to state as to what extent environment based factors influenced individuals to join or not to join secondary schools. Table 4.15 shows that 51.4% of the respondents indicated that availability of adult based economic activities influenced school enrolment to a great extent, and another 22.4% indicated to a very great extent , this brings to a total of 73.8% of those who indicated to a great extent while 2.6% indicated to a fairly extent. Twenty one percent of the respondents indicated that availability of adult based economic activities influenced school enrolment to a fairly great extent and 3.1% indicated that it does not influence school enrolment at all. In addition 45.5% of the respondents indicated that availability of youth based economic activities influenced school enrolment to a great extent while 24.7% indicated to a very great extent. This brings to a total of 70.2% of those who

indicated availability of youth based economic activities influenced student's enrolment to a great extent.

The study findings further indicated that 46.3% of the respondents were in agreement that role model influenced students enrolment to a fairly great extent, while 29.3% indicated to a great extent and 17.3% indicated to a very great extent. Majority (72.4%) of the respondents indicated that alcohol and substance influenced student enrolment in secondary schools to a very great extent and another 14.8% to a great extent, this brings to a total of 87.2% of those who agreed to a great extent that alcohol and substance abuse influences student enrolment in secondary schools.

A mean of greater than 1 and less than 1.5 implied that the environment based factors influenced student enrolment to no extent. Means of greater than 1.5 and less than 2.5 implied that environment based factors influenced student enrolment to a little extent. Means of greater than 2.5 and less than 3.5 implied that environment based factors influenced student enrolment to a moderate extent. A mean of greater than 3.5 and less than 4.5 implied that environment based factors influenced student enrolment to a greater extent. A mean of greater than 4.5 implied that environment based factors influenced student enrolment to a very great extent.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the

individual responses to each factor vary from the mean. A standard deviation of near 1 indicates that the responses are moderately distributed, while that near 0 indicates that there is no consensus on the responses obtained. An average of 0.928 for all statements on environment based factors indicates that the responses were moderately distributed.

Table 4.9: Environment Based Factors and Male Enrolment Descriptive

Statement	Not at all(%)	Little extent (%)	Fairly great extent(%)	Great Extent (%)	A Very Great Extent (%)	Mean (S.D.)
Availability of adult-based economic activities	3.1	2.0	21.0	51.4	22.4	3.88 (0.885)
Availability of youth based economic activities	3.1	1.7	25.0	45.5	24.7	3.87 (0.912)
Role model	3.7	3.4	46.3	29.3	17.3	3.53 (0.942)
Alcohol and substance abuse	3.7	1.7	7.4	14.8	72.4	4.51 (0.973)
Average	3.4	2.2	24.9	35.3	34.2	3.95 (0.928)

Notes: Standard deviations in parentheses

4.7.4 Logistic Regression Model of the Effect of Socio Economic Factors on Enrolment of Male Students to Secondary Schools

Given the binary nature of the dependent variable (enrolment), logistic regression, a binary response model, was applied. Parameters of the model predicting enrolment status were estimated and results are presented by Table 4.3 and Appendix Table 6a.

Table 4.10: Binary Logistic Regression of Male Enrolment against Home Based, Environmental and School Based Factors

Independent Variable	Parameter (Coefficient)	Significance (P>z)
Age (base: 12- 14 years)		
15-17 years	*0.423*	*0.114*
>17 years	*0.187**	*0.098*
KCPE grade of respondent (base: Grade B)		
Grade C	*0.075*	*0.208*
Grade D	*0.034*	*0.127*
Household income (base: <Ksh 6,000)		
Ksh 7,000- 10,000	*0.022***	*0.046*
Ksh Above 10,000	*0.291***	*0.013*
Average school fees (base: <Ksh 10,000)		
Ksh 10,000-15,000	*-0.238**	*0.073*
>Ksh 15,000	*-0.146***	*0.046*
Mean grade of school chosen (base: Grade B)		
Grade C	*-0.072*	*0.911*
Grade D	*-0.458*	*0.347*
Distance to nearest school (base: 1-2 Kms)		
3-4 Kms	*0.093*	*0.741*
>5 Kms	*-0.791***	*0.019*
Number secondary nearby schools (base: None)		
1-2 schools	*-0.134***	*0.017*
3-4 schools	*0.152****	*0.000*
5 or more schools	*0.441****	*0.001*
Economic activity (base: crop/livestock farming)		
SME business/trade	*-0.119*	*0.675*
Farming and business	*0.308***	*0.036*
Casual labor	*-0.464**	*0.091*
Constant	*0.003*	*0.998*
LR chi2(15)	=	22.40
Prob > chi2	=	0.000
Pseudo R^2	=	0.462
No of observations (n)		351

Notes:
LR means Likelihood Ratio
**, **and* **indicates parameter attains significance at 10%, 5% and 1% test levels (p< 0.1, p<0.05 and p< 0.01)*
The log likelihood function is maximizing at the 3rd iteration
Maximum log likelihood = -231.35134

Logistic regression seeks coefficients that maximize the log likelihood function (LL<0) through iterating band algorithm. This is reported by the LR Chi-square value which should be as huge as possible, and confirmed by the probability of obtaining a higher $\chi 2$ in the population. This probability (p-value) should be less than 0.05 at 5% level of statistical significance.

The likelihood of the model is the probability that you would observe dichotomous outcomes (that is either an enrolled or a not-enrolled male respondent) from the sample, given the coefficient estimates of independent variables. The logit algorithms maximize the logarithm of this likelihood, and since probabilities lie between zero and one, the log likelihood is always negative. Our maximum log likelihood of obtaining predicted enrolment status from the sample is -231.35134 whose test Chi-statistic is calculated by the following formula.

$$\chi^2 = -2[\ln L(constrained) - \ln L(unconstrained)] \sim \chi^2(j) \quad = 22.40$$

Since the calculated chi-square statistic is highly significant at 1%, then the null hypothesis that the constrained model is better than the unconstrained model is rejected. Hence including our independent variables as covariates to

the model has improved prediction power over and above the model with intercept alone.

LR Chi-square tests joint significance/importance of covariates in estimating enrolment status. The null and alternative hypotheses are consecutively

$H_o: \beta_i = 0; H_a: \beta_i \neq 0$ for all i = 1, …, n independent variables.

The acceptance/rejection criterion is that if the computed χ^2 is greater than critical χ^2 or if (p<0.05%) as in this study, we may reject the null in favour of the alternative hypothesis at 5% significance level. In our case we reject H_o meaning that home based, environmental and school based factors (age, KCPE mean grade of respondent, household income, average school fees, mean grade of school chosen, distance to nearest school, number secondary nearby schools, economic activity) are important determinants of male student enrolment to secondary school.

Results have a pseudo R-square of 0.462 which loosely means 46% of the enrolment is determined by age, KCPE mean grade of respondent, household income, average school fees, mean grade of school chosen, distance to nearest school, number secondary nearby schools, economic activity. However, the importance of pseudo-R squared is less than the LR Chi-square and coefficients as reported by Gujarati (2004). Pseudo R-square calculated in logistic regression differs from the ordinary R-square in the case of OLS regression.

4.7.5 Interpreting the Coefficients

The estimated coefficients of logistic regression are interpreted so that instead of the slope coefficients (β) being rate of change in Y (the dependent variable) as X changes (as in the Linear Probability and Ordinary Least Square regression), now the slope coefficient is interpreted as the rate of change in the log of odds as X changes (Gujarati, 2004). The logistic regression coefficients estimate the change in the log of odds of enrolment for a one unit change in the independent variables (McFadden, 1973; Agresti, 2002).

Interpreting results of Table 4.2, males who are aged 15-17 years have 0.42 higher odds of enrolment compared to males in the 12-14 age brackets, holding other factors constant. This result is statistically significant at 5% level. However as males get older than 17 years, their odds of enrolling to secondary school do not increase. This finding can be compared to a study by Department for International Development (DFID, 2009) from Ghana which established that, late school enrolment can negatively affect Enrolment of students as well as completion. In Uganda, Wells (2009) found that age-appropriate enrolment to secondary schools was connected to economic well-being. This study used 2000/2001 data from Uganda Bureau of Statistics for the Uganda DHS Ed Data Survey (UDES).

The performance of male students at lower (primary) levels of schooling does not seem to be an important factor affecting enrolment of male students. This is because, holding other factors constant, the coefficient associated with grade attained by respondent at Kenya Certificate of Primary Education (KCPE) is not statistically significant at all levels of hypothesis testing. Actually there was no statistical significant change in relative odds of enrolment for male students with grades C and D which made them more or less likely to enroll in secondary schools than students who scored grade B. This result is important to reflect on, because the findings from this study shows the importance of KCPE performance in terms of securing vacancy in secondary school levels is relegated in favor of other factors, which goes against expectation.

Compared to households whose monthly income is Ksh 6,000 and assuming other factors constant, males whose households earned Ksh 7,000- 10,000 had 0.022 higher odds of enrolling to high school. Males whose households earned more than Ksh 10,000 as monthly income had a 0.291 higher odd of secondary school enrolment, ceteris paribus. Hence better economic status of the household can positively affect enrolment rate of male students.

The findings of this study on household income agree with Reardon, Baker and Klasik (2012), Achoka (2007) and Wells (2009) who found that economic wellbeing of household can directly affect educational outcomes of children as found out by Wells (2009) who examined age-appropriate enrolment to

secondary schools in Uganda. The study utilized data collected in Uganda in 2000/2001 by the Uganda Bureau of Statistics for the Uganda DHS Ed Data Survey (UDES). Modeling was done using logistic regression technique. Wells (2009) inferred that households that are better off economically are more likely to send their children to secondary school and vice versa. Achoka (2007) found that inability to pay school fees due to poverty and anti-social hazards of violence, sexually transmitted diseases and drug-abuse were important causes of low enrolment in secondary schools in Kenya. Other factors include peer influence and indiscipline associated with a certain school.

Cost of education had a negative effect on enrolment of male's students in Kirinyaga County. Students whose neighborhood schools charged between Ksh 10,000-15,000 had -0.238 lower odds of enrolment (ceteris paribus) compared to those who charged below Ksh 10,000. Similarly, students whose neighborhood schools charged above Ksh 15,000 had -0.146 lower odds of enrolment (ceteris paribus) compared to those who charged below Ksh 10,000. Performance of secondary schools in Kirinyaga does not emerge as an important determinant of male student enrolment. The mean grade of school chosen did not have a statistical significant effect on male student enrolment to secondary schools in Kirinyaga County.

Distance travelled to the nearest school was important in determining enrolment of male students to secondary schools in the study area. Compared to a distance to nearest school of 1-2 Kms, male respondents who had to travel over 5 kilometers had a -0.791 lower odd of enrolment to secondary school. On a similar note, availability of schools near the respondent had a positive influence on enrolment of male students to secondary schools. For example, odds of enrolment were higher among respondents with 5 or more schools in their neighborhood as compared to those living in a location without one. Odhiambo (2015) and Namukwaya (2014), also found distance to have an effect on enrolment since students who have to walk long distances are less likely to enroll in academic programs.

Economic activity of the household head also had an effect of enrolment of male students to secondary schools. Compared to respondents who reported the household head as practicing crop/livestock farming, households practicing a combination of farming and business had 0.308 higher odds of male student enrolment. Also, households whose head was a casual labor had -0.464 lower odds of male student enrolment to secondary schools. It is likely that economic activity was connected to economic ability to finance education.

4.7.6 Factor Specific Models of the Effect of Home Based Factors, School Based Factors and Environmental Factors on Enrolment of Male Students to Secondary Schools

This section contains the results of three regression equations in which male student enrolment has been modeled as a function of grouped variables specific to home based factors in equation1, school based factors in equation 2 and environmental factors in equation 3. Respondents were asked to rate on a five point scale their perceptions - the extent to which they believed that the variable presented to them influenced their joining or not joining secondary school in year 2015. A mean of responses to the 5-point scale was computed for each respondent and used as predictors of enrolment.

Tables 4.12, 4.13 and 4.14 each contain two estimations therefore two sets of parameters (coefficients). The first set of parameters comes from estimation of a normal logistic regression whereby coefficients are interpreted as odd ratios (dy/dx). Each such coefficient tells about the change in odds of enrolment for a unit change in the predictor. The second set comes from marginal effects after logistic regression. This second set of coefficients is interpreted as change in probability of male student enrolment from a unit change in predictor.

4.7.7 Marginal Effects of Change in the Home Based Explanatory Variables on Male Enrolment

Marginal effects help to explain the specific effects of each of the covariates on enrolment status. Interpretation of regressor coefficients depends on whether the variable is binary or continuous. Whereas the coefficient of continuous predictors can be interpreted directly, that of binary nominal variables becomes the index of the exponential constant.

Table 4.11: Logistic Regression Model: Perceived Effect of Home Based Factors on Enrolment

Independent variable	Enrolment status (1=enrolled, 0= not enrolled)	
	dy/dx value (odds ratio)	Marginal effects (Change in probability)
Household head income	-.411339***	-.0037618**
Parental occupation	1.057647	.0096724
Constant	2.095513	-

Notes:
y = Pr(enrolment) (predict) = .99076962
(#) dy/dx is for discrete change of dummy variable from 0 to 1
****, ** and * indicate statistical significance of parameters at 0.01, 0.05 and 0.10 levels respectively*
Number of obs = 351
Pseudo R2 = 0.0468
*LR chi2(2)=23.5****

The model was able to predict enrolment status for 99.07% of respondents meaning that it had high accuracy. The joint effect of home based factors on

change in enrolment status specifically to home based factors was statistically significant [LR Chi2 (2, d.f.) = 23.5]. The odd of enrolment was lower among respondents with a strong belief that income of their household head strongly influenced their enrolment status, (ceteris paribus). Indeed the probability of enrolment declined by -.0037618 among respondents who rated income of household head to have high influence on their enrolment.

Respondents who believed that parental occupation strongly influenced their enrolment status had odds of enrolment to secondary school. The probability of enrolment increased by .0096724 among respondents who rated parental occupation has high influence on their enrolment. A more meaningful understanding of this analysis comes from significance of independent variables whereby, the coefficient of income of household heads is statistically highly significant. This makes household income a more important predictor of male enrolment to secondary schools than occupation of the parents. Similar findings were observed by Obasuyi and Igbudu (2012) who researched into perceptions of Nigerian secondary school students on the socio-economic and socio-cultural factors hindering educational achievement with an engendered approach. Using a sample of 504 respondents in 12 secondary educational institutions it emerged that both males and females perceived socio-economic factors as important influences to their secondary education. For example, "poverty determines a student's parental socio-economic status which borders on whether or not they can eat adequately; acquire school

materials; pay for tuition and opportunity costs in terms of time spent in school". Achoka (2007) found that, inability to pay school fees due to poverty and anti-social hazards of violence, sexually transmitted diseases and drug-abuse were important causes of low enrolment to secondary schools in Kenya. Other factors include peer influence and indiscipline associated with a certain school. Achoka (2007) concluded that the principal plays a vital role as an advisor and developer to ensure that secondary school principal should put academic and co-curriculum programmes are attractive and competitive in order to fully occupy all students while at school.

4.7.8 Marginal Effects of Change in the School Based Explanatory Variables on Male Enrolment

Table 4.12: Logistic Regression Model: Perceived Effect of School Based Factors on Enrolment

Independent variable	Enrolment status (1=enrolled, 0= not enrolled)	
	dy/dx value (odds ratio)	Marginal effects (Change in probability)
Cost of education	-.1084337***	-.0008176 ***
Availability of learning resources	.8114225***	.0061184***
Managerial skills (Head teachers)	-.4583214	-.0034559
Distance from home	-.8166304**	.0061577*
The school mean grade	-.321342	-.002423
Constant	1.169593**	-

Notes:

y = Pr(enrolment) (predict) = .99240194

(#) dy/dx is for discrete change of dummy variable from 0 to 1

****, ** and * indicate statistical significance of parameters at 0.01, 0.05 and 0.10 levels respectively*

Number of obs = 352

Pseudo R2 = 0.0468

*LR chi2(2)=35.8****

Respondents who believed the cost of education was a major influence to enrolment had a decrease in odd of enrolment which was also statistically significant. Equally looking at the marginal effects, assuming other factors held constant, perception that costs can influence enrolment among male students was associated with a -.0008176 reduction in probability of that male being enrolled in secondary school. Perceptions on availability of learning resources and managerial skills of head teachers had respective, positive and negative effects enrolment but the corresponding coefficients of these variables were insignificant. Hence, using data from the study area, these factors were not important considerations on male enrolment to secondary school. Controlling for other factors, perceptions on distance between school and home as well as school mean grade emerged as important factors influencing enrolment (their corresponding coefficients were statistically significant at 0.05).

4.7.9 Marginal Effects of Change in Environmental Factors on Male Enrolment

Table 4.13: Logistic Regression Model: Perceived Effect of Environmental Factors on Enrolment

Independent variable	Enrolment status (1=enrolled, 0= not enrolled)	
	dy/dx value (odds ratio)	Marginal effects (Change in probability)
Availability of youth based economic activities	-.2430534**	-.0013631**
Availability of a role model	.-.1869056*****	-.0010482******
Alcohol and substance abuse	1.137694******	.0063806*****
Constant	1.649893******	-

Notes:
y = Pr(enrolment) (predict) = .9943598
(#) dy/dx is for discrete change of dummy variable from 0 to 1
****, ** and * indicate statistical significance of parameters at 0.01, 0.05 and 0.10 levels respectively*
Number of obs = 351
Pseudo R2 = 0.1823
*LR chi2 (2) =7.98****

Marginal effects of environmental factors were jointly significant since the calculated Chi-square was 0.798 significant at 5%. Similarly model power was good with a 99.4% of respondent enrolment status correctly predicted. Results of environmental factors indicated that, availability of youth based economic activities emerged as an important influence of enrolment status of male respondents to secondary schools.

Amuda, Ali, and Durkwa (2016) conducted research on gender difference in academic performance in economics subject among senior secondary school students in Maiduguri Metropolis, Borno State, Nigeria. Their intention was to determine whether there were gender differences in performance of the subject. Findings revealed that indeed, male students had better grades than the female counterparts and environmental factors are likely to play a role.

Similarly, availability of a role model and influence from alcohol and substance abuse emerged as important predictors of male student enrolment to secondary schools for both models (that is for both change in odd ratio and change in marginal effects).

Igbinedion (2011) was supportive of the view that inequality in education access was partly due to differential treatment of boys and girls in schools. According to the study, one-gender dominance in enrolment to academic programs could be attributed to biased processes or socialization and stereotyping.

4.8 Discussion from the Finding

4.8.1 Home Based Socio- Economic Factors in Relation to Male Student Enrolment

4.8.1.1 Relationship between the Age and Enrolment

The tests done on the age of the student established a significant chi-square of 5.15 at 2, degree of free and X-statistics of 1.87 at likely-hood ratio of 10%. Both the test indicated that, there is significant relationship and effect on the age of the male student and enrolment.

According to UNESCO (2008) average students were more likely to repeat grades and eventually drop out of school. The report indicated that, repetition of grades and dropout of school is more common in sub Saharan African. According to Colclough et al. (2000), more children from poor backgrounds were likely to withdraw from school as they get older, particularly as the opportunity cost of their duration in school increases. Thus the student will value the economics of being in school rather than being out of school, and make decisions accordingly. (Knut, 2009) observed that the presence of Youth Based Economic activities encourage the male students to drop out of school and engage in economic activities. That in order to supplement the household income, aged students will more likely feel displaced while being in a school that is composed of young students. This will create a "social-psychology dilemma" since the age difference will make it hard for him or her

to socialize with his peers. Thus, such a male student will opt to drop out of school and probably be able to socialize with his age mates.

4.8.1.2 Household Income

The analytical results from the test done on the relationship between household income and enrolment established 7.7% respondents from households' income bracket 10,000 and above were enrolled compared to 46% of those enrolled from household income of less than 6000. Similarly the regression results indicated a high significance level. This shows that household income is a significant determinant of male student enrolment.

Research studies by Barreru, Osorio,et all, Glewwe & Chang (2010), found that there is link between household income and enrolment. That the child enrolment retention, and completion rate is seriously affected by the level of household income. Glewee (2010) calls poverty (low household income as a possible explanation of school disruption, while Wang (2010) mentioned it as contributing factor of children drop-out in rural areas of China. That, children from better off households are more likely to remain in schools whilst those from poor are more likely not to attend school or dropout once they enroll.

In addition, research conducted in rural China by Glewove &Kreme (2006) found that poor and resource constrained students are more than three times likely to drop out of school than other children from well-up household.

Colclough (2000) observed that those children at schools were on average, from better-off families than those who had dropped out. That poor household tends to lower the demand for education than the rich families, whatever the benefits of schooling.

According to Fiszbein and Shady (2009), the opportunity costs of schooling are associated with labour shortage, lack of resources and service lost due to sending children to school. Child labour is indispensable to the survival of many rural households in sub-sahara African, Agricultural works, and domestic work (cooking collecting fuel, fetching water) marketing as well as child care services are required from children. The need for domestic labour has grown with the rapid growth of urban area. That poor parent actually responds by sending their children into domestic labour market in order to supplement their household income. There is household income and education enrolments are inter-related household income can affect educational attainment and attendance. A research conducted by World Bank (2004) in rural household of Sokoto state Nigeria established a significant link between household income and enrolment. That enrolment, to a large extent depends on the level of household income.

In central region of Kenyan, poverty levels are at 46% (Kenya Bureau of Statistics, 2015). This means that most household have low income earners. In such scenario, most households may not meet the costs of education required.

This implies that, most household will either not enroll their children in secondary level of education or send their children to child labour in order to supplement their income.

4.8.1.3 Relationship between Household Head Income and Enrolment

The regression analysis on the relationship between house-hold head income and enrolment established statistical significant relationship between male student enrolment and house-hold lead income. That the household head income is to a large extent, determinant of enrolment of male students, and thus an important predictor of male student enrolment.

Research conducted in rural china Glewere & Kiere (2006) found that "poor and resource constrained" children are more than three times likely to drop out of school than children from well-up families. The findings were supported by Colchough (2000) who observed that, there is link between wealth and school retention. That the children in school were on average from better-off house-hold than those dropped off. That poor household tends to have lower demand for education, than wealth house-hold.

According to Barreru-Osorio et at 2008, the major reasons parent offer for not enrolling their children or removing them from school are no more than, fees for registration, admission, examinations, parent teachers association, cost of text books and stationaries and cost of transportation among others. Grahem-

Browne 1991 and Wajema (1993) argues that low socio- economic status forces hold house to have short falls in income which has powerful impact on the education of their children. This is supported by Fiszbein & Shaddy (2009) who observed that the opportunity costs of schooling are associated with labour shortage, resources and services cost due to sending children to schools. That child labour is indispensable to the survival of many rural household in sub-sahara Africa that means poor parents send their children to domestic labour in order to supplement their income directly or indirectly.

House-hold income which determines the level of house-hold poverty has far reaching effects on the education of the household. The demand for education, whether derived demand or demand in general is actually determined by the ability of the household to meet the costs of education. Low income earners, have difficulties in meeting the costs of education. Holding other factors constant, investment is equal to saving in an economic situation where the household is unable to meet the basic cost of survival (Food, shelter, and clothing) the household will be unable to save. The inability to save means that there is no income left for investment. Since education is a long team investment, this would imply that the household demand for children education minimal. Considering that poverty levels in central region of Kenya is about 46%, the Enrolment of male student who is expected to engage in child labour in order to supplement household income, will always remain low. This will lead to vicious process of poverty, and the process will continue until some interventions are put in place.

4.8.1.4 Parental Occupation and Enrolment

The test done on parental occupation and enrolment using chi square (x^2 and z-statistics) found a significant level of relationship and effect between male enrolment and parental occupation. That male student enrolment to an extent is dependent on parental education.

According to Ersado (2005), the house-hold education levels are an influential factor on children, and it determines their access to school. The finding is support Connelly & Zheng, 2003, who observed that non-educated parent cannot provide the economic support and often do not appreciate schooling, accordingly the probability of enrolling in school can be increased by 9.7% and, 17.6% in primary and secondary respectively if the mothers are educated. They also claimed, that, by educating girls, the educated mothers are concerned with the economic power and status that comes up with education, which trickles down to their daughters who are educated, hence the ability to make house-hold socio-economic decision, which enhances economic status of the household (Glick and Shan's, 2000).

Research studies have established that there is positive correlation between earning and parental levels of education. According to Hanushek and Kain (2007) parents with more education are likely to earn more than parent with low levels of education. This is due to the various opportunities that require knowledge and skills. Thus, a household with low levels of education will earn

inadequate income which renders household incapable of educating their children. In most come, such household will send their children to child labour, especially boys in order to supplement their income.

The level of education also determines the extent of the fertility rate. Highly educated parent are less likely to have a big family, while parents with low levels of education will have large family, Coleman & Ernest (1966). Holding others factors constant, the household income of a given household will only support certain number of children in family's socio-economic set-up. This is because, large number of children will consume large portion of income leading to less saving. Thus, the more the number of children in a household, the more the consumption and the lower the saving leading to low investment in education, and therefore low demand for education. Low demand for education implies low retention and low gross enrolment rate.

The parental level of education and occupation status also acts as an incentive for their children to enroll. It sets a positive attitude, toward education as a beneficial and long-term asset, thus encouraging their children to join school and thus leading to increased enrolment.

4.8.2 Relationship between School-Based Socio- Economic Factors to Male Student Enrolment

4.8.2.1 Cost of Education and Enrolment

The descriptive statistical test of independent (x^2) and test of effects (regression) established that school levies are of paramount importance in determining male student enrolment.

According to Fiszbein and Shady the opportunity cost or foregone of education result to labour shortage, and households respond by not enrolling but by withdrawing their children from school in order to offer services in the labour market.

Backer (1975) observed that, the decision to make investment in education is determined by the costs and benefits in education. Thus, if the costs outweigh the benefit, the household does not enroll and vice versa.

Education (enrolment) as a long term investment is largely based on the costs involved, both indirect, direct, and opportunity cost. These costs are; tuition fees, boarding fees, transport cost, uniform cost, development costs and other miscellaneous costs. Others cost involved are time lost during the period one is in school, the social and economic opportunity forgone while one is engaged in schooling and also the future thesis earning of the funds invested in education. Those costs will determine demand for education. In Kenya, it has been observed that the transition rate increased tremendously in 2009, after the

introduction of free tuition primary and secondary school education (MOE 2010). This is because the cost of education was sliced by half; hence the household could afford sending their children to school.

Education in Kenya is highly subsidized. Holding other factors constant, the low level households cannot afford the full cost of education. Areas of subsidy in our education system include salaries and allowances for teachers, grants for infrastructures, (classrooms laboratory equipment and building), funds for purchase of land to build school, food relief in some areas, bursaries and other sponsorship. This is done by government, private sectors and NGO. If the subsidies were removed, the cost of education will spring up and very few if any house-holds, will afford to send their children to school.

Education is "a derived demand", that is, investment in education is largely due to the needs requirement in the labour market; (skills, knowledge and experience in labour market). Thus, measures should be put in place to ensure a continued and active learning, for the school going age, in order to enhance, sustain and accumulate a pull of human capital and therefore enhance economic development for our country.

4.8.2.2 Availability of Learning Resources

The logistic regression test on the marginal effect on availability of learning resource on male enrolment indicated a positive effect on the two variables.

This means that availability of learning resources are important predictors of male student enrolment, and thus male student enrolment is dependent on the availability of learning resources.

UNESCO (2008) observed that the main reason that children of school going age do not enroll is because of lack of teaching and learning resources. Bella and Mputu (2004), in the UNESCO report (2008) noted that lack of enrolment will occur when the absence of resources', collide with students lack of confidence in the school system.

According to the "conflict theory (1960), the affluence areas receives better education than those in less affluent areas. That enrolment and retention is considerably high in affluence are than less affluent ones. This is due to the fact that the schools are provided with better teaching learning resource by the resident of the said place. Thus, not only do the students who attend such schools gain substantial advantages but also acquire high paying jobs.

According to KNUT (2009) the society in central region of Kenya has been investing more on protecting the girl child than boy child. That there are few boarding schools for male students compared to female student in the region. The result is that the boy-child is less attended and becomes an easy prey to alcoholism and domestic conflict, hence low enrolment.

Mureithi (2010) observed that the boys child education welfare has been neglected (provision of resources') at the expense of the girl-child. That little attention has been offered to the boy child thus leaving the boy-child to face up life threatening factors which contributes to their failures.

A study conducted by Quek, Wong and Fraser (2002) found that, male students were demotivated by lack of equipment in chemistry laboratory, lack of motivation in a school may lead to low morale hence low retention and eventually low enrolment. Poor or lack of infrastructural facilities, such as lack of enough classes, sanitary facilities, electricity, problem of water, lack of praying ground, poor student teacher ratio, absence of lunch programme, and lack of teaching and learning materials will demotivate student, teachers and parent like. This will eventually lead to lack of confidence and trust in education system, and thus, very few people will be willing to be enrolled or to enroll their children, and therefore low enrolment (MOE central region 2009).

4.8.2.3 Managerial Skills

The test done on the effect of managerial skills of head teacher and male enrolment found a very weak effect on the two variables. Thus, a managerial skill of head teacher is not important predictors of male student enrolment, and therefore male student enrolment is independent of managerial skills of a head teacher.

4.8.2.4 KCPE Grades in Relation to Enrolment

The results from both the descriptive analysis and logistic regression indicated a very weak chi-square and Z-statistics. This shows that there is a weak relationship between the grades acquired in primary school and male enrolment in secondary schools. Thus, there was no effect on male student enrolment and KCPE grades attained and therefore the enrolment of male students is independent of the grade attained at primary school level of education.

4.8.2.5 School Relationship between School Levies and Enrolment

The results from both test of independent (x2) and regression (z-stutistics) found school levies to be an important predictor of male student enrolment. Thus male student enrolment is to an extent dependent on the school levies charged.

According to Barreru-Osorio et al., 2008, direct and indirect costs of education are the major cost of school dropout and low demands for enrolment. The costs include registration fees, admission fees, examination, parent, teachers association (PTA) fees, development fees, cost of books, and uniforms among others. In most cases, the aforementioned charges do not appear in school fees structures, they are usually hidden fees introduced either during registration or after the child has been registered. The accumulation effect of the aforesaid

costs, will lead to high schools levies, which overburdens the parents, hence low enrolment.

In addition, it's worth to note that, in Kenya, Education at secondary school is highly subsidized; very few households would manage to afford the total cost of education if it were not subsidized. However, as much as the education is highly subsidized, education is an essential service, and every person has right to this essential service regardless of Gender, (UN and EFA, 2015). Despite the fact that education is an essential service and is highly subsidized, the general poverty index do not allow mass enrolment or transition rate to secondary level of education, hence the low of enrolment.

4.8.2.6 Distance to the Nearest School in Relation to Enrolment

The chi-square analysis on distance travelled to school revealed significant relationship between, enrolment and distance travelled to the school. Similarly Inferential Statistics indicated that distance travelled to school has effects on male student enrolment. It therefore means that, male students living far away from school are less likely to enroll and vice versa.

Quek, Wong and Feld (2002) argues that availability of school facilities may affect the Enrolment of student. That is, if there are no schools in a certain area, the students will either have to travel long distances to access education, or join a boarding school, which may be difficult to join due to prevailing poverty levels.

According to MOE central region (2009), Central region has more girls school than boys school, pointing out that there is negative bias on boy child's education. It is also evident that a significant amount of resources have been invested in the girl child by NGO's and government sponsored Thesiss hence neglecting boy child education. (KNUT 2012).

Long travels to and from schools have various short comings. Long distance exhausts the energies of the students involved and by the time the student arrives in school, he has little energy left for proper concentration in the teaching and learning process. These acts as a deterrent to proper learning and the student therefore develop a negative attitude toward learning. Moreover traveling long distance to school is affected by weather or adverse climatic conditions. These include rain, high temperature, cold, rough terrain, impassable roads, dusty roads and other vulgaries of natures. These factors may affect the male student and in most cases the student will opt not to enroll or drop out of school. Thus, the aforementioned factor will demotivate the student from enrolling leading to low GER, and NER, as it is in central region of Kenya.

4.8.3 Relationship between Environmental Based Socio-Economic Factors to Male Student Enrolment

The regression analysis done on the effects of environment factors on the male enrolment indicated a positive effect on the two variables. That environment factors have high effect on the enrolment of male student hence male student enrolment is dependent on environmental factors.

The effect of adult based economic activities can be discussed in various contexts as mentioned below:

1. Types of economic activities in the area
2. The nature of the adult based economic activity
3. Accessibility to economic activity

According to Calclough (2000), in African, amongst those students out of school, were children from less off household, while those enrolled were from the better off households. This is supported by Berrera, et al (2000) who links enrolment of children to types of economic activities in the surrounding. The types of household economic activity greatly determine the amount of income by the household. If the economic activity have low returns and does not lead to "economies of scale", the income derived may not be adequate to meet the basic needs of the household. This means that the household will be unable to enroll and retain their children in school, hence low enrolment.

The nature of adult based economic activities is also an influencing factor that can have both positive and negative influence on the enrolment. Economic activities that are illegal or outlawed like manufacturing of illicit brews (alcohol) or selling of drugs (bhang) are not sustainable and most likely one end up being convicted and consequently denied the crucial income needed to cater for the costs of education. Cases of this nature have been reported in central region of Kenya where most men are both "manufacture and consumer of illicit brew", thus leading to low enrolment.

According to African tradition, certain activities are usually preserved for the youth, but when performed by adults, the respect attached to them diminishes. Such activities, like touting, hawking and others are preserves for the youth. Thus when an adult is involved in such activities, the economic returns will be less which will not be adequate to meet the education needs of the household.

The accessibility to an economic activity can influence enrolment, that is, if the economic activity is seasonal, or just periodical. If the activity is all-season that would imply that he has sustainable household income. If it is periodical, it means he may not sustain the household income, and the implications will be an economic break in household income which will trickle down to provision of household needs, hence a break on children sustainability and retention in school and consequently low enrolment.

The kind of the economic activity may have a positive and negative influence on enrolment. In most cases, professionally oriented economic activities, such as pharmacy, veterinary services and legal services, will attract respect and earn more returns, but when the economic activity is manual and casual labour in coffee plantations, horticulture, a flower farms, tea plantation or in rice growing areas, the earning may be quite low, which will not meet the basic costs of education in the household. Moreover, the kind of economic activities may not act as role model to the children to emulate.

In Kirinyaga County, most adult based economic activities mentioned were, small and medium enterprises, manual work at coffee and tea plantations, horticulture and irrigation works at Mwea irrigation scheme among others. A close analysis on those activities indicated “a low paying” economic activities which in most cases could not afford the basic requirements or costs of education in the household, hence low enrolment.

4.8.3.1 The Relationship between Youth Based Economic Activities and Enrolment

The test done on marginal effects on youth based economic activities on male enrolment indicated a significance effect on the two variables. That, youth based economic activities to a large extent affect the male student enrolment and thus enrolment of male student can be predicted by the youth based economic activity in the neighborhood.

According to Fiszbein & Shady, (2009) opportunity costs of schooling are associated with child labour (Youth based economic activity) resources, and services lost due to sending children to school. Child economic activity is indispensible to survival of many rural household in sub-Sahara African, that agricultural works, domestic work (cooking, collecting fuel, and fetching water) marketing (hawking) as well as child care services are derived from children. Poor rural households respond by sending their children into domestic labour market in exchange for regular cash to supplement their household income.

A research study done by Kutreti & Saxena (2004) in Zimbabwe found that, the economic value of a girl takes priority over education. That, the household would better send the girl to child economic activity than be enrolled in school.

Hanushek and Kain (2007) in their research studies, argues that households with low income will opt to educate some of the children particularly girls and abscond boys since boys can be employed easily in the agricultural sectors, from which they can supplement household income. This may lead to low Enrolment in secondary school.

According to “Knut” Report (2009), the male student in Central region will drop out of school and engage in economic activities that will empowers his economic status. That is, the male student may not value education as much as they would value money. The fact that the tradition values the economic status of man more than the education status, the male student at early age will drop out of school engage in economic activity, get married become the head of the household and the bread earner.

In Kirinyaga county most of the respondent cited various youth based economic activities such as, boda-boda transport, business, hawking, tea-picking, casual work at Mwea irrigation schemes, small scale farming, Jua kali related work among others. These economic activities, coupled by the poverty levels and the fact that most of the household have low income, will attract the youth, to drop out of school and hence low enrolment. In addition some of the economic activities available are very popular with the youth. Like “boda boda” transport business. Thus, student will be influenced by their peers to drop out of school and engage in such businesses, in order to be part of the “peer group”. Besides, the facts that the region have several urban settlements, the youth may be influenced to leave their rural settlement, migrate to urban areas, in order to enjoy the facilities associated with urban life. All in all, the aforementioned factors will influence transition rate to secondary school and consequently low enrolment rate in the region.

4.8.3.2 Relationship between Alcohol and Drug Abuse on Enrolment

Analysis conducted on the relationship between male student enrolment and alcohol or substance abuse indicated a high significance effect on the two variables. This means that alcohol and substance abuse do affect the enrolment of male student.

The education news (2012) reported that, the boy child in central region has been dropping out of school in order to join illegal groups. That, the illegal groups is known to engage in drugs and substance abuse. This situation is worsened when scores of father who should be role models to their children also engage in consuming to much illicit brew at the expense of economic activities.

According to Mureithi (2010) the boy child in central region has been neglected at the expense of uplifting the welfare of girl child. The neglection has left the boy child to cope up with life factors himself. This have made boy the child to face numerous factors in the society among them temptation to engage in drug and substance abuse at the expense of education.

A report by Constantinos (2009) portrayed a negative picture of how boys are being influenced by their peer to engage in risk behavior (Alcohol and substance abuse) at the expenses of education, thus leading to low enrolment.

KNUT (2009) observed that the society in central region of Kenya have neglected the boy child. This negligence has made the boy child to join outlawed groups which engages in illicit activities such as trading and consumption of alcohol and substance abuse. The result is that more boys than girls are dying leading to low enrolment of male student. The influence of drugs and substance abuse can be argued in following aspect; the role played by the parents, the society, child and government policy on the issue of alcohol and drugs. The parent being the primary caretaker of the child plays a very crucial role in children enrolment. This is by offering the right guidance and also providing the resources required in school. In a situation where the households is the consumer of the illicit alcohol or drugs, several factors might take precedence; the money meant for the provision of education resources may end up being consumed by the illicit brew, more so a drunk person (parent) most often may not have the mental power to plan, implement and enhance his/her economic activities.

Lack of proper planning would therefore mean less household income and therefore less provision for education resources. The student who is taking, drugs may as well face numerous problems which may not allow him/her to remain in school. Most likely, the students probably use pocket money or school fees to purchase drugs. This will lead to disciplinary action both at school and at home making him/her to drop out. In addition, by using school fees to purchase alcohol or drugs, the student depletes household resources

which could be invested elsewhere and generate more income to educate another child. This wastage may not augur well with family resources, and the vicious cycle of poverty may apply in the household leading to "vicious cycle of academic poverty".

A society that embraces illicit brews and substance abuse may also contribute to low enrolment. In a situation where the child, the father, or mother and members of particular society or community are partakers of illicit brews, the society may not progress economically, notably because much of the time is wasted consuming alcohol, while a substantial amount of resources which could have been used in the provision of education resources are used in the consumption of alcohol. This may lead to high mortality rate, mass dropout rate leading to low enrolment.

4.8.3.3 Role Model in Relation to Enrolment

The tests conducted on the marginal effect on male enrolment and role model indicated that there is significant effect between the two variables. That role model as a factor is an important predictor of male enrolment and a crucial a variable that need not be ignored.

The UNESCO (2008) report on enrolment cited the lack of role model in a society as major contributing factor in enrolment especially in sub Saharan African.

The issue of role model in relationship to enrolment can be discussed in the following context:

- The parent as role mode
- The school (teachers and head teachers)
- The role model in the society
- The peers as role model
- The opportunity cost or foregone

According to Yousuf (2008). The parent, or rather the house hold activities may influence the child negatively or positively. In a situation where the parents understand and provide economic needs of children, the child is more likely to seek advice from the parent on issues of education. Wherever the child is not provided with basic needs and education resources required, the child is psychologically affected, and the "thinking" will be that, the parent is not in interested or is not in support of the his or her schooling, hence the child may drop out school leading to low enrolment. Moreover the parents who have not succeeded economically may portray negative picture to the children. The parent could be educated but of low economic status. The child could not understand why the parent is educated, but belongs to a low economic status while uneducated parents belong to higher economic status or economic class. This may demotivate students to remain in school or enroll leading to low enrolment.

The school situation can also act as role models to its student. Warao (2006) observed that, the school system itself can impact positively or negatively to the student. If a child dislike school, the parent should investigate the reason. If the managerial skills, of the head teacher (role model) are lacking, then the student may not be motivated to learn or retain in school. Besides, if the school cannot be able to provide teaching and learning resources and is often posting poor grades the student may not be motivated. In addition it is a natural demand that the teachers or members of school must be the primary role models to the student. If the teachers conduct is wanting, then the student will dislike schooling and may have difficulties retaining in school this will eventually lead to dropout hence low enrolment.

The community or the environment may also partly play a major part in modeling the student. According to Nkanyani (1980) the role model in a society may to a large extent motivate the child to study. In a society where there is no role model to emulate, the student may lack the self-drive, determination and motivation, to be in school. In an environment where there is no, "University Degree Graduate, and the student is pressed by the teacher to work hard to join university, the student may not understand and mostly likely the student may believe that, the community cannot "produce" a "university material", but, in scenario where the university graduates are in presence, the student will work hard in order to join university.

According to Constantinos (2002), the opinion of student peer may have more weight than the parent. Peer groups or the student peers also act as major role model. Children at certain age bracket are more inclined to their peers than the teacher or parent. In situation where no peer have succeeded economically despite being educated, the student may develop a negative attitude toward schooling, but if his a pear, have succeeded economically despite not being educated, the student may not have the urge to be in school in any case, one can succeed economically without school education.

Lack of gainful employment may also contribute to low enrolment. In a leadership seminar in central region (2010), it was observed that, there is an army of unemployed form four and tertiary graduates in central region of Kenya. In essence the idle graduates do not portray the right picture of schooling, this is because the society or community cannot understand why, resources should be used to educate a person, who will not bring forth returns on capital invested in education. This sends the wrong signal to the aspiring student who may be demotivated to remain in school, leading to dropout and eventually low enrolment.

Comment [M4]: Avoid these kind of phrases in academic work

The opportunity cost of schooling, cannot be underrated in role-modeling the student. In most cases, the household will always compute the cost benefit analysis of schooling. Fiszbein & Shady (2009), observed that the opportunity costs of schooling are associated with child labour. In a situation where

educated people have succeeded economically, the household or the student will perceive the opportunity foregone as not worth the education. Thus the student will enroll and remain in school, work hard and perform well in order to reap the benefits of schooling. However, if the un-educated succeed economically than the educated, the opportunity forgone on schooling is worth it and will work as role model, for the student to drop out of school or not enroll, in order to reap the benefit of time "wasted" in school, thus leading to low enrolment.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study, conclusions drawn from the findings of the study and the recommendations for further research.

In this study, the dependent variable was student's enrolment in school specifically male students. This was investigated in relation to selected independent variables, the home based factors, environmental based factors and the school based factors provided by the community to the education system.

5.1 Summary of the Study

The purpose of the study was to determine socio-economic factors affecting the enrolment of male students in public secondary schools in Kirinyaga County, Central region. Three research objectives were formulated to guide the study. The first one was to assess the impact of home based factors (parental occupation, parental education, household head income, family size) on enrolment of male students in secondary school in Kirinyaga County, Central Region. The second one was to evaluate the impact of school based factors (cost of education, managerial skills, school resources and facilities, availability of schools) and their effect on the male students' enrolment. While the third one was to determine whether or not environmental factors (adult

based economic activates, youth based economic activities, role model) affect the enrolment of male students in secondary school.

The study employed cross sectional survey as a research design. Questionnaires were used to solicit information from the students. The target population of the study consisted of 12,915 (standard 8 students 2014), from 195 public primary schools. The samples were selected using proportionate sampling. Data from the questionnaires were analyzed using SPSS package, while data presentation was done using Tables, pie charts and bar graphs. Analytical techniques included descriptive statistics (such as means and standard deviation), comparison of means and binary logistic regression (whereby log likelihood chi-square statistic, odds ratios, z-statistic, marginal effects were computed). Interpretation of findings was done using frequencies and percentages.

5.2 Summary of Findings

The first objective was to assess the impact of home based factors (parental occupation, parental education, household head income, family size) on enrolment of male students in secondary school. The findings indicated that home based factors had an effect on student's male enrolment in secondary schools. In addition the findings also established that house-hold income had a great positive influence on the students' male enrolment in secondary schools in Kirinyaga County. This was clearly observed on parental occupation and

level of income, since almost similar rates were observed across different occupations of the parents. This was also evidenced by the descriptive results which reflected that 93.7% of respondent indicated that household income influenced school enrolment to a great extent and 93.4% of those who indicated parental occupation influenced student's enrolment to a great extent. A majority of the parents had an average income of between 7000-10000 Kenyan shillings and hence could not afford to pay schools fees for their children which the average fees charged was 15000 shillings. The binary logistic regression results found a significant joint effect of home based factors on student's male enrolment in schools in Kirinyaga County which was confirmed by a significant log likelihood chi-square statistic (LR χ^2 =35.8, 2 degrees of freedom). Higher household income and multiple income sources of household head increased probability of male student enrolment to secondary schools. The findings imply that those male students with favourable home based factors have higher chances of being enrolled in secondary school as compared to those without or with unfavourable home based factors.

The second objective was to evaluate the impact of school based factors (cost of education, managerial skills, school resources and facilities, availability of schools) and their effect on the male students' enrolment. The study indicated that school based factors had a fairly great influence on students' enrolment.

Specifically 90.5% of the respondents indicated that cost of education indeed influences student enrolment to a great extent, 64.2% of the respondents indicated that managerial skills of head teachers influences student enrolment to a fairly great extent while distance from home indeed influences students enrolment into secondary schools to a fairly great extent (62.2%) and 66.5% of the respondents indicated that school mean grade influences student enrolment to a fairly great extent. The findings indicated that due to low household income the parents were not in a situation to raise school fees hence low enrolment levels. It also becomes difficult for the parents to provide learning and school resource materials, thus the male child is somehow neglected.

The Binary Logit regression results found significant joint effect of school based factors and male enrolment in secondary schools in Kirinyaga County. A chi square statistic of 35.8 was established at 2 degrees of freedom (significant at 5% level of testing) indicating that, cost of education, availability of learning resources, managerial skills (head teachers), distance from home and the school mean grade were all together useful predictors of enrolment. School fees and distance to secondary schools influenced male student enrolment the most.

The third objective of the study was to determine whether or not environmental factors (adult based economic activates, youth based economic activities, role model) affect the enrolment of male students in secondary

school. The study findings showed that environment based factors influenced student enrolment to a great extent. This is supported by the responses from the respondents who indicated that availability of adult based economic activities influenced school enrolment to a great extent (73.8%), while 70.2% indicated availability of youth based economic activities influenced student's enrolment to a great extent, and 46.3% indicated role model influenced school enrolment to a fairly extent and 87.2% indicated that alcohol and substance abuse influences student enrolment into secondary schools to a great extent.

Poverty as a factor pushes many boys to drop out from public secondary schools. This is shown by the findings that most of the parents earn between 7,000 and 10,000 Shillings per month while most of the fathers are casual workers. Most of the mothers had no income at all for they were not working hence conclusion that these parents live below poverty line. The findings also show that the male child is neglected and thus involves himself in youth based economic activities to raise money which in return they use to access alcohol substances. This is a worrying situation and the government should intervene to save the situation. The Binary regression results also indicated environment based factors have an effect on the male student enrolment in secondary schools as indicated by the significant joint chi-square statistic (L.R. χ^2 =7.98, 2 degrees of freedom). The findings imply that those male students with favourable environmental based factors have higher chances of being enrolled

into secondary school as compared to those without or with unfavourable environmental factors.

5.3 Conclusions

On the basis of the foregoing findings the following conclusions were drawn. To start with, the transition for male students from primary schools to secondary schools in Kirinyaga County has remained low over the years**.** This study concluded that, many students completing primary education do not progress to secondary school due to high levels of poverty among the parents probably due to low levels of house hold income coupled by ungainful parental occupation. Secondly, low levels of parental education and poverty were found to be a hindrance to male students' enrolment to secondary schools, besides not encouraging their children to continue with secondary education hence providing their children with a fertile ground for them to be engaged in informal employment. It therefore calls for some concerted action to change the parental attitude toward their children's education.

The study established that the cost of education is a hindrance toward transition to secondary schools in the county. Many poor households had difficulties meeting the requirements for enrolling their children in form one. There is need for more government support on the issue of education, targeting the poor households since is an effective way of breaking the vicious cycle of poverty.

The study found that environment based factors influenced students enrolment in secondary schools. This study also confirms that improved school environment is critical for quality education delivery through improved teaching and learning process. Kenya Education Support Programme interventions should aim at increasing funding and provision of basic schooling facilities with an aim of improving the learning teaching environment.

5.4 Recommendations

The following are the recommendations based on the findings and conclusions of this study:

i. The household should be encouraged to come up with new strategies of increasing their earnings so as to enhance their income and therefore ability to pay fees for their children. This can be communicated during stakeholders meetings in the school and other stakeholder barazas.

ii. The government should enhance the economic situation of the household so that they are able to cater for educational needs of their children. This is by assisting those students from poor families with education subsidy such as bursary and grants. This will ensure that they advance in secondary school and reduce dropout rate along with associated wastage of human resources.

iii. The household should be made aware of the importance of boy-child education through compulsory education meetings in school and at the county level.

iv. The heads of educational institutions should come up with strategies to promote transition and completion rate among boys in secondary schools like motivating the boys, guiding and counseling them and starting boy-child welfare that will check in the vices faced by boy child in school. This should be done through seminars, stakeholder meetings, media among others.

v. The government, private sector and Non- governmental organizations should intervene and provide more funds in the schools as bursaries so as to help boys from low income families finish their education. The study recommends intervention and implementation of an effective framework for participatory rural development that will ensure access, retention and completion rates of secondary school students. They include provision of bursaries to students from the Constituency Development Fund, commercial banks and civil society.

vi. The government should abolish child labor and youth based economic activities in the region in order to save the boy child who is greatly affected by the economic activities in the county. Campaigns against drug and illicit substance should be emphasized in the county since the behavior has wasted so many young boys

who are supposed to be schooling. This should be done through county government by enacting bills to that effect.

vii. Measure should be put in place to protect, promote and enhance male student education at all levels. This should be done through legislative both in county assembly and national parliament.

viii. The state and non-state actors should institute measures aimed at improving economic conditions at house hold level, thus improving household income. This should be done through subsidies on firm input, free education and by introducing appropriate farming technology.

ix. Policies should be formulated and developed to curb the increased production, sales and consumption of alcohol and substance abuse. This should be implemented by both county and central government.

x. Promotion and protectionist policies of the boy child should be put in place. This will improve the environmental conditions for boy child thus increasing the enrolment of boy child. This should be done by the county government, central government and non-state actors.

5.5 Recommendation for Further Research

The findings from the study have indicated that alcohol and substance abuse acts as a major hindrance to male student enrolment in secondary school in Kiriyanga County. It was found out that the illicit brew was not only consumed by the students but also by household head. Further research on the motivation of production, use and consumption of this illicit brew need to be investigated in order to protect the male child from this danger.

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APPENDICES

Appendix I: Letter of Introduction

University of Nairobi

Department of Educational

Administration & Planning

P. O. Box 92, KIKUYU

Dear Sir/Madam

REF: COLLECTION OF RESEARCH DATA

I am Joel Mwangi Wamichwe, a PhD student in Economics of Education, at University of Nairobi. I am conducting research on the factors affecting enrolment of male students in secondary school, in Kirinyaga County. You have been identified as one of the respondents and I kindly request for your assistance towards making this study a success. I am therefore, kindly requesting you to take some time to respond to the attached questionnaire. I wish to assure you that your response will be treated with confidentiality and will be used solely for the purpose of this study.

Your assistance is highly appreciated

Yours faithfully,

JOEL MWANGI

Appendix II: Students Questionnaire

Instructions: The questions herein indicated are designed to seek general information about yourself and the school. Please indicate the correct answer by putting a tick (√) or writing in the provided space.

Section A:

I. Home-based Questions

1. How old are you (years)?

   a) 12-14 ( )

   b) 15-17 ( )

   c) 18 and above ( )

2. What was your academic grade (KCPE 2014?)

   D ( )

   C ( )

   B ( )

   A ( )

3. What is your family household income per month (Kshs)?

   a) Less than 6,000

   b) 7,000 -10,000

   c) Above 10,000

4. What is your Gender?

   a) Male ( )

   b) Female ( )

II. School-Based

1. What is the average fee levied by the secondary schools within the locality (Kshs)?

a) Below 10,000 ( )

b) 10,000-15,000 ( )

c) Above 15,000 ( )

2. What was the school mean grade 2014 (Previous Primary School)?

D ( )

C ( )

B ( )

A ( )

3. What is the distance from home to the nearest Secondary School(Kms)?

a) 1-2 ( )

b) 3-4 ( )

c) 5 - 6 ( )

d) 7 and above ( )

4. How many classes are in your current school (secondary school)?.....

5. How many public secondary schools are within the locality?

Please indicate: .....

III. Environmental based factors

1. Which is the major youth - based economic activity in the area?

   Kindly indicate: .....

2. Which is the major adult - based economic activity in the area?

   Kindly indicate: .....

3. What made you **not to join** secondary school?

   Kindly indicate: .....

4. What made you **to join** secondary school?

   Kindly indicate: .....

5. Do you know any youth who take drugs or alcohol?

   Kindly indicate: .....

Section B

This section seeks to determine the extent to which the following factors affect Enrolment in secondary schools.

To what extent do the following factors influence one to join or not to join secondary school in the year 2015?

To what extent do the following factors influence the Enrolment of male students in secondary school	A very great extent	Great extent	Fairly great extent	Little extent	Not at all
1. Household head income					
2. Parental occupation					
3. Cost of Education					
4.Availability of learning resources					
5. Managerial skills (Headteacher)					
6.Availability of adult-based economic activities					
6. Availability of youth-based economic activities					
7. Role model					
8. Distance from home to school					
9. The school mean grade					
10. Alcohol and substance abuse					

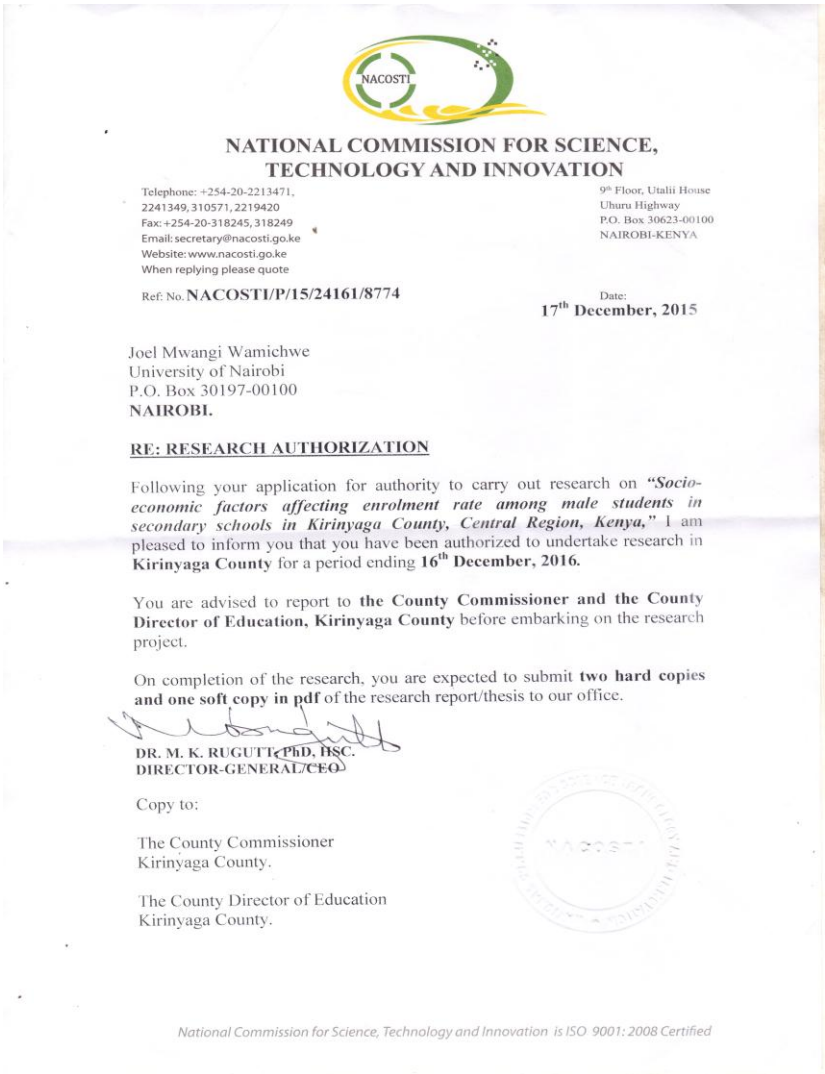
Section C

Instructions: This section seeks to determine the views on the enrolment of male students in public secondary school in Kirinyaga County, Central Region.

	Yes	No
Should a campaign for the male students' enrolment be encouraged?		
Is the boy child an endangered species in central region?		
Should the society in central region be enlightened on the need to check the vices that pose threat to male students' enrolment?		
What is your advice on what ought to be done in order to increase, retain and sustain male students' enrolment in central region? ……		

Thank you for your cooperation

Appendix III: Research Authorization



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
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Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/15/24161/8774**

Date: **17th December, 2015**

Joel Mwangi Wamichwe
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Socio-economic factors affecting enrolment rate among male students in secondary schools in Kirinyaga County, Central Region, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Kirinyaga County** for a period ending **16th December, 2016.**

You are advised to report to **the County Commissioner and the County Director of Education, Kirinyaga County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. M. K. RUGUTT, PhD, HSC.
DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kirinyaga County.

The County Director of Education
Kirinyaga County.

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

Appendix IV: Research Permit

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 7512

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. JOEL MWANGI WAMICHWE
of UNIVERSITY OF NAIROBI, 1271-10400
NANYUKI,has been permitted to conduct
research in *Kirinyaga County*

on the topic: *SOCIO-ECONOMIC FACTORS AFFECTING ENROLLMENT RATE AMONG MALE STUDENTS IN SECONDARY SCHOOLS IN KIRINYAGA COUNTY, CENTRAL REGION, KENYA*

for the period ending:
16th December,2016

Permit No : NACOSTI/P/15/24161/8774
Date Of Issue : 17th December,2015
Fee Recieved :Ksh 2,000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation