ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol.3, Issue, 5, pp.135-142, May, 2011

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

PERCEIVED EFFECTS OF GENDER ROLE STEREOTYPING ON ACADEMIC ASPIRATIONS OF PRIMARY SCHOOL PUPILS

***Ogutu, JP Joel., Odera Peter and Matemba Collins**

Department of Educational Psychology, MMUST. P.O.Box, 190-50100, Kakamega.

ARTICLE INFO

Article History:

Received 4th February, 2011
Received in revised form
5th March, 2011
Accepted 7th April, 2011
Published online 14th May 2011

Key Words:

Air-exposure, submergence,
Hypoxic, immunoglobulins,
RBC, Hb, Ht, Blood
Glucose, phagocytosis,
Lymphocyte, lysozyme,
Spleen, kidney, *Osphronemus olfax.*

ABSTRACT

For many years, academic performance among learners in primary schools has been inclined towards gender orientation. Boys have performed impressively in mathematics and sciences while their female counterparts have done quite well in languages. This study sought to investigate the effects of gender role stereotyping on academic aspirations of primary school pupils. The study adopted the descriptive survey research design. The study population comprised of the 62 primary schools in Butula district of Western province in Kenya. Purposive sampling was used to select 20 of the 62 primary schools. A sample size of 236 class eight pupils who participated in the study, were selected using simple random sampling technique. In addition, a total of 20 teachers and 1 education officer were selected purposively to give information concerning the effects of gender role stereotyping on academic aspirations of primary school pupils. Data from the teachers and pupils was collected through administering the questionnaire while an interview schedule was used to collect data from the education officer. Both qualitative and quantative methods were used to analyze the data. The findings revealed that male pupils had high aspirations for mathematics and science subjects whereas female pupils had high inclination for languages. The results indicated that gender role stereotyping created masculine and feminine perception among learners towards certain subjects. The study also revealed that teachers did little to guide pupils against aspiration for academic on the basis of gender role stereotyping.

.

INTRODUCTION

Gender stereotypes are assumptions, false ideas or beliefs certain people tend to have about others, especially to members of opposite sex in regard to ascribed cultural roles (Zalo and Akong'a, 2007) and (Singleton, 1987). According to a report by UNRISD (2009), there exists a glaring gap between male and female participation in primary and secondary education both in developing and industrialized nations. In the report, it is noted that gender disparity in career and vocational practices are indeed a global concern. The report by UNRISD (2009) points out that women are typically interested to pursue humanities, languages, and health sciences whereas men are inclined towards education in mathematics and applied sciences and technology. In America, Cook and Cussack (2010) reveal that women are subject to persistent and pervasive stereotypes that devalue them, impede their full equality and hamper their ability to make self-directed life choices. They argue that stereotypes are deeply engrained in people, particularly in the way they socially create the roles of men and women in the society. While they acknowledge efforts made to eradicate overt discrimination against women through Non Governmental Organizations (NGOs) such as Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), the above researcher maintain that stereotypes seem to be unreceptive to the law.

Corresponding author: joelogutu@yahoo.com

According to a report by Science Council of Japan (2006), Japan has made effort towards enhancing participation of men and women in scholarship as part of her bold restructuring of gender parity. However, the Gender Empowerment Measure (GEM), an annual world economic report of the United Nations (UN) ranked Japan 43rd among 80 nations in 2009. This suggested that Japan's gender equity is still low by international standards (World Economic Forum Report, 2009). In South Africa, Kornegay (2000) found girls' enrolment in schools to be over half (50.6%) of all learners by 1999. The implication was that, both girls and boys enjoy equal access to primary and secondary schooling. However, this notwithstanding, Kornegay (2000) observes that girls' drop out of school due to unplanned pregnancies and domestic responsibilities stood at 28% whereas their boys' counterpart remained at 3%. In addition, he points out that despite innovative advancement in the Republic of South Africa, gender stereotypes and female subordination is still a challenge to career preferences. (Leach, 1998) and (Gordon 1998) argues that, teachers in most African countries are responsible for social biases and discriminatory practices to learners in schools. For example, Colclough (2000) found that girls in Ethiopia and Guinea spend much time undertaking tasks for teachers, such as fetching water and cleaning than on educational activities. In addition, research by Tansel (1997) on parental education and gender in Cote de I'voire and Ghana

found inadequate career guidance, shortage of learning facilities, lack of broad curriculum and over emphasis on examinations as impediments that forces learners to choose subjects that are less demanding and easy to pass contrary to one's ability and interest.

In Kenya, investment in education is one of the core pillars of government policy. The government of Kenya's expenditure on education currently stands at about Ksh. 170 billion (USD 101 million) annually. This accounts for 17% of the national budget. The education budget for primary schools stands at approximately 5.4% of the Ministry of Education spending (Ministry of Finance, 2010). National Policy on Gender and Development (NPGD) has been developed and gender mainstreaming incorporated in the national Millennium Development Goals (MDGs) as a policy framework (GoK, 2006). Non- governmental organizations in Kenya like Federation of Women Lawyers (FIDA-K) continue to advocate for affirmative action and gender equity in all spheres of human participation. This includes removal of gender stereotyped illustrations from textbooks and other related print media and in appointments to key public offices (FIDA-K Report, 2005). In spite of these heavy investments and reforms in education and gender parity, there is overwhelming evidence that quality of education and the general performance of learners are skewed towards gender roles. For instant, in Kenya Certificate of Primary Education (KCPE) results of 2004 and 2005 indicated that boys performed better in science and mathematics while girls excelled in languages (Mathangani, 2006).

With regard to Butula district where this study was conducted, the 2007 to 2009 KCPE results also revealed disparity in performance. Based on some selected public primary schools in the district, it is evident that overall candidates' performance per subject by gender varied significantly**.** Boys performed better in mathematics with a mean score of 53.83 in 2007, 53.63 in 2008 and 52.58 in 2009 compared to girls with a mean score of 45.75, 48.16 and 47.17 in 2007 to 2009 respectively. The girls however, had a slightly higher mean score in English and Kiswahili subjects compared to boys. Consequently boys took a marginal lead in sciences in the three years. From this observation, indications are that pupils' performance in primary schools is inclined towards the masculine and feminine subjects as referred to by the society. These details are statistically shown in Table 1.

Table 1. 2007 and 2009 KCPE Examination Performance per Subject by Gender of Selected Schools in Butula District

Year	2007		2008		2009	
Gender	Female	Male	Female	Male	Female	Male
English	45.70	45.58	48.75	48.01	51.37	50.16
Kiswahili	53.23	60.78	53.78	52.90	56.59	54.05
Mathematics	45.75	53.83	48.16	53.63	47.17	52.58
Science	46.80	56.25	50.36	55.39	49.14	54.67
SSR	48.43	56.48	53.42	55.64	52.00	57.14

Source: Primary data from Selected Schools in Butula District

According to academic report by the DEO, Butula district, (2010) on 2008 and 2009 KCSE results, performance in sciences and mathematics subjects in secondary schools in the district was much higher for the boys as compared to the girls. The performance in secondary schools corroborated with that of KCPE could imply that the attitude the learners form at primary level in regard to subject preferences is carried on in secondary schools. In view of the above context, there is evidence of gender disparity in academic aspirations among learners. Research conducted by Oboka (2005) on the relationship between gender stereotyping, self-concept, socio-economic status and career aspirations of secondary school students in Kakamega municipality found out that girls had higher career aspiration than boys and that gender stereotypes are inculcated in children by parents and significant others.
In career preferences, boys aspire for careers in technical fields, medicine and engineering while girls mainly target careers such as nursing, teaching, home economics and social work (Mathangani, 2006). Researches done on influence of gender role stereotyping on careers have mostly dwelt on learners in higher institutions of learning yet little has been done at primary level. Therefore, the present research was designed to bridge the gap by investigating the effects of gender role stereotypes on academic aspirations of primary school pupils.

Theoretical Framework

The research was based on Gender Schema Theory put forward by Bem (1984). The theory describes schemas as cognitive structures and as a network of association that organizes and guides an individual's perceptions. Bem (1984) has proposed Gender Schema theory as an explanation of how one's gender affects the individuals' cognitive structure. Given the importance of one's sexual self concept, as children develop into adults, it is likely that the gender schema will be relatively available. This theory provides insight in the way people process gendered roles. Besides, the theory suggests that early childhood development may be influenced heavily by the ideas and concepts about what maleness or femaleness means in a particular society. This means, through the process of assimilation to a given gender, children internalize a gendered identity and may behave according to the societal norms given to that gender identity. Therefore, a child's environment can influence the gender-role development.

This gender schema theory by Bem (1984) maintains that as children grow older, awareness that people are different leads to them develop a clear concept of the 'self'. Many individuals hold popular belief that maleness is associated with masculinity, and femaleness with femininity. This however, is a common misconception just as sex and gender are two very different, but frequently used interchangeably. According to Bem (1984), gender schema organizes a child's experience and perceptions of roles performed by men and women in the society. Eventually, children incorporate their own self-concepts into their gender schemas and assume the traits and behaviors that they deem suitable for their respective gender. In addition, Bem (1984) asserts that children have a tendency to process information they learn based on gender or sex-linked associations as part of their gender schemas. Children use gender schemas to develop their self-concepts that lead them to define gender roles and conceive specific perceptions of themselves including views about their future personal and professional roles. The present study is anchored on Gender Schema Theory as a basis to establish the effects of gender roles to academic aspirations of primary school pupils. It has been observed that individuals' productive work is inclined towards gender roles. The theory specifically guided

the identification and specification of the link between gender role stereotyping and academic aspirations of learner.

MATERIAL AND METHODS

Study Area

The study was carried out in Butula district in Western province of Kenya. The study area is divided into three educational zones; Tingolo, Butunyi and Burinda. The district was recently curved from the larger Busia district where it was a division. Butula is approximately 240 square kilometers (sq km) in size. The 2009 population and housing census revealed the population of Butula district to be 121,870 people. This comprises of 57,025 male and 64,845 female (KNBS, 2010). The area borders Matungu district to the east, Funyula district to the west, Busia district to the north and Ugenya District to the south. Butula is predominantly inhabitated by the Marachi, a sub-Luhya tribe and Luos. The two communities practice a blend of luhya and luo customs and beliefs. The residents in Butula basically rely on subsistence food crop agriculture and cash crop farming of sugar cane on small scale. Butula district was chosen for the study first because there are few comparable studies in regard to the perceived effects of gender role stereotyping on academic aspirations of learners in primary schools. Secondly, performance of KCPE candidates over the years has tended to take a specific trend where male candidates post better results in mathematics and science than the female counterparts. Conversely, female candidates perform credibly better that male in languages.

Study Population

The target population of this study was 41,669. This comprised of 40,831 primary school pupils, 825 primary school teachers in 62 schools and 13 Ministry of Education officials in Butula district. Out of 40,831 pupils this study narrowed down to 2,356 standard eight pupils in 62 primary schools of Butula district. Class eight pupils were targeted because they were in the final stage of primary education. As KCPE candidates, they were found to be conscious about future career prospects they hoped to undertake as they prepared to join secondary schools and apprentice training institutes, where focus on careers is a prerequisite. Although the study specifically targeted pupils, teachers and ministry of education officials were included on the basis that the part they play in pupils' education has a valuable implication on the gender role stereotyping on academic aspiration of the learners. The pupils formed the major target population because they are the direct recipients of the consequences of gender role stereotypes in schools and the community at large.

Sample Size

According to Mugenda and Mugenda (2003) and Kothari (2004), the main consideration for determining the sample size is the capability to collect in-depth data at affordable costs in terms of time, finances and resources. For this study, the sample size consisted of 20 public primary schools. From the twenty schools, a total of 256 respondents were selected to participate in the study. In addition, 1 education officer in-charge of guidance and counseling was selected for the study. Of the 256 subjects from the 20 schools, 20 were teacher counselors and 236 were registered standard eight pupils. According to Kerlinger (2004) an ideal sample should be between 10% and 30% of the target population depending on the data to be gathered and analyzed. In this regard, a proportionate sample was worked out at 10% from 2,356 standard eight pupils in 62 schools. Out of 2,356, the total number of boys was 1246 and 1102 were girls. When 10% formula was applied separately to the number of boys and girls as above, the sample size obtained was, 125 and 111 boys and girls respectively from the 20 selected schools. Proportionate sample was used so as to obtain a balanced sample size of boys and girls that reflected their numerical strength in terms of enrolment in schools. Therefore, a total of 257 respondents comprising of 236 pupils, 20 teacher counselors and 1 District education officer formed the sample size for this study.

Sampling Procedures

The study adopted purposive sampling, proportionate sampling and simple random sampling techniques. Purposive sampling was used to select a reasonable number of schools that reflected a fair representation out of 62 schools spread out in the three education administrative zones in Butula district. Purposive sampling was employed to obtain a total of 20 schools from the three zones in respect to the number of public primary schools each zone has. Out of 24 schools in each of Tingolo and Butunyi zones, each one of them provided eight schools and the remainder four schools were picked from the 14 in Burinda zone. The researcher found purposive sampling technique well fitting for this study because it allowed for consideration of the unique features schools had such as accessibility and relative location to the neighbouring districts among others factors. Purposive sampling was also used to pick 20 teacher counselors and 1 education officer because of their direct involvement in guidance and counseling affairs of the pupils in schools.

Proportionate sampling procedure was used to obtain a specific number of boys and girls from each zone and finally from each of the 20 selected schools proportional to the numerical strength per gender of the registered standard eight pupils. This was arrived at separately for boys and girls using 10% formula as recommended by (Kerlinger, 2004). Consequently proportionate sampling was applied to reflect gender equity. Once the required numbers were known from each of the three zones, the researcher adopted simple random sampling procedure to select 125 boys and 111 girls from the twenty sampled schools. Sample random sampling was employed so that each member of the population had an equal chance of being picked and to have fair representation of all population characteristics in this study. In each of the twenty schools visited, the researcher prepared separate sampling frames for boys and girls. The sample selected from each gender group was guided by 10% proportion of the total population of the class eight pupils per gender in each of the selected schools. For selection of boys and girls to participate in the study, pieces of papers of equal sizes were cut and each marked 'Yes' and 'No' separately for boys and girls. Papers marked 'yes' corresponded with the number required to participate in the study from each sample frame. The pieces of papers with marks as prescribed above were folded and well mixed up in separate tins labeled boys or girls. The tins were opened and the pupils were orderly led to pick one piece of

paper ones from their respective tins. The respondents who picked the pieces of paper marked 'Yes' were selected for the study. The same procedure was repeated in all the twenty schools sampled for this study.

RESULTS AND DISCUSSIONS

This section presents and discusses results of gender role stereotyping on academic aspirations of pupils in some subjects taught in schools. The study examined each subject selected in the study to ascertain whether gender role stereotyping influences academic aspirations of learners in primary schools. The findings are presented, interpreted and discussed as follows. Preference for Mathematics by Boys in Primary Schools The study established that of the 125 boys who participated in the study, 98 constituting 79% responded, 'strongly agree' and 'agree' to the statement that mathematics is mostly preferred by boys, except for 23 (18%) who acknowledged with 'strongly disagree' and 'disagree' while the rest, 4 (3%) remained undecided over the statement. Finding from the girls revealed that of the total 111, 50 (45%) acknowledged positively that boys preferred mathematics subject. However, an average proportion of 56 (51%) generally disagreed while 5 (4%) had 'undecided' response to the statement.

On the whole, out of a total sample of 236, 148 pupil respondents, 62.7% were of the view that boys in primary schools prefer mathematics. However, 79 (33.4%) had a negative attitude on the above statement and close to 9 (3.8%) were undecided. Evidence from the teacher counselors corroborated the findings from the pupils. In addition, interview data gathered from the officer in-charge of guidance and counseling at the district education office revealed that most boys performed better than girls in mathematics. This suggested that more boys compared to the girls had strong positive stereotyping for mathematics as a masculine subjects. This information is summarized in Figure 1.

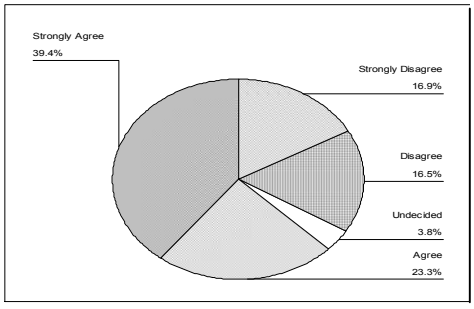

Fig. 1. Percentage Response of Boys' Preference for Mathematics

The higher preference for mathematics by boys compared to girls could probably be due to the fact that boys have relatively more opportunity to manipulate numerical objects that expose them to problem solving skills. Girls on the other hand are given more strenuous responsibilities at home than those given to boys. Girls' time to manipulate numerical objects may be more limited compared to that of their counterpart boys. The girls may therefore have less exposure to problem solving skills. As observed above, increased responsibilities may result to physical exhaustion and loss of mental vitality required by girls to performance numerical skills. This is possible because most cultural practices in Butula district assign women than men to house cores. These findings agree with the study carried out by KNEC (2010) on standard three pupils in Kenya on monitoring learners' achievement. The study found that boys performed better in numeracy compared to girls. This implies that boys' performance may have already been inclined towards mathematics and other masculine subjects right from lower primary school as a result of gender role stereotyping. Further, the finding concurs with Eccles, Jacob, Harold, Yoon, Abreton and Freedman (1993), who found parents to attach their male children's achievement with performance in Mathematics. In addition, Eccles, et al (1993) observed that most cultures in the world believe that boys are better than girls in mathematics.

These findings seems to be consistent with Gender Schema Theory by Bem (1984) who postulated that children learn and internalize knowledge as gender schemas or core beliefs influenced by cultural values attached to gender roles. For example, boys and girls learn much about male and female roles from the individuals of similar gender they often identify with. Thus, boys in primary schools would prefer to identify themselves with maleness through aspiration for mathematics, a subject perceived to be male oriented. Preference for English Subject by Girls in Primary School From the results of the study, girls were more positive towards the statement that English subject is mostly preferred by girls in school. Out of 111 girls, a total of 69 (62%) were of favorable view while 32 (29%) had unfavorable view to the above statement. The study further revealed that 67 (54%) of the entire 125 boys sampled for the study had positive attitude towards the perception that girls mostly preferred English as a subject compared to 50 (40%) and 8 (6%) who disagreed and some undecided respectively. On the strength of these research findings, it was apparently clear that girls have higher aspiration for the English subject in school than boys. Overall, the study found out that, of the total 236 pupils, majority (57.7%) acknowledged that girls mostly preferred English subject in schools followed by 34.8% responding 'strongly disagree' and 'disagree' with rest of the pupils (7.6%) being undecided. The findings from teachers counselors agreed with those of pupils, whereby 64% of female teachers compared to 67% of their male counterparts were of the view that girls had higher preference for English subject. The findings are summarized in Figure 2**.** Perhaps these findings can be explained in terms of girls' socialization at home. Girls at home majorly play the role as receptionist and entertainer to visitors than boys.

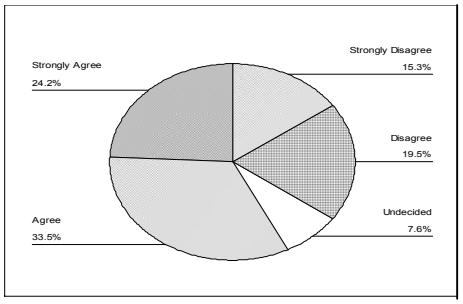

Fig. 2. Percentage Responses on Girls Preference for English Subject

This gives girls advantage over the command in language skills which earns them additional credit for acquisition of

skills in English grammar and composition writing aspiration for the English subject. This finding revealed positive stereotypical attitude by girls towards feminine roles. These findings agree with the observation by Lie (2008), who argued that men are more preoccupied in technical matters whereas women are more interested in social context and communicative tasks. This perception by boys and girls has the impact of orienting girls towards languages as opposed to boys since it is useful for girls in their social and communicative tasks. The finding further tallies with Bandura and Walters (1963), cited by Basow (1986), who asserted that children learn specific roles directly through differential treatment and rewards and indirectly through observational learning and modeling. Therefore, girls are nurtured mostly by mothers through modeling to develop language skills ideal for communicative tasks in line with their gender role expectations. The results also indicated that girls in primary schools were higher on gender role stereotyping on subjects perceived feminine. In regard to the Gender Schema Theory by Bem (1984) on which this study is grounded, it is evident that children use gender schemas to develop self-concept that may help them identify with the gender roles as guided by the societal expectations. Therefore, children integrate self-concepts as gender schemas appropriate for their specific gender roles.

Further this study revealed that girls' aspiration for English subject could be linked to credible performance by women in music and drama which they learn as they watch them perform on electronic media. Girls may imitate communication skills used and perceive English subject as one that relate to feminine careers such as art in music or drama. This suggests that pupils' aspiration for English is influenced by stereotypical attitude they form towards those careers that are developed on English subject. For example, girls may have interest in English subject as a bridge to enter career in arts and social science fields traditional perceived to be feminine.

Boys Preference for Science Subject in Primary Schools

The study revealed that of the 125 boys who participated in the research, 87 constituting 70% generally agreed that boys prefer science subject, except for 33 (27%) generally disagreed while the remainder 5 (4%) were non-committal to the above statement. In regard to the girls, of the total 111, 33 representing 30% acknowledged that boys like science subject. However, a large portion, 63 (57%) disagreed and the remainder 15 (14%) were undecided on the same opinion. From the study findings, majority of the boys acknowledged that boys like science subject more than the girls, whereas on the other hand most of the girls do not agree that sciences are exclusively for men. This indicated that both groups exhibited gender stereotyping with boys affirming science was for men while girls countering the perception that boys liked science more than girls did. Probably enhanced gender roles by the community from which the sample population for the present study was drawn contributed to stereotypical attitude. Perhaps involvement of women in home activities and fending for the family deny them adequate time for explaining to their daughters' problem relating to nature study. This may not only hinder their female children's scientific curiosity but it may also affect the attitudes they may have on science subjects. The result of this study seems to confirm the findings made by O'Connor (2000) that most teachers believe that science subject is a preserve for males thus hold low expectations for girls' ability to perform in science. Similarly Graham (2001), found out that female participation in physical science class in Nigeria is much challenging. When the results of the study on the above item were considered as a whole, 50.9% of the sampled population responded in the affirmative with 'strongly agreed' and 'agreed' compared to 40.7% who responded, 'strongly disagree' and 'disagree' that boys like science more than girls in primary school. The teacher counselor respondents concur with the pupils' opinion as 16 out of 20 constituting 80% were of the view that boys like science than girls. A pictorial illustration of the above information is given in figure 3.

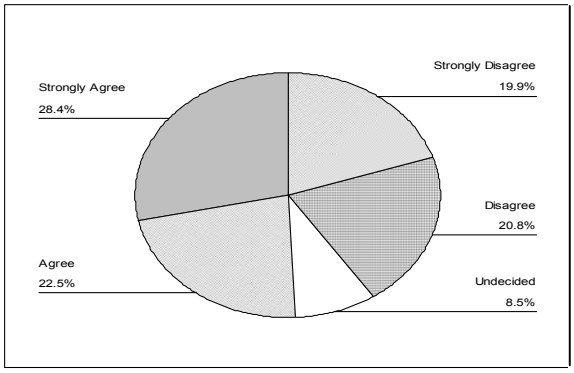

Fig. 3. Percentage Response on Boys preference for Science Subject

Evidence adduced from the study findings further confirmed what had been reported by Crowley, et al (2001) that most fathers explained scientific information to their offspring sons than daughters. Presumably these make boys much more grounded in sciences than girls. In addition, this finding agrees with Saitoti (2005) and Marlorella, et al (2005) who posits that stereotyping of science as a male domain is a common societal belief that has roots at elementary level of learning.

Moreover, the research findings are supported by Scantlebury's (2006) observation that assertive behavior of boys than girls enables them to control resources. For example, in science classes boys dominate equipment and relegate girls to roles such as data recording, reading instructions or cleaning up the apparatus. Girls' stereotyped views of science as a masculine endeavor may mean they prefer these passive roles. Yet laboratory work is an important facet of learning science and if girls are disengaged or relegated to peripheral roles they may not fully focus on the subject content. Interestingly, the results of the study agrees with Gender Schema Theory in which Bem (1984) proposed that children are subjected to gender stereotypes every day and as they enter school, their main source of gender related attitudes and behaviours come from their parents and home environment. For example, the assumption by AAUW (1998) that girls assume feminine traits in school such as caring and unassertive behavior, mean that they set aside their own needs for the sake of others. For boys, the masculine gender role stereotype suggests that they possess natural talent to achieve, and that they are expected to exhibit rationality and logic which are some of the parameters for achievement in science. Besides, boys like to handle and manipulate machines and

equipment that they come across at home. This inclination is further extended to school whereby they often handle science equipment more habitually than their female counterparts.

undecided. In addition, of the 111 girls, 79 (71%) attributed best science teacher to men whereas 24 (22%) generally disagreed and the remainder 8 (7%) were undecided. When seen as whole, of the total 236 pupil respondents, 158 (66.9%)

Table 2. Pupils' opinion regarding teachers stereotypes towards teaching certain subjects

Responses	SA%		A%		U%		D%		SD%	
Gender	M	F	M	F	M	F	M	F	M	F
Male preference for teaching math	47	37	30	35	7	5	9	11	7	13
Male best teachers of science	44	34	19	37	14	7	11	13	12	12
Female best teachers of English	14	36	40	26	6	9	22	16	18	13

Key SA= strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree, M= Male, F= Female

Preference for teaching Mathematics by Male teachers

From table 2, the study sought to establish pupils' attitudes on whether mathematics was mostly taught by male teachers in schools. The results reported a significant similarity between the attitudes of boys and girls towards the teaching of mathematics mostly by male teachers. The study revealed that of the 125 boys who participated, 96 (77%) concurred with the view that male teachers mostly taught mathematics, except for 20 (16%) who differed with the view whereas 9 (7%) remained undecided. Data from the girls revealed that of the total 111, 80 (72%) acknowledged that male teachers mostly taught mathematics subject. However, a small proportion of 26 (24%) disagreed and another 5 (5%) reserved their feelings on the opinion.

The strong attitude by both genders follows that there was a strong association between the male teachers and the pupils' attitude towards mathematics as a masculine subject. Those pupils with negative attitude meant to suggest that there was no link between male teachers and mathematics as a subject. The overall analysis of mathematics being taught mostly by male teachers was highly positive. Of the 236 pupils, 176, constituting 75% had agreed with the idea whereas 46 (19%) generally disagreed and a further 14 (6%) had undecided response. Findings arising from the teacher counselors confirmed pupils' responses. Of the 20 teacher counselors sampled for the study, 13 (65%) were of the opinion that mathematics was mostly taught by male teachers. This meant that both pupils and teachers had a positive attitude towards mathematics as a masculine subject. Hence, strong stereotypical attitude. Similarly, it is possible that most male teachers may resort to teaching mathematics as a defense mechanism (compensation) where they want to prove to the world that though they were not able to further their education in mathematics related fields like engineering, they are equally capable of teaching the subject in primary schools. These findings agree with Kadenyi and Kamuyu (2006) observation that certain occupations serve stereotyped gender roles in the society. Moreover, Eagly and Kasau (2002) asserts that individuals perform better when requirements for a task are positively associated with gender stereotype of the social group.

Male being best Science Teachers

Research findings in Table 2 depict that majority of pupils acknowledged positively that best science teachers are male. Of the 125 boys who participated in the study, 79 (63%) concurred with the view that men were best science teachers, 29 (23%) differed with the opinion whereas 17 (14%) were affirmed that men were best science teachers in primary schools while 53 (22.5%) had contrary response and 25 (11%) were non-committal to the statement. This statement also found support among majority of teacher counselors. It was illustrated by 60% against 30% of the teacher respondents. In essence, it implied that science is highly stereotyped as masculine subject, thus male teachers in school are perceived to be more conversant with science subject as compared to their female counterparts. From the finding, a larger proportion of female pupils compared to their male counterparts had positive attitude towards male teachers being best in teaching of science. This meant that the girls were higher on gender stereotyping in science subjects than the boys. The observation also implied the presence of gender orientation among teachers in schools which reinforced gender role stereotyping in teaching of science subjects. The findings are further suggestive of the fact that positive attitude of the respondents towards the statement that men teachers were the best in teaching science subject, could have been influenced by cultural beliefs, where science is regarded a male subject. Therefore, male teachers were pressured to fulfill standards of masculinity by teaching science subject effectively.

The above findings agree with Lazur and Majors (1995) who argued that gender role strain is pronounced in men as they strive to meet the standard of masculinity as required by their culture. The above finding is also corroborated by Scantlebury's (2006) suggestion that assertive behavior in men enable them to control resources. For example, in science classes boys dominate equipment and relegate girls to roles such as data recorder, reading instructor, or cleaning up the work area. Earlier involvement in science activities gives men an added advantage when it comes to teaching the subject in school. The result of the study further confirms Asimeng-Boahene's (2007) claim that learning activities in science such as problem solving and laboratory experiments are more tailored in an environment that boys are familiar with as compared to the girls. This may explain why most female teachers would shy away from teaching sciences in schools. The finding confirm Bem's (1984) Gender Schema Theory in which she observed that gender roles in the society are a reflection of normative version of male and female roles. From Bem's stand, it can be interpreted that performance of tasks, like teaching science subject is linked to prescribed gender roles. Hence, this confirms gender role stereotypes that men are best in teaching of science subject. Female as best teachers of English subject in primary schools. The study sought to establish whether best English teachers are female. Evidence arising from the study as indicated in Table 2, shows that there was no strong support for this opinion. On a close scrutiny of the boys' responses, out the total 125 boys, 57 (46%) generally

accepted the statement that women are best teachers of English subject while almost equal proportion, 56 (45%) disagreed somehow and 12 (10%) were undecided. On the other hand, out of the total 111 girls who participated in the research, 53 (48%) had positive attitude towards the statement, 50 (46%) disagreed while the rest 8 (7%) were undecided.

A small difference in positive and negative perception of boys and girls could have meant to suggest presence of insignificant association between female teachers and teaching of English subject as feminine role. However, the fact that girls exhibited stronger attitude than that of boys meant that they were highly stereotypical that English is a feminine subject. On the whole, out of the 236 pupil respondents, 100 (46.6%) had positive feelings while 106 (44.9%) had negative response and 20 (8.5%) were undecided towards the statement that females are best English teachers. Finding from teacher counselors indicated that of the 20 teachers involved in the study, 7 (35%) had positive feeling for the idea while 12 (60%) were not in support. The study generally found negative attitude from the respondents towards the perception that female teachers are the best teachers of English subject. This possibly could be due to public awareness that English Language is a national language and a medium of communication particularly in public and formal forums. This might have reversed gender stereotyping of the English language in favour of the women. This also meant that increased use of English language for official communication could have contributed towards breaking down gender stereotyping of English language. These findings contrast Leach (1998) and Gordon (1998), who were of the opinion that teaching and curriculum reinforces social biases and discriminating practices through the pedagogies and content applied in schools.

However, the findings found support from Francis (2002) and Watson, et al (2002) argument that great dynamics in the society have given rise to gender role flexibility in career aspirations. This explains the male teachers' flexibility towards subject of English which is traditional in the domain of the women. The above findings however, disagree with Bem's (1984) assertion in Gender Schema Theory that maleness is associated with masculinity while femaleness with femininity. Similarly, performance of women and men in academics and career fields is affected gender roles just like in other spheres of life. Nevertheless, some remarkable positive attitude from pupils suggested that they regarded females to be well conversant with teaching of English subject while pupils with negative attitude felt that teaching of English subject in primary schools was not a preserve for female teachers alone.

Conclusions and Recommendations

Based on the findings of this study, it can be concluded that gender role stereotyping greatly influence performance and aspiration of pupils in certain subjects taught in primary school. The overall results of the study indicate that male pupils have high aspirations for mathematics and science subjects. Further, male teachers preference to teacher mathematics and science acts as role models and justification to boys that, the two subjects are stereotypically masculine. It can also be concluded that female pupils aspire to perform better in English to fulfill gender role stereotypes that languages are feminine subjects. This is reinforced by strong inclination of female teachers as best English teachers. However, this notwithstanding, both boys and girls had high aspiration for English subject. Finally, absence of clear policy to guide learners in primary schools against the effects of gender role stereotypes depresses learners' academic aspirations. This study therefore recommends that:The Ministry of Education clearly design and provide career counseling programme in public primary schools to help pupils overcome gender role stereotypes.

School administration should strengthen guidance and counseling services in public primary schools so as both teachers and pupils realize the adverse effect of gender role stereotypes in academic aspiration and future career growth. The school community and stakeholders be educated on theirs in challenging gender role stereotypes in order to share similar perception with teachers counselors hence give necessary support to advocate for paradigm shift from retrogressive cultural practices Further research be conducted in higher institutions of learning to determine whether gender role stereotypes affect learners academic aspirations.

REFERENCES

American Association of University Women Educational Foundation (AAUW). (1998) Gender gaps: Where schools still fail our children. Washington, DC: Author.

Asimeng-Boahene, L. 2007. Gender Inequity in Science and Mathematics Education in Africa: The causes, consequences and solutions. www.africanscience/mht.Retrieved,12-6-2010

Basow, A.S. 1986. Gender Stereotypes: Traditions and Alternations. Montery, under pressure in Sports and Mental Tests. *Journal of social psychology, 16,* 361- 383.

Bem, S. L. 1984. Androgyny and Gender Schema Theory: A Conceptual and Imperial Integration. Linedn: University of Nebraska press.

Colclough, C. 2000. The Impact of Primary Schooling on Economic Development: *A review of the evidence", world Development*, *Vol. 10 No. 3* pp. 167 -185

Cook, R. and Cusack, S. 2010. *Gender Stereotyping: Transnational Legal Perceptive.* Toronto: University of Pennsylvania Press.

Crowley, K. Collanan, M.A., Tenenbaum, H.R. and Allen, E. 2001. Parents explain more often to boys than girls during shared scientific thinking. Psychological science, 12, 258-261.District Education Officer. (2010, 4th June). Butula District Education and Trophy day, held at Butula high school. Unpublished report.

Eagly, A.H. and Karau, S. 2000. Role Congruity Theory of Prejudice towards Female Leaders: *Psychological Bulletin*, 109, 573 – 598.

Eccles J. S., Jacob, J., Harold, R., Yoon, K.S. Abreton, A. and Freedman, D.C. 1993. Parents and Gender role Socialization during the middle Childhood and Adolescent years. Newbury Park: Sage.

FIDA, K. 2005. "Towards the promise of Gender Equality: Will the Millennium Goals take us there?" Nairobi: Annual Report.

Francis, B. 2002. Is the future really female? The impact and implications of gender for 14-16 years olds' career choices. *Journal of Education and Work*, 15, 75-88

Gordon, R. 1998. Girls cannot think as Boys do". Socializing Children through the Zimbabwean School System. *Gender and Development,* 6(2): p53-58.

Government of Kenya (GoK). 2006. National Commission on Gender and Development Nairobi: Government Printer.

Graham, M. 2001. Increasing Participation of Female Students in Physical Science Class. Unpublished master's thesis: Saint Xavier University.

Kandenyi, M.M. and Kamunyu, M.W. 2006. Challenges facing women in tertiary institutions: A case study of Eldoret Municipality. The Educator, a jounal of the school of Education Vol 1. 121 -129.Eldoret Moi University press.

Kerlinger, F.N. 2004. Fundamentals of Behavioural Research 7th ed. New York: Holt Rinehart and Wiston Inc.

Kenya National Bureau of Statistics, 2010. 2009 Kenya Population and Housing Census. Population Distribution by Political Units.Vol.1B.Nairobi: Government Printers

Kenya National Examinations Council, 2010.. Monitoring Learner's Achievement: A case of Standard Three Pupils in Primary Schools. Published Survey report. Nairobi: KNEC.

Kothari, C.R. 2004. Research Methods: Methods and Techniques. New Delhi: New Age International Publishers.

Kornegay, K. (Ed) 2000. South Africa's National Policy Framework for Women's Empowerment and Equality: Prepared by office on the status of women: Pretoria.

Lazur, R. and Majors, R. 1995. http://www.family.jrank.org/ Gender-Genderrolesstereotypes Retrived 26/10/2010.

Leach, F. 1998. Gender Education and Training: An International Perspective". Gender Development, Vol. 6 No. 2, pp 9-18.

Lie, M. 2003. Gender and ICT: New connections: Oslo: Gyldendal Akademisk.

Mathangani, P. 2006, 29th December). Gender Disparity in number of Candidates in KCPE Examination 2005. Nation Media Group: Nairobi.

Martorella, P. H., Beal, C. M. and Bolick, C. M. 2005. Teaching social studies in middle and secondary schools (4th ed.). Upper Saddle River, NJ: Merrill Prentice-Hall.

Ministry of Finance, 2010. Budget Estimates for 2010/2011 Fiscal year. Nairobi: Ministry of finance.

Mugenda, O.M. and Mugenda, A.G. 2003. Research Methods: Qualitative and Quantitative Approaches. Nairobi: Acts Press.

O'Connor, J.P. 2000. Teachers are the problem in SMT, not girls! CBA Science Series. http://library.unesco-iicba.org/ English/ secondary _Science_Series(Accessed 11 February 2005).

Saitoti, G. 2005. Bias keeps girls away from sciences" Available on line at: www.allafrica.com/stories.htm (accessed 31 March 2005).

Scantlebury, K. 2006. Gender. A handbook (pp. 201–206). Praeger Publishing.

Science council of Japan (2006). Policies for Developing Gender Studies. Internet http://www.scj.go.jp/info/kohyo /pdf /kohyo.20.t29pdf

Singleton, C.H. 1987. Biological and Social Explanations of Sex-role Stereotyping: The Psychology of Sex Roles. Cambridge: Hemisphere.

Tang, M. 2003. Career Counseling in the Future: Constructing, collaborating, advocating career counseling in the next decade. *Career Development Quarterly*, 52, 61-69.

Tansel A. 1997. Schooling Attainment Parental Education and Gender in Cote de I'voire and Ghana. Economic *Development and Cultural Change.* Vol. 45 No. 4 p 825-856.

Turban, D. 2008. The Effect of Gender Stereotype Activation on Entrepreneurial Intentions: Unpublished Journal of Applied Psychology. University of Missouri, Columbia.

United Nation Education Scientific and Cultural Organization. (UNESCO). 2002. Handbook on Career Counseling: A practical manual for counseling services in higher education settings. Paris: UNESCO.

United Nation Research Institute and Social Development (UNRISD), 2009. Gender Policy Development. Geneva: UNRISD.

Watson, C. M., Quatman, T., and Edler, E. 2002. Career aspirations of adolescent girls: Effects of achievement level, grade, and single-sex school environment. Sex Roles, 46, 323-335.

World Economic Forum, 2009. Global Gender Gap: www.eforum.org. Geneva

Zalo, K. and Akong'a, J. J. 2007. Stereotypes in the Context of an Inter-cultural Language Learning Situation. *Journal of Humanities and Social Sciences,* Vol 2, 1,117-129

****