ENROLLMENT OF FEMALE STUDENTS IN TECHNICAL COURSES IN TECHNICAL TRAINING INSTITUTIONS IN NORTH RIFT REGION, KENYA

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OCTOBER, 2019

DECLARATION

DECLARATION BY THE CANDIDATE

This thesis is my original work and has not been submitted for any award in any other university. No part of this work should be reproduced without permission from the author and or University of Eldoret.

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DEDICATION

This research thesis is dedicated to Mr Alphonse K. Misoi retired principal Ol'lessos Technical Institute and Prof. Kitainge associate Professor Dean School of Education in the University of Eldoret for their word of encouragement to pursue education. Thank you very much all and may our Almighty God bless you.

ABSTRACT

The enrolment of female students in technical courses has not been equal to that of male students in Kenya. This affects the countries achievement of its millennium goals and the attainment of vision 2030. Due to these challenges, the study was set to investigate the factors influencing enrolment of female students in technical courses in Technical Training Institutions. The following objectives were adopted as a guide to achieve the study's purpose; to investigate how occupational stereotyping influence enrolment of female students in technical courses in TTIs, to investigate how attitudinal factors influence enrolment of female students in technical courses in TTIs, to investigate how cultural factors influence enrolment of female students in technical courses and to investigate how role models influence enrolment of female students in technical courses in TTIs. The findings of this study will help the ministry of education to come up with ways of encouraging female students to enroll into technical courses in Technical Training Institutes. The study will also help college administration and other education stakeholders to provide more bursary information to female students so as to enable them enroll in technical courses in technical training institutions. The study employed the Krejcie and Morgan formulae and a sample size of 230 was arrived at. Data was collected using questionnaires as the main data collection tool. The findings of the study provided valuable insights on factors influencing enrolment of female students in technical courses in TTIs in the North Rift region. Moreover, from the findings, it was evident that cultural factors such as early marriages, female genital mutilation, cultural beliefs and house hold chores made girls to have little time to devote to their academic work. The girls were also not informed about possible future remuneration and job opportunities, therefore not motivated to choose technical courses. In addition, negative attitude towards technical courses influenced the enrolment of female students in technical courses. It was further evident that majority of the respondents indicated that technical courses are masculine thus meant for boys. On the other hand the study also established that girls perform equally well on technical skills. The study concluded that in order for them to change their attitudes there is need for elementary schools to have role models and career guidance to encourage them pursue technical courses in their tertiary education. The study recommends that female students should be assisted to develop positive attitudes towards technical courses from early stages of learning. Also employment institutions should be encouraged to absorb females who have completed their technical courses immediately in order to motivate others to take technical courses in TTIs.

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LIST OF ACRONYMS AND ABBREVIATIONS

APA   American Publishers Association

AAUW   American Association of University Women

FAWE   Federation of African Women

S.Q   Student's Questionnaire

SET   Science, Engineering and Technology

SPSS   Statistics package for Social Sciences

STEM   Science, Technology, Engineering and Mathematics

TTIs   Technical Training Institutes

UNESCO   United Nations Educational Scientific and Cultural Organization

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Introduction

The chapter addresses the background of the study, research problems, justification, objectives, research questions, scope and limitation of study and operational definitions.

1.2 Background of the Study

In the recent years, the Kenya government has put a lot of resources in technical education so that the graduates from the TVET Institutions can drive the Country forward. These graduates who have the necessary technical skills and knowledge are also able to start their own business and become self reliant in terms of employment. The government is fully committed in funding students who are enrolling in the various TVET Institutions so that all the form four leavers can transit either to the University or to the TVET Institutions to pursue the various courses in which technical courses are among them. When individuals are equipped with skills, they become entrepreneurs, employable and informed citizens thereby contributing to economic development of a nation (Anaele, Isiorhovoja, Dele & Asoluka, 2014). When the youths are trained in a particular trade area, they become productive and resourceful to both his/her family, society and the Country at large. In trying to encouraged youths to enrolled in those Institutions, both gender are encouraged to enrolled in the various courses available without being too selective to some courses only and left the others like technical related courses. Nowadays, the number of

female students who are completing form four are almost equaling the number of male counterparts and therefore, there should be a reasonable of their number who are enrolling in technical courses so as to ensure gender representation both in education and in the field of work.

Generally, the number of female employees in engineering fields has remained low indicating that the female students graduating from technical courses was also low and these inequalities can be linked to unequal access to training opportunities. For instance, a study conducted in Nigeria found out that female participation in TVET and Science, Engineering and Technology (SET) show that females are still underrepresented and occupy the middle and lower status, in spite of the recent steady progression from this status over time (Udeani, & Ejikeme, 2011). This is confirmed by another study which reported that a large number of women are found mainly in poorly paid jobs and several others go into early marriages, prostitution and child labour (Adelakun, Oviawe, &Barfa, 2015). Further still, a study by (UNESCO, 2010) concurs with this by pointing out that male students outnumber the female students in 91 per cent of countries globally, despite increased parity in enrolment in higher education and in Science Technology Engineering and Mathematics disciplines. Moreover, in the developed world, countries such as United Kingdom experience low rates of female participation in STEM related subjects and occupational choice (National Academies Press, 2007).This gap is attributed to gender bias in the curriculum, classroom pedagogy and failure by the system of education to offer support for development of self-esteem, confidence and aspiration of female learners at the formative stage (Johnsen& Kendrick, 2005 cited in Watermeyer, and Stevenson, n.d.). Female underrepresentation in TVET was therefore an issue both in

developed and developing countries, Kenya included. Despite progress made over the years, many gaps, barriers and inequalities still persist, hence making this research critical in investigating factors influencing enrolment of female students in technical courses in Technical Training Institutions in North Rift Region.

Kenya recognizes the role of education and training in contributing to the Gross Domestic Product (GDP) with particular emphasis on TVET (Republic of Kenya, 2003). The subsector has been identified as one that will be able to spur economic development within the next 13 years and help achieve Vision 2030. To this end, this research pays attention to the number of female students enrolling in technical courses in TVET institutions in Kenya. Moreover, technical courses offered in TVET Institutions formed the foundation of any sustainable technological development (Medugu & Bappah, 2013). These technical courses are very important in human capital development of any nation and they are regarded as workforce education that facilitates the adjustment of the skills and knowledge to the changing demands of the society. Technical and Vocational Education and Training is essential to the world of work and is an effective means of empowering the society to engage in productive and sustainable livelihoods (Simiyu, 2009). Recently, Kenya revitalized the subsector in order to locate herself strategically in the international scene (Republic of Kenya, 2012). Notably, this may not be achieved while women are lagging behind their male counterparts in technical related courses.

Provision of TVET education in Kenya takes place in different technical training institutions including Village Youth Polytechnics, National Youth Service (NYS), The Kenya Technical Teachers College (KTTC), Institutes of Technology (IT),

Technical Training Institutes (TTIs), National Polytechnics and in some universities. In addition, some ministries like the Ministry of Agriculture have vocational training centres. Currently, Kenya has two fully chartered technical universities: Technical University of Kenya and Technical University of Mombasa offering degrees in TVET disciplines and one hundred and fourty three (143) Technical Training Institutions in Kenya offering diplomas and craft certificates in technical courses for example; automotive, electrical and electronics, masonry, carpentry, mechanical engineering and building and construction. These courses are relevant to the manufacturing industries (Republic of Kenya, 2005).

Some of the challenges facing the TVET sector in Kenya according to Sessional Paper No. 14 of 2012 included an insufficient number of trainers with pedagogical competency and inadequate number of TVET centres. Other challenges include poor geographical distribution of TVET institutions, negative perception of TVET among the high school students and the general Kenyan population and low enrolment of female students in technical courses. There was also lack of policies on gender mainstreaming as pointed out during the national workshop organized by the Ministry of Higher Education, Science and Technology in May 2008 (UNESCO-NCST Report, 2010). National Commission for Science and Technology (NCST, 2010) further emphasizes on the need for such policies since they promote empowerment, equal and full participation of women in science, technology and innovation activities. Further, the same report noted that underutilization and underdevelopment of women's capability in science and technology can be traced from their poor performance and participation in Science, Mathematics and Technology Subjects right from primary education level which was influenced by culture and attitude. More so, the report also

points out that women have been outperformed by men in TVET (UNESCO-NCST Report, 2010). Therefore, this study try to investigate possible courses to this persistent low enrolment of female students in Technical courses in Technical Training Institutions in Kenya.

The main aim of TVET sector policies was to provide for quality and inclusive participation in TVET, especially for disadvantaged groups which include learners with disabilities, rural populations and marginalized groups. However, improving gender equality in TVET programmes was still riddled with many challenges. The solution to this as noted in (Republic of Kenya, 2012) was to enhance participation of women in TVET and gender mainstreaming through policies such as affirmative action. Other recommendations made by (UNESCO-NCST, 2010) include flexible work arrangements and lobbying for scholarships for female students and staff who wish to pursue studies or training in engineering, science and technology. UNESCO also recommended the establishment of gender focal points and non-discrimination policies in the work place, equality, institutional strengthening and training in science and development of gender indicators. However, despite the proposed recommendations, low female participation still existed by 2015.

Since, Technical, Vocational and entrepreneurial skills are widely recognized as a hallmark to improved productivity, raised income levels and improved access to employment opportunities, TVET plays a crucial role in social economic development of any nation and therefore both gender should be equipped with the technical skills necessary so that by the time they are through with their technical courses, they are able to apply the acquired skills in the world of work. Therefore, gender inequalities

due to various challenges make the focus of this research pertinent. Thus, the focus of this research was to provide the current status of female enrolment in Technical courses and investigate factors influencing their low enrolment on the same courses in TVET institutions in Kenya.

1.3 Statement of the Problem

The study was set to investigate factors influencing enrolment of female students in technical courses in Technical Training Institutions in North Rift Region. Various studies have shown that parental attitude, mentality and support have a great deal of influence on general upbringing of children. Traditionally some of the roles accorded to women are; marriages, house chores, taking care of children and husband. Women are thus seen as nurturers and mainly as providing support for men who work to provide for the family. Being termed as a weaker gender, women have mostly been perceived as being less capable and requiring the protection and guidance of men. This notion has little improved even in the 21st century. Today there are careers perceived for women and a good example are; secretarial job, catering and nursing. The society has not fully comprehended that what men can do women can also. Parents have also been made to believe by some local elders that technical courses are meant for boys and in some instances men naturally fear ladies who have done engineering courses to marry them especially if those men have done business courses such as sales and marketing, store keeping among others. In some instances where the family is not financially well off, boys are preferred than ladies because most of the tribes especially the Kalenjin, believed that boys will stay at home whereas girls will be married. This has left the girl child between a rock and hand place especially given

that they have big dreams and aspirations. Because of such believes, female students thus choose to pursue courses which they know they can easily pass and leave those courses they perceived to be difficult such as technical related courses. That is why, the number of female students being admitted in engineering department in almost all the Technical Training Institutions has remained to be less than that of their male counterpart.

The shortfall in the number of female students taking engineering courses could have serious consequences for the country because the development of every nation is driven by the advancement in science and technology education, and technical courses are central pillars around which such advancement strives. Despite successive government's efforts directed at improving technical education at all levels to make technical education attractive and sellable, gender gap still exists. Therefore, this study intends to identify factors influencing enrolment of female students in technical courses in technical training institutions especially in the North Rift Region of Kenya.

1.4 Purpose of the Study

The purpose of this study was to investigate factors that influenced enrolment of female students in Technical courses in Technical Training Institutions in North Rift Region.

1.5 Research Objectives

The study sought to investigate factors that influence enrolment of female students in technical courses in Technical Training Institutions. In particular the study addressed the following objectives:

1. To investigate how occupational stereotyping influence enrolment of female students in technical courses.

2. To investigate how attitudinal factors influence enrolment of female students in technical courses.

3. To investigate how cultural factors influence enrolment of female students in technical courses.

4. To assess the influence of role models on the enrolment of female students in technical courses.

1.6 Research Questions

To address the above objectives, the study was guided by the following research question.

1. How do occupational stereotyping influence enrolment of female students in technical courses?

2. How do attitudinal factors influence enrolment of female students in technical courses?

3. How do cultural factors influence enrolment of female students in technical courses?

4. In what ways do the role models influence the enrolment of female students in technical courses?

1.7 Significance of the Study

This study has the following significance:

1. This study has generated information on the factors influencing enrolment of female students in Technical Courses in Technical Institutions. This generated information will be beneficial to the society and the policy-makers because it will help them to improve the number of female students enrolling in technical courses in technical training institutions.

2. This study also help the female students to know that they are underrepresented in technical courses and even in the world of work. Thus, this may raise more awareness among the female students in particular and the institutions in general on the need to direct more individual and institutional efforts to encouraging female enrolment in technical courses in Technical Institutions. This will eventually contribute to achieving gender parity in the country's workforce.

3. The study findings will also help the female student know that they can perform equally the same as male students in technical courses and also be employed just like men.

1.8 Scope and Limitations of the Study

This part of the study addresses the scope and the limitations that faced the researcher in the cause of undertaking this study and how the researcher overcame the limitation was also discussed. For clarity, each section will be discussed separately below.

1.8.1 Scope of the Study

The study covered five selected Technical Training Institutions in North Rift Region of Kenya; Namely: Ol'lessos Technical Training Institute; Kaiboi Technical Training Institute; Rift Valley Technical Training Institute; Kitale Technical Training Institute

and Baringo Technical Training Institute. The study focused on public Technical Training Institutions in the North Rift Region of Kenya because these Institutions are sponsored partly by the government and the students being admitted in these Institutions can enjoy the same privileges. The study was limited also to the enrolment of female students taking technical courses in Technical Training Institutions in North Rift Region as the Training Institutions in this region are representative of other public Institutions in Kenya. The researcher undertook the study between the period of March 2018 and March 2019.

1.8.2 Limitations of the Study

The study encountered a number of limitations which might influence the final findings of the study. The main limitation in this study was that generalization of the findings can be a challenge in other regions due to cultural influences, politics and the difference in behaviour of different people. Other limitations were lack of cooperation from the respondents as some thought that the findings could be used to victimize them. Despite these shortcomings the researcher took specific measures of ensuring the respondents that the research is for educational purposes only hence nobody will be a subject of the study.

1.9 Research Assumptions

The assumptions of the study are that:

(i) During this study it was assumed that the answers given through the research instruments were true reflections of the respondent's answers and that utmost honesty

guided answering of the questions.

(ii) It was possible for the respondents to report their personal opinion accurately.

(iii)The study population selected for the study operated within the same environmental conditions, hence giving related responses that will be true and reliable concerning factors influencing the enrolment of female students in Technical courses in technical training institutions.

1.10 Conceptual framework

A conceptual framework is a scheme of variables a researcher operationalizes in order to achieve study objectives (Oso & Onen 2002). Figure 1.2 represents a conceptual framework of the study.

Figure 1.1 Conceptual framework of relationship between variables

Independent variables

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┌─────────────────────────────────┐
│ Occupational Stereotype         │
│   ➤ Salaries                    │──────────┐
│   ➤ Identity                    │          │
│   ➤ Growth & Development        │          │
└─────────────────────────────────┘          │
                                              │
┌─────────────────────────────────┐          │          Dependent variable
│ Attitudinal factors             │          │
│   ➤ Masculine subject           │          │
│   ➤ Parental influence          │──────────┤
│   ➤ Stereotypes                 │          │
└─────────────────────────────────┘          │     ┌─────────────────────────────┐
                                              ├────▶│ Enrolment of female students │
┌─────────────────────────────────┐          │     │ in technical courses         │
│ Cultural factors                │          │     └─────────────────────────────┘
│   ➤ Culture                     │          │
│   ➤ Peer influence & Myth       │──────────┤
│   ➤ Believes and practices      │          │
└─────────────────────────────────┘          │
                                              │
┌─────────────────────────────────┐          │
│ Role Models                     │          │
│   ➤ Teachers                    │          │
│   ➤ Technical skills            │──────────┘
│   ➤ Motivational speakers       │
└─────────────────────────────────┘
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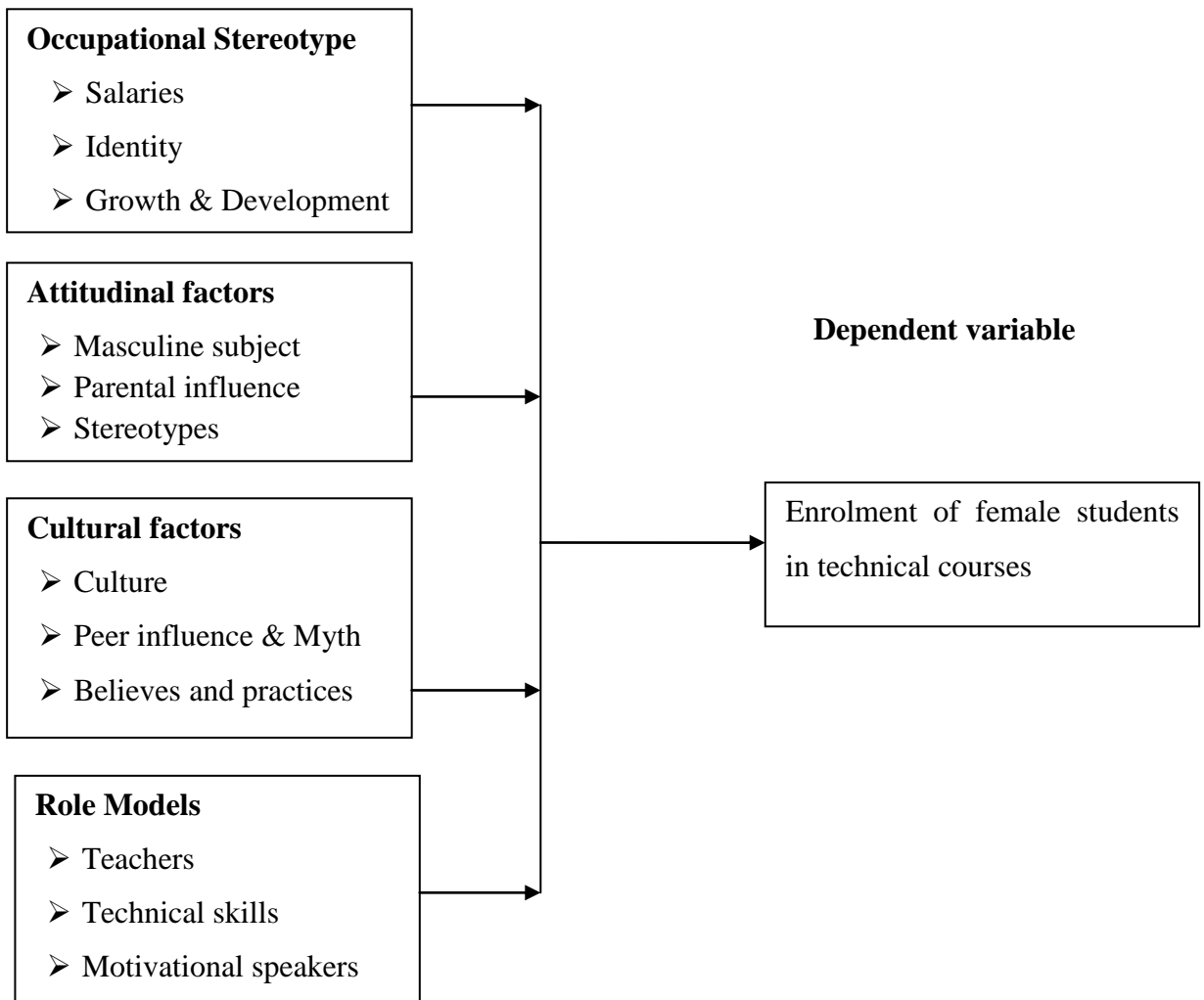
Independent Variable: This is also known as predictor or explanatory variables. These are the factors that the researcher thinks explain variation in the dependent variable. In other words, these are the causes.

Dependent Variable: This is the outcome variable the researcher is attempting to predict. In other words, the dependent variable depends on the independent variables.

Occupational Stereotyping: Stereotypes come from beliefs that our society and our families have about different groups, females, males, Africans, Jews, Christians, etc. Stereotypes can result in inaccurate Judgment about situations and people and hold you back from taking particular steps (Hooley, 2012). For example, if you are female and you have been taught that only certain occupations are for women e.g. nursing, teaching, clerical, then you will believe that you have limited options (Sears and Gordon, 2008).

Attitude: This can be defined as the things that hold one's attention or arouse one's curiosity (Sears and Gordon, 2008). Attitude is a person's like and dislike and are characterized by the person's intensity of feeling about a course, a subject or things (Hooley, 2012).

Culture: This is how individual perceived the ideal roles and characteristics of women and girls and how they socialized in the home, community and school at large. Perceived gender roles and characteristics influence the way children are expected to behave, the kind of work they do and even the way they play. For example, some cultures, after a certain age, girls are not expected to look at men directly in the eye and are expected to appear humble and respectful before their elders.

Role Model: This is a sociological area of influence which can be used to encourage young women to choose technical courses in greater numbers. Educators have an important influence on this area, both positively and negatively (Griffin, Ann Morie, 2007). Some people who could be the role models like class teachers perceived their female students' abilities to be less than that of their male counterparts. In effect, these teachers are serving as negative role models because they discouraged their female

students from finding their maximum skills and potentials.

Girls have always been perceived as the weaker sex in the society. They are expected to do household chores for example fetching water, cooking and taking care of the younger siblings. These impacts negatively on their studies as they cannot get time for reading. Besides this, girls are believed to be good in nurturing and the society will always persuade them to choose those careers which are not technically oriented since it is seen to be for men.

Parents commonly view girls as assets which are meant to be married off so as to get dowry. Parents have been reported to marry off their daughters even to old men in exchange of cows. They believe that when they educate girls it is a waste since they will be married and thus her husband will benefit at their expense. Those who are lucky enough to be educated by their parents will not choose some courses such as engineering because they think that they are for men.

The traditional practices for example early marriage and female genital mutilation affect girls' education and ultimately career. In some communities at a certain age a girl is stopped from going to school so as to be circumcised and get married. In such places it is done without their consent. The girls who had aspirations have to cut them down because of the outdated culture.

1.12 Operational definition of the Terms

The following are operational definitions of terms applicable to this study:

Technical Courses: These are courses in Engineering such as automotive,

mechanical, plumbing, welding and fabrication, building and construction, masonry, electrical and electronics and agricultural engineering among others.

Technical Training: Teaches the skills needed to design, develop, implement, maintain, support or operate a particular technology or related application.

Attitudes: Female students' general feeling of favor or otherwise towards technical courses.

Course enrolment: This refers to the choice of course in which the female students intend to pursue in technical training institutions.

Technical and Vocational Education and Training: The variety of learning experiences which are pertinent to the world of work and which may occur in a diversity of learning contexts, including educational institutions and the workplace.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter review the literature related to the study on the topic of establishing the factors that influence enrolment of female students in technical courses in technical training institution. This was inline with the following study objectives: The influence of occupational stereotyping and attitudinal factors, cultural factors and influence of role model. Lastly the gaps in literature review were summarized.

2.2 Influence of occupational stereotyping on female students in technical courses

Challenges encountered by female students from enrolling in technical related courses are similar when looked at for both the developed and developing countries. These challenges range from social, cultural, institutional to curricula related factors. To begin with, a multitude of social and cultural norms can influence the choices of young women whether or not to venture in technical courses. Such factors have been identified as one major cause behind the lower proportion of women in technical related courses (UNESCO-UNEVOC, 2010).These social and cultural norms, especially those that are biased against women, can therefore greatly determine their opportunities in access and participation in technical courses. For example, there are stereotypes that depict technical related courses as masculine thus creating an expectation that women should not pursue them. More so, many cultures still hold on to the stereotype of a woman as a person who is expected to take care of the home and children. This means that even when women are employed, they are expected to balance work and home responsibilities. According to a regional report by the (World

Bank, 2012), social norms, especially with regard to the perceived role of women as caregivers, can impact their chosen fields of study and selection of courses. For example, the higher rate of women choosing to pursue professions such as teaching may be due to the perception that such professions allow more flexibility to balance family and work responsibilities (World Bank, 2012).

Back at the secondary school level, mathematics and science subjects which are a prerequisite for enrolling in technical courses, are given the masculine image of science (Moletsen & Reddy, 2011). This indicates that psychosocial construction has defined it as a masculine subject and this begins in secondary school level, before the selection of courses to be pursued in higher institution of learning. Furthermore, in the world of work, there is a perception that, because engineering is a technical area in nature, the course therefore is more suitable to male students than female students. Thus female students are taught to think that they cannot become engineers and this perception have impacted negatively on them and this notion have led them to avoid such technical courses. This is also as a result of a function of differences in the ways in which boys and girls are treated in our society, whereby girls are expected to be more accomplished in linguistic and social skills whereas boys are supposed to be better at mathematical, mechanical and other problem-solving tasks as pointed out by (Minton & Schneider, in Nguyen, 2000). This stereotyping should be eliminated at all costs both in the society level and in the institution of higher learning. Such perceptions can be countered by having role models and encouraging more females to enroll in these technical courses. There was also need for trainers to be supportive and encouraging to those female students in technical related fields. This is because female students can particularly bring a different dimension, qualities and skills to

engineering, yet at the same time contribute to economic development, an aspect that needs attention.

People may also hold stereotypes about certain occupations, which can also influence their selection of courses. Stereotypes come from beliefs that our society and our families have about different groups; female, males, Africans, Jews, Christians, etc. stereotypes can result in inaccurate judgment about situations and people and hold you back from taking particular steps (Hooley, 2012). For example, if you are female and you have been taught that only certain occupation are for women e.g. nursing, teaching, clerical, then you will believe that you have limited option (Sears and Gordon, 2008).

Our society deems certain types of work appropriate to either men or women (Hooley, 2012). Men are encouraged to explore wider variety of occupations, yet the areas of child care and nursing are seen as not appropriate for men. Women on the other hand were discouraged from seeking education and training in technical related courses or in trade such as construction, manufacturing, and transportation (Hewitt, 2012). The effects of such stereotyping were that many women work at lower paying occupations with fewer opportunities for their advancement (Sear and Gordon, 2002).

There were discrepancies in the income earned by men and women, women getting a raw deal because of the type of occupation picked by different gender (Sears and Gordon, 2008). For example, women are less likely to be employed in engineering related jobs since these are traditionally considered to be men's occupations. In the event that there are women employed in these engineering fields, the remuneration is also biased with women earning less than what men earn (Graham and Smith, 2005).

Some of these factors that narrow women into traditional role include social and family influences, lack of education and awareness regarding nontraditional option, environment, and discrimination within field of study.

According to Sear and Gordon, 2002, lack of education causes students to make uninformed decision in the selection of courses. They believe that some students make carry out selection of courses or hate some other courses because they know little about those courses. Others will make uninformed selection of courses because they are not aware of the areas they are best at, or what their colleagues prefer and want to associate them with. Hooley, 2012 on the other hand believes that lack of knowledge and discrimination within career fields leads to occupational stereotyping among the institutions' students. Besides environmental factors, the opportunity factor have a role to play in the selection of course made by students enrolling in training institutions. According to Gonzo & Plattner, 2003, remaining jobless for a long period of time makes the hope of people to fade away, which in turn increases depression and discouragement. To improve the employment situation of our youth, and the country at large, changes need to be effected. Today's students are tomorrow's employees and employers (Moletsen, R. & Reddy V. 2011). Therefore, the high youth unemployment could also be attributed to a lack of effective career guidance in schools. Career guidance is supposed to guide the youth into better decision-making regarding their future selection of courses and other life expectations (Nalianya, R. M. 2011).

2.3 The influence of attitudinal factors on the enrolment of female students in technical courses

In the world of work, people who normally performed in their assigned work very

well are traced to have been interested in that particular area even before selecting the trained course that is related to that area. With respect to that, the learner needs to be interested and also understand the concepts that they are dealing with (Kroft *et al.,* 2006). It was imperative to have noted that, indeed the students who are taking science subjects should be satisfied with their performance in the subject at lower levels of education. As a result of the better achievements in secondary schools, students are often expected to enroll more in the technical course at higher levels of institutions (Kinuthia, 2009; Achote, 2010). As yet, more female students don't appear to be performing well in the Science subjects (KNEC, 2005-2009) leading to low enrolment in the technical related courses in the higher institution of learning. However, despite lower performance of female students in Sciences than male counterparts at high school level, there are still more than adequate number of females who can make up substantial proportion of the students enrolment in Technical courses in the Technical Training Institutions, yet this is not the case and the reasons remains largely speculative.

Here, the challenge arises from negative attitude towards the Technical courses among female students due to the perception that past performance covered in the institutions appears to be complex for the female students to comprehend (Morris, 2004). Moreover, Ashcroft 2001, contents that employment of large number of male tutors' in technical courses at the technical institutions may suggest that females may not be performing well in the course and therefore the female students shy away from enrolling in these courses. The attitude of people keep on changing, as they experience life and encounter other people, they become interested in things that they noticed in those people and they discard some of their old interests. Most people also

develop more complicated understanding and thinking process, and they may even seek new interest and activities having hope in their minds to improve themselves and make life more exciting (Hewitt 2010). Once the attitude of one keep changing so does the selection of courses of a person change. More so, most of the students seeks to enrolled in those courses that meets their interest at that time, hence the selection of course that one may have wished to pursue when he/she was young is not what they eventually pursue.

According to Hewitt (2010), interest has become the most important factors in determinant and measures of course selection and most of the people would want to work in the areas they enjoy most so to be satisfied. According to Sears and Gordon (2002), interest inventories have been developed to help identify interests and relates them to selection of courses by individuals. By measuring interests of successful and satisfied people in a certain field of work, researchers have developed scales that compare the interests of individuals to the interests of people who are certain about what they want to pursue. In this regard, it is hoped that these course selection scales are effective in predicting selection of course satisfaction.

The perceived ideal roles and characteristics of women and girls influence how girls and boys are socialized in the home, community and school. Because girls and women in general are considered physically weaker and less capable than men, they are often overly protected and supervised to keep them from what is considered threatening to their safety such as; physical, sexual, mental and emotional safety (Bird, 2011). Some parents are usually very reluctant to send their daughters to school because of the belief that education and school could be a corrupting influence. In

some communities, there is the view that in co-educational schools, as most primary schools are, girls' morals would be corrupted because of the amount of time they spend with boys. There is also fear for the physical and sexual safety of girls in school due to cases of physical and sexual harassment and abuse from peers and teachers in the school. Where schools are situated long distances away, parents are usually worried about their daughters' safety while traveling to and from school (Hirsch, 2009).

2.4 Influence of cultural factors on the enrolment of female students in technical courses

Perceived gender roles and characteristics influence the way children are expected to behave, the kind of work they do and even the way they play. Girls are, for example, rarely the ones sent to the shops to do shopping, neither are they allowed to play outside the home for long periods of time as boys often do (Khan, 2011). This denies girls the opportunity to explore and experiment with diverse activities and situations outside the home which could be useful to them within the technical curriculum: e.g. boys when they go shopping get to practically use the knowledge and skills acquired in mathematics, they get to see various related activities first hand, e.g. playing with various tools, constructing things etc. Being outside the home also allows them to develop their socializing skills to a better degree than girls, and they are therefore more at ease outside the home environment. Boys therefore develop the confidence to work with tools and to have an advantage in the use of exploratory and participatory methods advocated for in teaching technical subjects (Replogle, 2011). Some cultures, after a certain age, girls are not expected to look at men directly in the eye and are

expected to appear humble and respectful before their elders. This attitude and the subsequent socialization of girls, has a number of effects. One is that it makes it difficult for girls to fully benefit from the participatory, discovery methods that are recommended because they will be reluctant to ask questions, participate fully in discussions or work in groups with members of the opposite sex (Longwe & Clarke 2009). This has a negative effect on their performance in technical subjects. Most girls are usually vulnerable to physical and sexual harassment and abuse and lack the confidence, skills and knowledge of such situations. This exposes them to the risk of pregnancy and STD's and the resulting consequences, including school dropout. This harassment has also been proved through research to have a negative effect on girls' attitudes towards school and their ability to focus on and perform well in their academic activities (Hart, 2008). It is expected that girls will in adulthood only take on the roles of wives and mothers. Many parents and community members believe that a formal education is not necessary in order for girls to prepare for these expected roles as they can be learnt from their mothers and others in the community. As a result many parents do not enroll their daughters in school or withdraw them before completion. This denies these girls an opportunity for formal education in general and participation in technical subjects in particular (Altrajir, 2003). Many parents and community members also have the attitude that educating girls is a waste of time and money, because they will eventually be married off and their education would therefore only benefit their husbands and the families they marry into. Money spent on the girl's education would thus be considered lost to the girls' family (Hart, 2008). Since there is also the expectation that boys will become the "breadwinners" of their future families, many parents and community members feel that boys should for this

reason be provided with every advantage to help them fulfill this role, this includes educating them as far as possible. Girls, on the other hand, it is expected, will have husbands who will provide for them and an education is therefore not essential for them. As explained in the introduction to this section, girls are expected to take up the roles of wives and mothers in adulthood and their socialization at home, in the community and school is geared towards providing them with experiences that will prepare them to carry out these roles effectively (Basu, 2010). These expectations determine the division of labor within the household, with girls being assigned the home making household chores like food preparation, cooking, cleaning, fetching firewood and water, washing clothes and, caring for younger siblings. In addition to this in some areas, girls are also expected to participate in farming activities. In Ghana, for example, girls are observed to be the ones frequently engaged in petty trading in order to make extra income for the family. It is also noted that these chores are often performed by girls, either early in the morning before school or in the evenings after school. This was seen to affect girls' education in a number of ways (Mahlase 2007). The number of hours spent performing house hold chores and other tasks means that girls have little time and energy left to devote to their academic work. Girls in most cases are most likely to go to school late since she has other roles before going to school. While in class she does not concentrate since she is tired and at all times looking forward to that time when the teacher will release them so as to go and do her task (Peterson & Runyan 2009). Girls also have an added disadvantage in that while the types of chores that boys do, like herding, allow them time and opportunity to study, the chores that girls do are difficult to combine with study, i.e. preparing food, washing clothes, etc. The boys are always advantageous as they have

fewer duties to perform unlike girls who are expected to fend for the family even at an early age (Basu, 2010). Girls are often late for school in the morning as a result of having to complete their household chores. Apart from the punishment incurred for this lateness, there is also the added disadvantage that Science and Mathematics are often taught in the morning, because it is at this time that students are thought to have the most energy and are thought to be able to concentrate best. Girls who are chronically late thus tend to miss these morning lessons (Peterson & Runyan 2009). Since Science, and especially Mathematics, are hierarchical subjects in that concepts are learnt in a sequential manner, with the one concept building on the knowledge of those learnt previously, missing lessons in these subjects makes it difficult for girls to comprehend many topics or to catch up (Bird, 2011). Because girls are responsible for such a diverse number of household tasks, some parents prefer to keep their daughters at home. This is especially true in areas where girls engage in income earning activities to supplement family income. Many parents therefore find that the opportunity cost of education is too high. This is especially true when the income from such activities of Ghana for instance has a number of examples of cultural practices that compromise girls' access to education and therefore their participation in technical subjects. One example of this is the Trokosi system which is found among some communities in the rural areas. This traditional practice requires parents accused of wrong doing to atone for this by giving a daughter to the Trokosi cult to serve out bondage (Attila,2004). These girls, who have no say in the matter, then have to serve the members of the cult until such a time as when the leaders feel their parents' sins have been properly atoned for. At this time, the girls are then released back into their communities, a process that can take years. During their time in the

cult, the girls do not attend school. There have also been cases of girls becoming pregnant while within the cult, indicating the existence of sexual harassment and abuse of the girls within the cult. Most of these girls are past school going age when they are released from bondage with no education or skills that would enable them to engage in income earning activities that would allow them some level of independence. These practices underline the fact that in such cultures and indeed in many areas in Africa, girls like in traditional times continue to be considered the property of their families, with little or no say in their future (True, & Mintrom, 2001). It is also important to note that as the girl becomes older, she is often expected to take on more responsibilities in the running of the home and this takes more of her time during a period when she is probably at an educational level when learning is more involving and intense and requires more focus. This is likely to affect her performance, leading to loss of morale. Poor performance often leads to repetition and the resulting frustration could lead to school dropout (Peterson & Runyan 2009).

2.5 The Influence of Role Models on Enrolment of Female Students in technical courses.

Role modeling is a sociological area of influence which can be used to encourage young women to choose science and technology related careers in greater numbers. Educators have an important influence on this area, both positively and negatively (Griffin, Anne Marie, 2007). Research has shown that young women must be encouraged in science and technology careers by the time they reach their middle school years, in order to acquire a sufficient science and mathematics background. Science careers require adequate mathematics and science background for the student

entering an engineering or physical science course of study. Girls, who are discouraged from taking mathematics and science courses in middle and high school, reach college with an accumulated disadvantage (Griffin, Anne Marie, 2007). In pre-college academic preparation, recent research continues to show that classroom teachers favour male students over female students in science classes, providing more attention and direction to male students, addressing male students more frequently by name, and interrupting female students more often than male students. When female students are praised, it is more often for their behaviour or appearance, whereas males are praised predominantly for their academic performance (Peterson VS & Runyan AS 2009). It has been shown that when elementary teachers perceive their female students' abilities to be less than that of their male counterparts, despite what those abilities are, girls' performance and aspiration toward science careers decrease significantly (Huggins, A & Randell, S. 2007). In effect, these teachers are serving as negative role models because they discourage their female students from finding their maximum skills and potential. Conversely, hands on activities in science, exemplary science teachers, and authentic assessment methods in science education, have been shown to reinforce and maintain girls' abilities in science, and to increase the percentage of girls' choices of science and technology related careers.

Lack of ability cannot be used as an explanation for the under representation of females in science and technology careers. Studies have shown that girls perform equally well on many technical skills and attitudes assessments in the elementary school years. It is necessary for classroom teachers to be cognizant of the impact on female students of both exemplary and negative behaviour, and for positive behaviour toward female students to prevail in the classroom (Huggins, A & Randell, S. 2007).

Parents play a significant role in shaping the direction or path their children follow in their later years. Sturn, S. P. 2006, investigated young people's perceptions of parental influence on their career development and concluded that both boys and girls look to their parents when they make career choices. Girls indicated that their interest or lack of interest in technical courses was based on their parents' opinion about the field of study .Another study found that girls and women faced inequities, did not achieve at their expected levels, and did not choose career options compatible with their cognitive abilities (Roos, P. 2008). Several factors, including parents' attitudes, were responsible for these anomalies.

Parents from different groups have different types of influence on the educational and occupational decisions of both boys and girls in the family (Longwe S & Clarke R, 2009). Parents who believe that their own role is important for their children's achievement tend to be more controlling and to be keener in developing the child's interest (Longwe S & Clarke R, 2009). Family processes of interaction and communication, as well as beliefs and attitudes, influence what the child learns about work and work experiences. Parental influences are also transmitted through children's gender role assignments in the homes (Okiy, R. B, 2004), and in some societies girls are limited to certain roles, while boys have almost unlimited roles. (Mahlase S. 2007) has concluded that the influence exerted by the educational system is limited, given the strength of parental influence.

A study that investigated the background characteristics of Nigerian women in science and technology professions showed that women scientists had highly educated parents, especially fathers, and that more fathers than mothers were engaged in

professions with a scientific orientation (Lieberman, R. C, 2007). There has traditionally been some degree of concern for girls who study industrial or technical courses when it comes to the issue of marriage (Lieberman, R. C, 2007). With regard to anxiety about marriage, the data in this study showed that 106 parents (96.3%) did not agree that girls who study industrial technical education would find it difficult to get married. Parents play a major role in the education of their children in most societies. Parents asked to choose subjects, courses, or programs for their children have, in some cases, perceived boys to be more competent than girls in science-related fields. Parents, teachers, and girls alone cannot make the changes necessary to bridge the gap between genders in industrial and technical education. Both governmental and non-governmental organizations must be part of the solution. They should develop intervention programs such as women's scholarships for research and, where possible, legislation to support gender equity programs (Ojo, J. 2011).

It is important to note that men can be effective role models just as well as can women. Surveys on role modeling indicate that the young person is affected positively by someone who is "nice, caring", supportive, energetic, and has a positive attitude towards my abilities and opportunities. The gender of the role model is not a critical factor (Wright, M. 2006). With knowledge of these important characteristics, programs which allow engineers and scientists to present talks in schools should be encouraged, especially allowing for some small group interaction between the engineer/scientist and the young people in schools. When women are currently under represented in science and technology professions, men who are working in those professions are needed to provide inspiration and information for the potential engineer/scientist (West, M. S, 2007).

2.6 Study gaps

A number of studies indicated that girl-child education generates benefits not only at the personal and family level but also to the entire community at large. Moreover girl education and technical training is important for social and national economic development. Despite resolutions and recommendations made by various international and regional bodies, it is apparent that education systems in Africa and elsewhere continue systematically to provide better opportunities for boys than girls and a good example is rift valley region in Kenya. In addition enrolment in technical training institutes at the post-secondary tier depicts more clearly the gender bias in course pursued. Males dominate over 90% in mechanical; engineering and automatic engineering on the other hand females dominate in garments making, and tailoring, food and beverages, general agriculture and business education.

Consequently some of these enrolment trends follow some regional patterns. Regional imbalances in access to educational opportunities in Kenya have strong historical, cultural, economic and political roots that have been the subject of various historical and educational studies. A key influence is the patterns of colonial economic penetration and settlements which left an indelible mark on the mosaic of uneven development of education in the country.

The reason for this disparity has not been adequately researched on. This research therefore postulates that the disparity in career aspirations might be attributed to the way students perceived certain careers. The overall research problem that was addressed in this study was that despite the launching of the government bursary program to sponsor female students taking science, engineering and technology

courses in technical institution in Kenya, the statistics still showed low enrolment of female students in technical courses in North Rift Region.

2.7 Summary of Literature Review

The purpose of the review of the above literature was to avoid unnecessary and unintentional duplication of framework from which the research findings will be interpreted and also demonstrate the researcher's familiarity with existing knowledge. The researcher has reviewed literature related to the study on the topic on the factors that influence enrolment of female students in technical courses in technical training institutions in north rift region, by focusing on the general studies of what other researchers have said in relation to the study objectives. While girls in Kenya are exposed to the same curriculum as boys and taught by qualified teachers as their male counterparts, the statistics given in the background and in the reviewed literature shows that there was disparity in perception of career aspirations among male and female students.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents; research design and methodology that was adopted for this study. The key areas include the target population, the sampling design, information on data collection instruments and the method that was used in the data analysis and how data was presented.

3.2 Research Design

According to (Pride and Ferrell, 2008), research design is a combined plan for obtaining the information needed to address a research problem. The research design appropriate for this study was that of a descriptive survey, this was because the descriptive research design provides data about the population being studied. This study utilized a cross –sectional survey design based on a sample drawn from five selected technical training institutions including the following: Rift Valley Technical Training Institute Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; Baringo Technical Training Institute and Ol'lessos Technical Training Institute of North Rift region. A Cross – sectional survey usually relates to the present state of affairs and involves an attempt to provide a snapshot of how things are at a specific time at which the data is collected (Fraenkel et al, 2000). It also involves the idea of getting out of the chair, going out of the office and purposefully seeking the necessary information 'out there'. The design also described the answers to the topic as to what factors influenced the enrolment of female students

in technical courses. In their explanation, (Pride and Ferrell, 2008) noted that descriptive research is a research that is carried out to reveal the features of certain phenomena in order to explain a particular problem. According to (Cooper and Schindler, 2011), descriptive research offers a logical description that is based on facts and precise as possible and this was tailored to my research problem.

3.3 Area of Study

This study was carried out to investigate factors influencing enrolment of female students in technical courses in Technical Training Institutions in North Rift region. These institutions are partially Government sponsored and they were picked because they are cheap hence can accommodate all classes of people. The Technical Training Institutions include the following five institutions: Rift Valley Technical Training Institute Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; Baringo Technical Training Institute and Ol'lessos Technical Training Institute. The institutions offers its training by following the statutory obligations. The researcher sought permission from the relevant authorities to carry out a study in the above mentioned institutions. A reconnaissance trip was made to the institutions to familiarize the researcher with its operation. The choice of these institutions was guided by their strategic location and their importance or significance in the North Rift region. Therefore, the study enabled the researcher to get the true picture of female students' enrolment in technical courses in the above five named Technical Training Institutions situated in the study area.

3.4 Target Population

The target population refers to the group of study subjects that are similar in one or more ways and which form the subject of the study in a particular survey (Neuman, 2000). According to Cooper and Schindler (2011), a population is the entire collection of components about which inferences are made. Chandan, Singh and Khanna 2005, conquer with Cooper and Schindler 2011, that population is a group of the variables that is being studied. The target population of the study consisted of the female students who were already pursuing various technical courses in engineering department. Also, the researcher was targeting registrars and examination officers of the five TVET Institutions in North Rift Region, Kenya because they are the ones who are in charge of students affairs in the various Institutions. The study population has been shown in table 3.1.

Table 3.1: Target population

Target population	Frequency distribution
RVTTI Eldoret	65
Kaiboi Technical Training Institute	51
Kitale Technical Training Institute	65
Baringo Technical Training Institute	7
Ol'lessos Technical Training Institute	36
TOTAL	**224**

3.5 Sampling Method

According to Cooper and Schindler (2003), sampling method is the list of all elements from which the sample is actually derived. In this study, the sampling frame was clearly identified as the female students of the five Technical Training Institutions. The sampling frame was obtained from the registrar's office for both the craft certificate and diploma female students pursuing technical courses.

According to Kerlinger (2003) when the population is small, the sample should be hundred percent of the population. In other cases, the larger the sample, the more the study findings are representative of the target population. In this study the researcher adopted census sampling method due to the nature of the population.

3.6 Sample Size

According to Chandan, Singh and Khanna (2005), the sample size is the number of sampling units selected from the population for study. A sample of 224 female students selected was used for this study. This representation of the population was a fair representative since the population share similar characteristics. In each institution, census sampling was used to select respondents out of the enrolled female students taking technical courses from each engineering department.

3.7 Data Collection Methods

Collection of data is important in answering the research questions (Ghauri and Gronhaug, 2005). This is usually done in two ways, either using secondary data or primary data. Secondary data not only help answering the questions but also provide a

better understanding in explaining the research questions through literature review. Nevertheless when insufficient secondary data is available with respect to one's research topic, researcher has to rely upon the empirical study also called primary data.

The type of data employed in the study was primary data. Data was collected by use of questionnaires that were distributed to the students through hand delivery. The questionnaires were the most appropriate tool to use because it contained both open and closed-ended questions. The open ended questionnaires allowed for free responses from the respondents without providing or suggesting any structure for replies whereas the structured questionnaires allowed for responses from the respondents to be restricted to the stated alternatives. The alternatives were designed in such a way that it was simple and easy for the respondents to understand. Structured questionnaires was also used to avoid the responses of the respondents to be influenced by the external variables (Collis and Hussey, 2009) as regards to the open ended questions that gave respondents total freedom to express their views in unbiased manner. The researcher used the questionnaire as the main data collection tool. The choice of this tool was guided by the nature of the data to be collected, the time available as well as the objectives of this study.

The researcher administered a comprehensive questionnaire with both open and closed ended questions to 224 students that cut across five Technical Training Institutions and 10 administrators (that is, 5 registrars and 5 examination officers) of technical training institutions in the study area. The closed ended questionnaire was in Likert scale (1-5) where 1. Strongly agree, 2. Agree, 3. Neutral, 4. Disagree, 5. Strongly disagree.

Questionnaires were used to gain a general picture of the factors influencing enrolment of female students in technical courses in technical and vocational institutions in Kenya. The questionnaire schedule comprises of questions on personal data (age, gender, level of education). Some structured questions were either Yes or No or True or False alternatives. The instrument contained unstructured items that captured opinion, feelings and suggestions of the respondents in the space provided. The questionnaires also contained a number of items which basically solicit for responses pertaining to the research variables. All the questions in the questionnaire were related to the objective of the study and the research questions of the study.

The advantages of the questionnaires are that it generates considerable amount of information that enables the researcher to obtain a wider coverage of description data at a comparatively low cost in terms of time, money and effort. Since it is a standard research instrument, it allows for uniformity in the manner in which questions are asked and makes it possible to be compared across respondents. The data collected were coded, tabulated, and analyzed using various techniques.

3.8 Piloting of instruments

Piloting is trying out of research instruments on the respondents who will not be used in the main study. Groll (1986) notes that a pilot study is necessary because "a researcher embarking classroom research for the first time will find it valuable to spend some time in the classroom using one or more established systems and looking at the kind of issues which will arise in turning his/her own research questions into a set of criteria and definition for use in the classroom''. It is important for a pilot study to be carried out before any research is done as stated by Peter (1994). He states "even

the most carefully constructed instrument cannot guarantee to obtain hundred percent reliable data''. Therefore, it was necessary to pre-test the instruments of the research on small sample of respondents in a preparatory exercise to find out if there is any weakness so that it could be corrected.

The researcher administered a sample survey in Rift Valley Institute of Science and Technology (RVIST) as it is the oldest Technical Institute in Rift Valley. Also this Institution fall in the same category with the above mentioned five TTIs. Moreover since its establishment, the Institute is expected to at least have a higher number of female students undertaking technical courses. A sample of 57 female students was used for piloting in this study. Out of 60 questionnaires issued to the female students, 57 questionnaires was returned making a 95% return rate. This was a positive return and thus will help the study in fully achieving its stated objectives.

The results of the piloting female students reveals that, 23(40.3%) of the female students strongly agree that occupational stereotyping influence them in enrolling in technical courses. 12(21.1%) of the respondents agreed that attitudinal factors influence them in enrolling in technical courses whereas 14(24.6%) of the respondents strongly agreed that cultural factors influenced them in enrolling in technical courses. Finally, 8(14.0%) of the respondents agreed that role model have an influence in the enrolment of female students in technical courses in technical training institutions.

3.9 Research Instruments

In order to lessen the danger of obtaining inaccurate answer to research questions emphasis on two particular research designs were considered: reliability and validity (Saunders et al. 2007). Validity is the ability of a chosen instrument to measure what

it is supposed to measure. Reliability is the extent to which research results would be stable or consistent if the same technique is repeatedly. Moreover the way the measuring is conducted and how the information is processed affects the outcome of research (Fraenkel and Wallen, 2000).

3.9.1 Reliability of Research Instruments

In various areas of study, the accurate dimension of hypothesized variables posed a test by itself. The issue of accuracy of dimension also comes up in applied research, whenever variables are difficult to examine. In most research, reliability and item analysis can be used to construct reliable measurement scales, to improve existing scales, and to assess the reliability of scales already in use. Specifically, reliability aids in the design and evaluation of sum scales, that is, scales that are made up of multiple individual measurements. The measurement of scale reliability is based on the correlations between the individual items or measurements that make up the scale, relative to the variances of the items. To achieve the reliability of research instrument, a pre-visit of the area under study was carried out to establish the reliability of the study. A test-retest method was also adopted to measure the reliability of the study.

3.9.2 Validity of Research Instruments

Validity submits to the degree which a test measures what we actually wish to measure. Yin's (2004) solution for assuring construct validity is: to use multiple sources of information, to establish a chain of evidence, and to have key informants review the report. In this research, the validity of the instruments will be guaranteed through pilot testing to be conducted prior to the study. The feedback will be used to

revise the tools to ensure the objective of the study is realized. The instruments validity will be acceptable because it will produce a consistent data that could be generalized on the entire population. In addition to validate the questionnaires, the researcher will study the instruments to ensure they meet the objectives of the study.

Establishing chain of evidence was performed in three steps: Literature review, which provided an emerged framework; pilot study, which filled the gap between emerged conceptual framework and later field study and the questionnaire as an instrument of data collection. Also these findings were validated in statistical studies. In order to perform this technique, content validity was ascertained by comparing the responses of the various respondents. If the responses were the same or almost the same, then the instrument would be reliable otherwise the instrument would be revised and re-tested.

3.10 Data Collection Procedures

Before the data collection process, the researcher sought a letter from University of Eldoret which was used to seek a permit from the National Commission for Science, Technology and Innovation (NACOSTI) that is responsible for research permit in Kenya and also from the respondents who will participate in the study. The nature and the rationale for the study were explained to the respondents by the researcher. The researcher would also respect the individuals' rights and also safeguards their personal integrity. In the course of this study, the respondents were assured of their anonymity, confidentiality and also of their ability to withdraw from the study at any time if they wish to do so. There was no personal identification numbers or names that were reflected on the questionnaires except the numbering and identification of data

during data editing. Furthermore, the researcher stick to the research schedule and ensure that he was pleasant in his outlook, well groomed and use simple language.

3.11 Data Analysis

The process of analysis began with the coding of the questionnaire into theoretically derived categories focusing on the factors influencing the enrolment of female students in technical courses in technical training institutions. Data analysis consists primarily of descriptive statistics procedures and inferential statistics. Data was analyzed and presented through the help of the Statistical Package for the Social Sciences (SPSS) program. Descriptive statistical analysis was utilized to present the primary characteristics of the sample. This includes frequencies and percentages. Inferential statistics were employed to examine the relationships between independent and dependent variables. Correlation coefficient analysis was conducted to determine the relationship between independent variable, and dependent variable in the stated data.

Table 3.2 Operational Definition of Variables

Objective	Variables	Indicators	Measurement scale	Tools of analysis	Types of tools
To investigate the influence of occupational stereotyping and outcome expectation on the enrolment of female students in technical courses.	**Dependent** Female students enrolment in Technical courses **Independent** Occupational stereotyping and outcome expectation factors	Level societal support	Nominal Ordinal	Descriptive statistics. Tables	Frequency distribution tables
To investigate the influence of attitudinal factors on the enrolment of female students in technical courses	**Dependent** female students enrolment in technical courses Independent attitudinal factors	Level parental support.	Nominal Ordinal	Descriptive statistics. Tables.	Frequency distribution tables
To examine the influence of cultural factors on the enrolment of female students in technical courses.	**Dependent** female students enrolment in technical courses Independent cultural factors	Level societal support	Nominal Ordinal	Descriptive statistics. Tables	Frequency distribution tables
To assess the influence of role models on the enrolment of female students in technical courses	**Dependent** female students enrolment in Technical courses Independent role models Parental support	parents and teachers Nominal	Ordinal	Descriptive statistics.	Tables. Frequency distribution tables

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with data analysis, presentation, interpretation and discussion of the research findings. In the first section, descriptive statistics are used to provide background information of the respondents who participated in this study. The second section presents the analysis of the data to the specific objectives of the study as provided by the respondents to the questionnaires and interview schedule. The purpose of this study was to establish factors that influenced enrolment of female students in technical courses in technical training institutions in North Rift Region. This study sought to achieve the following objectives:

i. To investigate how occupational stereotyping influence enrolment of female students in technical courses.

ii. To investigate how the attitudinal factors influence enrolment of female students in technical courses.

iii. To investigate how cultural factors influence enrolment of female students in technical courses.

iv. To assess the influence of role models on the enrolment of female students in technical courses.

In data analysis the researcher relates past studies with current finding in order to find out the correlations, the difference and further to derive the right recommendations.

4.2 Return rate

A total of 224 questionnaires were distributed and 220 of them were returned thus making it a 98% return rate. This is a positive return and thus will help the study in fully achieving its objective

4.3 Background Information of the Students

It was important for this study to determine the demographic characteristics of the female students who participated in this study. The demographic characteristics of concern for this study were age, training institution and KCSE grade. The responses were presented in the following sub-sections:

4.3.1 Age of the Students

Respondents were asked to state their age and their responses were summarized in fig 4.1.
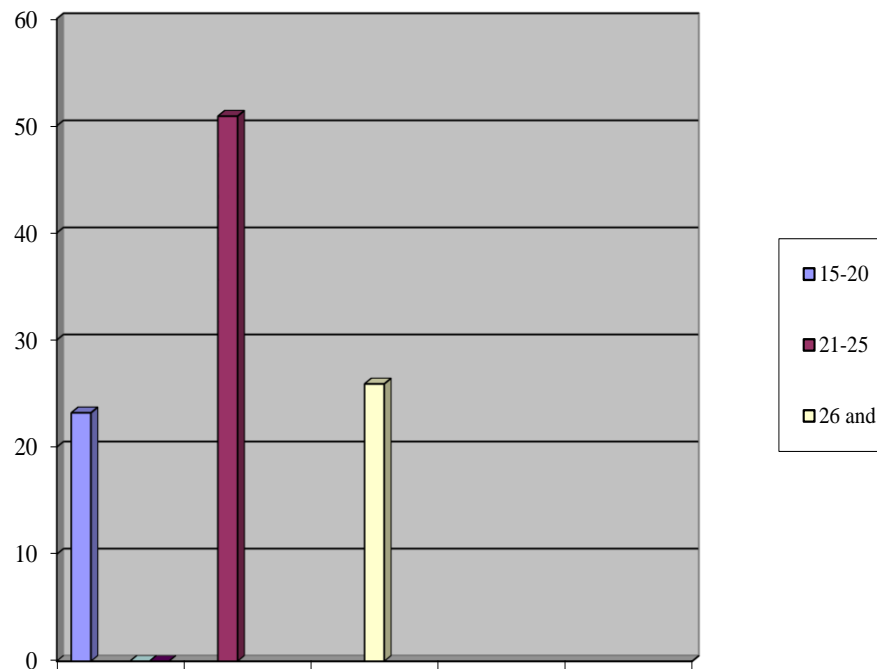
Figure 4.1 Age of the students

It can be established from fig 4.1 that 50.9% (112) of the students were aged between
21 – 25 years, while 25.9% (57) were aged above 26 years. There were 23.2% (51) of
the respondents who were aged 15-20 years. Most of the students were therefore,
adults since they were above 18 years of age. This means that a majority of the
respondents are in their productive years thus a lot is expected from them by the
society.

4.3.2 Institution
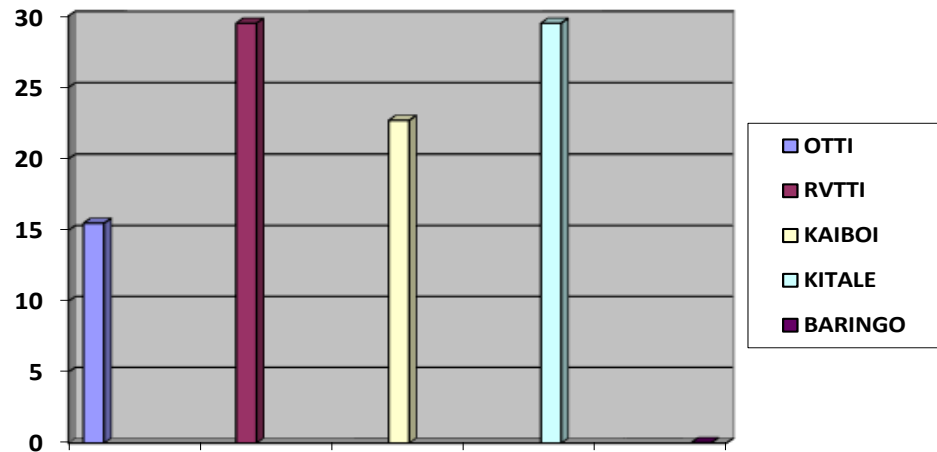
Figure 4.2 Institution

As shown in figure 4.2, the respondents from Ol'lessos Institute were 15.5% (34) of the total respondents and 29.5% (65) of the total respondents of students who participated in this study came from RVTTI and Kitale whereas 22.7%(50) were in Kaiboi Technical Training Institute. Only 2.7% (6) of the total respondents were from Baringo Technical Training Institute. Institutional response was good though there is need to emphasize on the implementation of Gender Policy that will help address issues relating to gender and education as well as emphasizing implementing of gender responsive initiatives at the tertiary level. According to a study done by the ministry of education in (2009) this training and research levels will help the achievement of Kenya Vision 2030 with an ease.

4.3.3 KCSE Grade

The responses on the grades scored in KCSE are presented in fig.4.3.
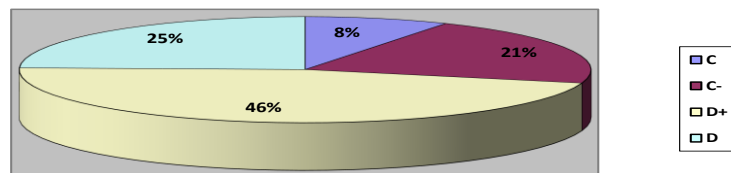
Figure 4.3 grade

As shown in fig 4.3, 46.4% (102) of the students who participated in this study scored D+ in KCSE whereas 24.5% (54) scored D and 20.9%(46) scored C- in their KCSE. Only 8.2% (18) scored C plain in KCSE. Based on the findings, it is evident that there were quite a number of factors that influence admission in technical courses. One main factor that comes out in this section is failure in national examination. From the findings it is evident that there is need for strategies that can help in improving student's performance as per the findings the performance is poor and this influences an individual future career.

4.4 Influence of occupational stereotyping on enrolment of female students in technical courses

The study sought to establish the influence of occupational stereotyping and outcome expectation on enrolment of female students in technical courses in technical training institutions in North Rift Region. Students' responses were summarized in Table 4.1.

Table 4.1 Influence of occupational stereotyping on enrolment of female students in technical courses

Statement	SA		A		U		D		SD		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Definitely I made my course choice on my own	84	38.2	68	30.9	27	12.3	27	12.3	14	6.3	220	100.0
I have made course choice based on outcome expectations such as future salaries	52	23.7	80	36.4	42	19.1	29	13.2	17	7.7	220	100.0
My course choice in technical courses was based on identity expectations in future	64	29.1	65	29.6	26	11.8	30	13.7	35	15.9	220	100.0
My course choice in technical courses was based on high chances of employment in future	73	33.2	62	28.2	26	11.8	26	11.8	33	15.0	220	100.0

Key: **SA-**Strongly Agree, **A**- Agree, **U-** Neutral, **D-**Disagree, **SD**-Strongly Disagree.

F- Frequency

It is clear in Table 4.1 that 38.2% (84) of the respondents strongly agreed and 30.9% (68) of the respondents agree that they were influenced with salaries expectations in future to enroll in technical courses, and 12.3% (27) disagree that salaries expectations have great influence on the choice of technical courses. Also the results showed that 6.3% (14) of the respondents strongly disagree that the salaries expectations had nothing to do with their enrolment in technical courses while 12.3% (27) respondents were undecided. From the findings it can be depicted that the future salaries expectations have impacted negatively towards the enrollment of female students in technical courses. On the identity expectations and female students' enrolment in technical courses in Technical Training Institutions in North Rift region; the findings showed that the bulk of respondents were strongly influenced by the identity expectations in future while choosing to enroll in technical courses in Technical Institutions with 29.1% (64) of the respondents strongly agree and 29.6% (65) agree on the same. It was also clear from the findings that 13.7% (30) of the respondents disagree on the influence of identity expectation in future and 15.9% (35) of the respondents strongly disagree that the identity expectation had an influence on their career choice while 11.8% (26) of the respondents were undecided over the same. Also many factors influencing enrolment in technical courses can either be intrinsic or extrinsic or both. Most people are influenced by careers that their parents' favors while others follow the careers that their educational choices have opened for them. Some also choose to follow their passion regardless of how much or little it will make them while others choose the careers that give high income.

On the study to establish the influence of future chances of employment on female students enrollment in technical courses; the findings revealed that 33.2% (73) of the respondents strongly agree and 28.2% (62) agree that high chances of employment in the future greatly influenced their enrollment in technical courses while 11.8% (26) of the respondents indicated that they made their course choice in technical courses based on their personal feelings rather than future employment. It was also clear that 15% (33) of the respondents strongly disagree that their career choice was not based on future chances of employment while 11.8% (26) of the respondents were undecided.

From the study findings it was evident that job market and salaries are the greatest influencers of people undertaking certain courses thus this can be related to a study done by World Bank, 2008) that there is need for governments to invest more in creating jobs for their young population. This is because the main purpose of higher education is to train high-level human resource for national development. However, trends in male and female representation in employment, in decision making positions and other positions that set the gender for national development, indicate that women are seriously under-represented worldwide. In this case a need be done both by the Kenyan government and the respective Training Institutions to ensure that female representation in technical courses is improve in the near future. By doing so, gender gap will be minimized because the number of female students enrolling in technical courses will have gone up.

4.5 Influence of attitudinal factors on the enrolment of female students in technical courses

The study sought to establish the extent to which psychological factors influence enrolment of female students in technical courses in technical training institutions in North Rift Region. The students' responses are tabulated in Table 4.2.

Table 4.2 Influence of Female Students Attitudes on Enrolment

Statement	SA		A		U		D		SD		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
My career counselors at KCSE level had the greatest influence in my course enrollment in technical courses	56	25.5	69	31.4	31	14.1	38	17.3	26	11.8	220	100
I am limited to my course enrollment in technical courses due to my KCSE grades	45	20.5	57	25.9	31	14.1	41	18.6	46	20.9	220	100
I am limited to my course enrollment in technical courses due to gender stereotype	40	18.2	69	31.4	22	10.0	56	25.5	33	15.0	220	100
My career choice in technical courses was based on global technological advancements	13	5.9	92	41.8	20	9.1	24	10.9	71	32.3	220	100

Key: **SA-**Strongly Agree, **A**- Agree, **U**- Neutral, **D**-Disagree, **SD**-Strongly Disagree.

F- Frequency

It is clear in Table 4.2 that 25.5% (56) of the respondents strongly agreed and 31.4% (69) agree that career counselors at KCSE level had the greatest influence in my course enrolment in technical courses. The findings also revealed that 17.3% (38) of the respondents cited that career counselors at KCSE level had little influence to their enrolment in technical courses. This was followed by 11.8% (26) who strongly disagree that career counselors at KCSE level had the greatest influence in their course enrolment in technical courses while 14.1% (31) of the respondents were undecided. In relation to the past where cultural attitudes and practices led to limited participation in formal education, low completion rates and poor educational achievements among developing countries today secondary school performance is the greatest influencer (Education Ministry of Education, 2005).

The study also sought to establish the influence of gender stereotype on female students' enrolment in technical courses and the findings revealed the following; 18.2% (40) of the respondents strongly agree and 31.4% (69) of the respondents agree that they were influenced by gender stereotype while 25.5% (56) of respondents disagree and 15% (33) strongly disagree that they were not influenced by gender stereotype while enrolling into technical courses. The remaining 10% (22) of the respondents indicated that their enrolment into technical courses was limited to their K.C.S.E grades. From the findings there is need to stop stereotyping the girl child failures and women position in society. This further means there is need to keep the positions open and Institutions should come up with career guides that help students

study based on their capability.

The study also sought to establish whether technological advancement had any influence on female students' enrolment in technical courses in technical institutions and the findings revealed that 10.9% (24) of the respondents disagree and 32.3% (71) respondents strongly disagree that their career choice in technical courses was based on global technological advancements while 41.8% (92) of the respondents agree and 5.9% (13) respondents strongly agree that their career choice in technical courses was based on global technological advancements. The rest 9.1% (20) of the respondents were undecided. According to (MoEST, (2004) Education is not only a means for social development but also has economic implication. This is because education equips a person with relevant skills, knowledge and values to enable one to survive and actively participate in national development thus women should be given the right exposure and understanding.

Moreover the results from the female students concerning the influence of students attitude on the enrollment in technical courses concurs with the responses obtained from the registrars and examination officers of the technical institutions where the study was done. The registrars and examination officers who were interviewed agreed that majority of the female students had negative attitude towards technical courses. They had a perception that the courses were difficult for them and therefore suitable for their male counterparts. This was attributed to the orientation they received from their previous secondary schools and others based their enrollment in technical courses on their performance in KCSE examinations. There were few who asserted that the female students had no option other than enrolling in technical courses due to

the technological advancement in the world that has made the world a global village

(Subbarao and Raney (1992).

4.6 Influence of Cultural factors on the enrolment of female students in technical courses

The study sought to establish how cultural factors influence enrolment of female students in technical courses in technical training institutions in North Rift Region. Students' responses are summarized in Table 4.3.

Table 4.3 Cultural factors influence enrolment of female students in technical courses

Statement	SA		A		U		D		SD		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
My parents had the greatest influence in my course choice in technical courses	13	5.9	29	13.2	30	13.6	77	35.0	71	32.3	220	100
Other family members have been the greatest influence in my course choice in technical courses	45	20.5	65	29.5	26	11.8	61	27.7	23	10.5	220	100
My physical and sexual safety influence my course choice in technical course.	50	22.7	75	34.1	37	16.8	22	10.0	36	16.4	220	100.0
My course choice in technical courses was based on gender roles.	19	8.6	29	13.2	29	13.2	68	31.0	75	34.1	220	100.0

Key: **SA-**Strongly Agree, **A-** Agree, **U-** Neutral, **D-**Disagree, **SD**-Strongly Disagree.

F- Frequency

It is clear from Table 4.3 that 35% (77) of the respondents disagreed and 32.3% (71) strongly disagreed that their parents had the greatest influence in their course choice in technical courses while 13.2% (29) of the respondents agree and 5.3% (13) respondents strongly agree that their parents' contribution greatly influence their course choice in technical courses. The remaining 13.6% (30) were undecided. This implied that parents have little influence on their daughters' choice of course. This could because of lack of education by the parents or lack of information in relation to education.

The findings also revealed that 20.5% (45) of the respondents strongly agree and 29.5% (65) respondents agree that they were greatly influenced by other family members on career choice while 10.5% (23) of the respondents strongly disagree and 27.7% (61) disagree that family members influence them on their course choice and 11.8% (26) respondents were undecided. From the findings it can be deduced that girls convey their wishes to other family members and not their parents. This means there could be a bad relationship between the parents and their children. According to Namuddu, (1992) lack of the right role models and people to look up to in society is the main contribution in women empowerment and children motivation in learning. The process of education itself has come into focus as a main contributing factor.

The study also sought to established the influence of physical and safety on female students' enrolment in technical courses in Training Institutions and the findings revealed that 16.4% (36) of the respondents strongly disagree and 10% (22)

respondents disagree that their course choice in technical courses was based on physical and sexual safety of female students while 22.7% (50) of the respondents strongly agree and 34.1% (75) of respondents agree that their course choice in technical courses was influenced by physical and sexual safety. The remaining 16.8% (37) of respondents were undecided. From these findings it can be deduced that to the dropping out of female from the education system is due to the challenges of the process itself. This may not be happening deliberately, but nevertheless, the system seems to cater for homogeneous students, whose needs are identical and show opportunities are the basis, demands on their time for domestic work, sexual harassment and a number of many other factors are not considered. There is need to make the education system sensitive to both females and males requirements in order to reduce gender imbalances (Lucy, 2009).

In the case of gender roles influence, 8.6% (19) of the respondents strongly agree and 13.2% (29) of respondents agree that perceived gender roles influence female students in career choice into technical courses while 34.1% (75) of the respondents strongly disagree and 31.0% (68) of respondents disagree that their course choice in technical courses was based on perceived gender role influence. Also 13.2% (29) of respondents were undecided. Based on the findings female students enrolled in technical courses partly because of the influence of their parents and guardians. In some cases parents come for admission and even make payments without consulting their daughters. Since the students do not have the source of income, they are compelled to agree with the parents choices in order for them to continue with their studies without issues of lack of fees and other costs associated with taking the registered courses. From these result it is clear that parents influence the career choice

of female students in technical courses. (Vergue, 1996) agrees that Parents are also accountable for encouraging their children to pursue traditional career paths instead of subjects that genuinely and individually interest them. Further, the study established that there were some students who enroll in technical courses just because of peer influence. They simply follow their peers without specifically understanding the content or what entails of that course. To a small extent, some students enrolled in technical courses due to the advice given by their relatives who are not necessarily close members of their families.

4.7 The influence of role models on the enrolment of female students in technical courses

The study sought to find out the influence of role models on female students' enrolment in technical courses. Role model is a sociological area of influence which can be used to encourage young women to choose technical courses in Technical Training Institutions greater numbers. According to Namuddu, (1992) lack of the right role models and people to look up to in society is the main contribution in women empowerment and children motivation in learning. The process of education itself has come into focus as a main contributing factor. Educators have an important influence on this area, both positively and negatively (Griffin, Ann Morie, 2007). Some people who could be the role models like class teachers perceived their female students' abilities to be less than that of their male counterparts. In effect, these teachers are serving as negative role models because they discouraged their female students from finding their maximum skills and potentials.

Concerning whether, class trainers perceive their female students' abilities to be less

than that of their male counterparts, the question enlisted the following findings;

Table 4.4 Trainers perceive their female students' abilities to be less than that of their male counterparts

Statement	SA		A		U		D		SD		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Classroom trainers favour male students over female students in technical courses.	54	24.5	79	35.9	41	18.6	31	14.1	15	6.8	220	100.0
The young person is affected positively by someone who is caring and has a positive attitude towards his abilities and opportunities	74	33.4	75	34.1	17	7.7	42	19.1	12	5.5	220	100.0
Parents play a significant role in shaping the career path their children follow in their later years	77	35	73	33.2	34	15.5	23	10.5	13	5.9	220	100
young women must be encouraged in science and technology careers by the time they	72	32.7	69	31.4	37	16.8	25	11.4	17	7.7	220	100

reach their middle school years											

It is clear in Table 4.4 that 24.5% (54) of the respondents strongly agree and 35.9% (79) agree that classroom trainers favour male students over female students in technical courses while 6.8% (15) of respondents strongly disagree and 14.1% (31) of respondents disagree that classroom trainers favour male students over female students in technical courses and the rest 18.6% (41) of respondents were undecided. From the findings it can be deduced that as time goes by females' students discover that schools are not friendly to their needs. From a conference on Education and Training held in Nairobi in November 2003, there was consensus that the various departments dealing with technical and vocational training ought to harmonise their operations as a matter of urgency and jointly work towards revamping the sector as the numbers are dwindling. In pre-college academic preparation, recent research continues to show that classroom trainers favour male students over female students in science classes, providing more attention and direction to male students, addressing male students more frequently by name, and interrupting female students more often than male students. When female students are praised, it is more often for their behaviour or appearance, whereas males are praised predominantly for their academic performance (Norby& Mitchell, 2007). It has been shown that when elementary trainers perceive their female students' abilities to be less than that of their male counterparts, despite what those abilities are, girls' performance and aspiration toward science careers decrease significantly (Shepardson & Pizzini, 2002). In effect, these trainers are serving as negative role models because they discourage their female

students from finding their maximum skills and potential in some fields like technical areas where they feel can do better. Conversely, hands-on activities in engineering, exemplary technical courses trainers, and authentic assessment methods in technical education, have been shown to reinforce and maintain girls' abilities in engineering, and to increase the percentage of girls' choices of technical courses related careers, girls need to be encourage to participate in performing practical.

There has always been an interest in the development of positive attitude towards technical courses in female students as they completed their high school level of education and this should be done by their teachers in their former high schools. This will ensure that female students can as well choose to enroll in technical courses as their male counterparts. Because of the low enrolment of female students in technical courses investigated above, it can be deduced that the study findings are in line with earlier findings by Smith (2003) who suggested that role modeling is a sociological area of influence which can be used to encourage young women to choose technical courses in greater numbers. Educators have an important influence on this area, both positively and negatively. Research has shown that young women must be encouraged to take more seriously mathematics and science subjects by the time they reach their high school, in order to acquire a sufficient science and mathematics background. Technical courses require adequate mathematics and science background for the student entering an engineering or technical course. Girls, who are experiences challenges in mathematics and science courses in high school, reach college with an accumulated disadvantage.

On whether, Men can be effective role models just as well as can women. The

question enlisted the following findings, 66 (30.0%) Agreed with the statement, this was followed by 49 (22.3%) who disagreed to the statement, 37 (16.8%) who strongly agreed, while 54 (24.5%) strongly disagreed, and 14 (6.4%) were undecided. The findings are shown in table 4.5.

Table 4.5 Men can be effective role models just as well as women can.

Response	Frequency	Percentage
Strongly Disagree	54	24.5
Disagree	49	22.3
Agree	66	30.0
Strongly Agree	37	16.8
Undecided	14	6.4
Total	**220**	**100.0**

The findings in table 4.5 above indicate that majority of the respondents agreed that Men can be effective role models just as well as can women by 66 (30.0%) responses. In the technical fields, the population percentage of men is greater than that of women. Girls should look up to men to advise them to enroll in technical institutions and take technical courses. Men should encourage young women to choose science and technology related careers in greater numbers so as to reduce the gap in the technical area. Science careers require adequate mathematics and science background for the student entering an engineering or physical science course of study. Girls, who are discouraged from taking mathematics and science courses in middle and high school, reach college with an accumulated disadvantage. Men are therefore supposed

to encourage girls to take technical courses just as boys do, and also give them ideas on how to excel in technical courses.

Summary of the chapter

This chapter covers the results and findings of the study. These were based on the research questions as outlined in chapter one. Findings on occupational stereotyping factor, attitudinal factors, cultural factors and role model factors were presented in this chapter. The findings of each research question was tabulated in tables and a discussion in each case to interpret the data was presented here.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of the major findings and conclusions. Recommendations from the study and suggestions for further research are also included in this chapter. The chapter is based on the findings of the preceding chapter; objective of the study and the research questions that were to be answered by the study. The study combined two approaches to data analysis; quantitative and qualitative. This chapter is divided into four sections. The first section presents a summary of the research findings, the second part presents conclusion, the third part contains recommendations and the last part presents suggestions for further research.

5.2 Summary of findings.

The findings of this work have been derived from the study objectives. The data from the quantitative and qualitative analysis was integrated and discussed in response to the following research questions. In retrospect, the study set out to address the following research questions:-

i. How do occupational stereotyping and outcome expectation influence enrolment of female students in technical courses?

ii. How do attitude influence enrolment of female students in technical courses?

iii. How do cultural factors influence enrolment of female students in technical courses?

iv.   In what ways do the role models influence the enrolment of female students in technical courses?

In answering the research questions, the research results were discussed according to the themes identified in chapter four. Findings from the research were mapped against documented results as captured in the literature review.

5.2.1 Influence of occupational stereotyping and expectations on the enrolment of female students in technical courses

The study sought to establish the influence of occupational stereotyping and outcome expectation on enrolment of female students in technical courses in technical training institutions in North Rift Region. From the findings it can be depicted that the future salaries expectations have impacted negatively towards the enrollment of female students in technical courses. The findings were supported by other findings by (Hewitt, 2010), factors influencing selection of courses in Technical Institutions can either be intrinsic or extrinsic or both. Hewitt further states that most people are influenced by courses that their parents favor, others follow the courses that their educational choices have opened for them, some choose to follow their passion regard less of how much or little it will make them while others choose the courses that give high income. In addition students perception of being suitable for particular jobs also has been found to be influenced by a number of factors including ethnic background, year in school, level of achievement, choice of selected courses, attitudes and differences in job characteristics (Mc Quaid and Bond, 2003). The bulk of respondents also cited that employment chances in future influenced their enrollment in technical courses. The findings were also inline with other findings by Stebleton

(2007) who indicated that the students had an external locus of control and believes that there were numerous external factors which influenced their selection of their courses. These external factors include; political and economic considerations, previous work experience and the influence of key individuals in a person's life. Pummel, Harwood and Lavallee (2008) reported that external influences helps to shape an individual career aspirations.

5.2.2 Influence of attitudinal factors on the enrolment of female students in technical courses

The study sought to establish the extent to which attitudinal factors influence enrolment of female students in technical courses in technical training institutions in North Rift Region. In relation to the past where cultural, attitudes and practices led to limited participation in formal education, low completion rates and poor educational achievements among developing countries today secondary school performance is the greatest influencer (Education Ministry of Education, 2005). Moreover from the findings there is need to stop stereotyping the girl child failures and women position in society. This further means there is need to keep the positions open and institutions should come up with career guides that help students study based on their capability.

According to (MoEST, (2004) Education is not only a means for social development but also has economic implication. This is because education equips a person with relevant skills, knowledge and values to enable one to survive and actively participate in national development thus women should be given the right exposure and understanding. In addition the results from the female students concerning the influence of students attitude on the enrollment in technical courses concurs with the

responses obtained from the registrars and examination officers of the technical institutions where the study was done. The registrars and examination officers who were interviewed agreed that majority of the female students had negative attitude towards technical courses. They had a perception that the courses were difficult for them and therefore suitable for their male counterparts. This was attributed to the orientation they received from their previous secondary schools and others based their enrollment in technical courses on their performance in KCSE examinations. There were few who asserted that the female students had no option other than enrolling in technical courses due to the technological advancement in the world that has made the world a global village (Subbarao and Raney (1992).

Concerning the influence of female students' attitudes on enrolment in technical courses in technical training institutions, the findings shows that majority of the respondents were not influenced by career counselors at KCSE level to enroll in technical courses. The findings were inline with other previous findings by Oyamo and Amoth (2008), which showed that rural students tend to seek help from parents more than urban students and that parents more than teachers play a major role in the career choice of students. Generally, the choice of a career is influenced by parents, friends and counselors

5.2.3 Influence of cultural factors on the enrolment of female students in technical courses

The study sought to establish how cultural factors influence enrolment of female students in technical courses and it was deduced that girls convey their wishes to other family members and not their parents. This means there could be a bad relationship

between the parents and their children. According to Namuddu, (1992) lack of the right role models and people to look up to in society is the main contribution in women empowerment and children motivation in learning. The process of education itself has come into focus as a main contributing factor. From these findings it can be deduced that to the dropping out of female from the education system is due to the challenges of the process itself. This may not be happening deliberately, but nevertheless, the system seems to cater for homogeneous students, whose needs are identical and show opportunities are the basis, demands on their time for domestic work, sexual harassment and a number of many other factors are not considered. There is need to make the education system sensitive to both females and males requirements in order to reduce gender imbalances (Lucy, 2009).

5.2.4 Influence of role models on the enrolment of female students in technical courses

The study sought to find out the influence of role models on female students' enrolment in technical courses and from the findings it can be deduced that as time goes by females' students discover that schools are not friendly to their needs. In pre-college academic preparation, recent research continues to show that classroom teachers favour male students over female students in science classes, providing more attention and direction to male students, addressing male students more frequently by name, and interrupting female students more often than male students. When female students are praised, it is more often for their behaviour or appearance, whereas males are praised predominantly for their academic performance (Norby& Mitchell, 2007). It has been shown that when elementary teachers perceive their female students'

abilities to be less than that of their male counterparts, despite what those abilities are, girls' performance and aspiration toward science careers decrease significantly (Shepardson & Pizzini, 2002). In effect, these teachers are serving as negative role models because they discourage their female students from finding their maximum skills and potential. Conversely, hands-on activities in science, exemplary science teachers, and authentic assessment methods in science education, have been shown to reinforce and maintain girls' abilities in science, and to increase the percentage of girls' choices of science and technology related careers.

5.3 Conclusion

The study sought to investigate the factors influencing enrolment of female students in technical courses in technical training institutions in North Rift Region.

Based on the study findings it can be concluded that factors influencing selection of courses can either be intrinsic or extrinsic or both. This findings concur with Hewitt (2009) who stated that most people are influenced by courses that their parents favor, others follow the courses that their educational choices have opened for them, some choose to follow their passion regardless of how much or little it will make them while others choose the courses that give high income. Moreover in relation to the past where cultural, attitudes and practices led to limited participation in formal education, low completion rates and poor educational achievements among developing countries, today secondary school performance is the greatest influencer. Consequently the study concludes that majority of the respondents were not influenced by career counselors at KCSE level to enroll in technical courses.

Lack of the right role models and people to look up to in society is the main challenge in women empowerment and children motivation in learning. Moreover dropping out of female students from the education system is due to the challenges of the process itself. Lastly trainers are serving as negative role models because they discourage their female students from finding their maximum skills and potential.

5.4 Recommendations

On the basis of the findings and conclusions above, the following section presents the recommendations of the study.

i.   The study recommends that female students should be encouraged to enroll into technical courses as their male counter parts. This should be done by the government through the ministry of education and gender.

ii. The study also recommends that female students should be assisted to develop positive attitudes towards technical courses from early stages of learning.

iii. Role models of women who have excelled in engineering fields should be invited to motivate young girls in secondary schools and those who have enrolled in the same field in technical training institutions.

iv. Employment institutions should be encouraged to absorb the female who have completed their engineering courses immediately. This will motivate those who are still in training or those who may aspire to take up these technical courses in Technical Training Institutions.

v.   Institution management and engineering teachers or instructors should

encourage female students when joining technical training institutions to enroll in technical courses. This will curb the problem of gender disparity in the field of engineering.

vi.   The study also recommends that college administration and other stakeholders should provide SET bursary information to female students to enable them to enroll in technical courses.

5.5 Suggestion for further study

i.   A similar study to be carried out in other technical training institutions to compare the study findings.

ii.   A research to find out the effects of physical facilities on enrolment of students in technical courses.

iii.   A research to find out the effects of performance of female students in science subjects in KCSE on the enrolment in technical courses.

iv.   A research to find out how female graduates of technical courses at diploma and craft certificate levels are performing in the world of work.

v.   A research to find out the challenges faced by female graduates of technical courses in Kenyan universities.

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APPENDICES

APPENDIX I. LETTER OF INTRODUCTION

Date: ………………2016

Dear sir/Madam,

REF: REQUEST FOR COLLECTION OF DATA.

I Reuben Rotich, Reg. No. EDU/PGT/1010/13 am a postgraduate student at the University of Eldoret, School of Technology Education. I am carrying out a research study o n Factors influencing female students on enrolment in technical courses in Technical Training Institutions in North Rift Region, Kenya.

You have been selected to participate in the study, kindly assist by filling in the attached questionnaire. The information given will be treated in strict confidence, and will be purely used for academic purposes. Do not indicate your name on the questionnaire.

A copy of the final report will be availed to you upon your request. Your assistance and cooperation will be highly appreciated.

Yours sincerely,

Reuben Rotich

APPENDIX II: QUESTIONNAIRE FOR THE STUDENTS

Dear Respondent,

I am pleased to inform you that you have been selected to participate in this study investigating the factors influencing enrolment of female students in technical courses in technical training institutions in north rift region of Kenya.

Your response will be used for research purpose only and your identity treated with confidentiality. Please indicate the correct option as honestly and as correctly as possible by putting a tick (√) on one of the options. For the questions that require your opinion, please complete the blanks.

SECTION A: GENERAL DETAILS (PLEASE CHECK ALL THAT APPLY)

1. Indicate your age bracket

    15-20 years   ( )

    21-25 years   ( )

    26 and above ( )

2. Please add the details below

    a. Kindly indicate your training institution

    Ol'lessos   ( )

Kaiboi   ( )

RVTTI   ( )

Kitale   ( )

Baringo   ( )

b. Indicate your K.C.S.E grade   B- ( ) C+ ( ) C ( ) C- ( ) D+ ( ) D ( )

D- ( ) or K.C.P.E. ( )

SECTION B: Occupational stereotyping

On a scale of SD, D,A, SA,N. Please tick the answer that best describe your responses.

SD–Strongly Disagree

D–Disagree

A–Agree

SA–Strongly Agree

N – Neutral

1. Definitely made my course choice on my own

SD ☐ D ☐ A ☐ SA ☐ N ☐

2. Ihavemadecoursechoicebasedonoutcomeexpectationssuchasfuturesalaries

SD ☐ D ☐ A ☐ SA ☐ N ☐

3. My course choice in technical course was based on identity expectations in future

SD ☐ D ☐ A ☐ SA ☐ N ☐

4. My course choice in technical course was based on high chances of employment in future

SD ☐D ☐A☐ SA☐ N ☐ ☐

SECTION C: ATTITUDES/GENDER

5. My career counselors at KCSE level had the greatest influence in my enrollment in technical course.

SD ☐ D ☐ A ☐ SA ☐ N ☐

6. I am limited to my course enrollment in technical course due to my KCSE grades

SD ☐ D ☐ A ☐ SA ☐ N ☐

7. I am not limited to my course enrollment in technical course due to gender stereotype

SD ☐ D ☐ A ☐ SA ☐ N ☐

8. My career choice in technical course was based on global technological advancements

SD ☐ D ☐ A ☐ SA ☐ N ☐

SECTION D: CULTURAL FACTORS

9. My parents had the greatest influence in my course choice in technical courses

SD ☐   D ☐   A ☐   SA ☐   N ☐

10. Other family members have been the greatest influence in my course choice in technical courses

SD ☐   D ☐   A ☐   SA ☐   N ☐

11. My course choice in technical courses was based on the science, engineering and technology (SET).

SD ☐   ☐   A ☐   SA ☐   N ☐

12. My course choice in technical course was based on peer influence

SD ☐   D ☐   A ☐   SA ☐   N ☐

SECTION E: ROLE MODELS

13. I am limited to my course choice in technical courses by the role models in the society.

SD ☐   D ☐   A ☐   SA ☐   N ☐

14. My course choice in technical courses was based on the encouragement from men.

SD ☐   D ☐   A ☐   SA ☐   N ☐

15. My course choice in technical courses was based on past performance of the Engineering department.

SD ☐   D ☐   A ☐   SA ☐   N ☐

16. My course choice in technical course was based on the institution registrar's influence.

SD ☐   ☐   A ☐   SA ☐   N ☐

APPENDIX III: QUESTIONNAIRE FOR REGISTRARS AND EXAMINATION OFFICERS

1. Would you please state your role as registrar/examination officer?

    …………………………………………………………………………………

2. What are the cultural factors influencing enrolment of female students in technical courses?

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3. How do students' outcome expectations influence the enrolment of female students in technical courses?

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4. As a career teacher, what motivates/steer you to intervene during student's course enrollment i.e. in case you find that the student has not made the right decision?..........................…………………………………………………………

5. To what extent do role models influence enrolment of female students in technical courses in your institution?

…………………………………………………………………………………………
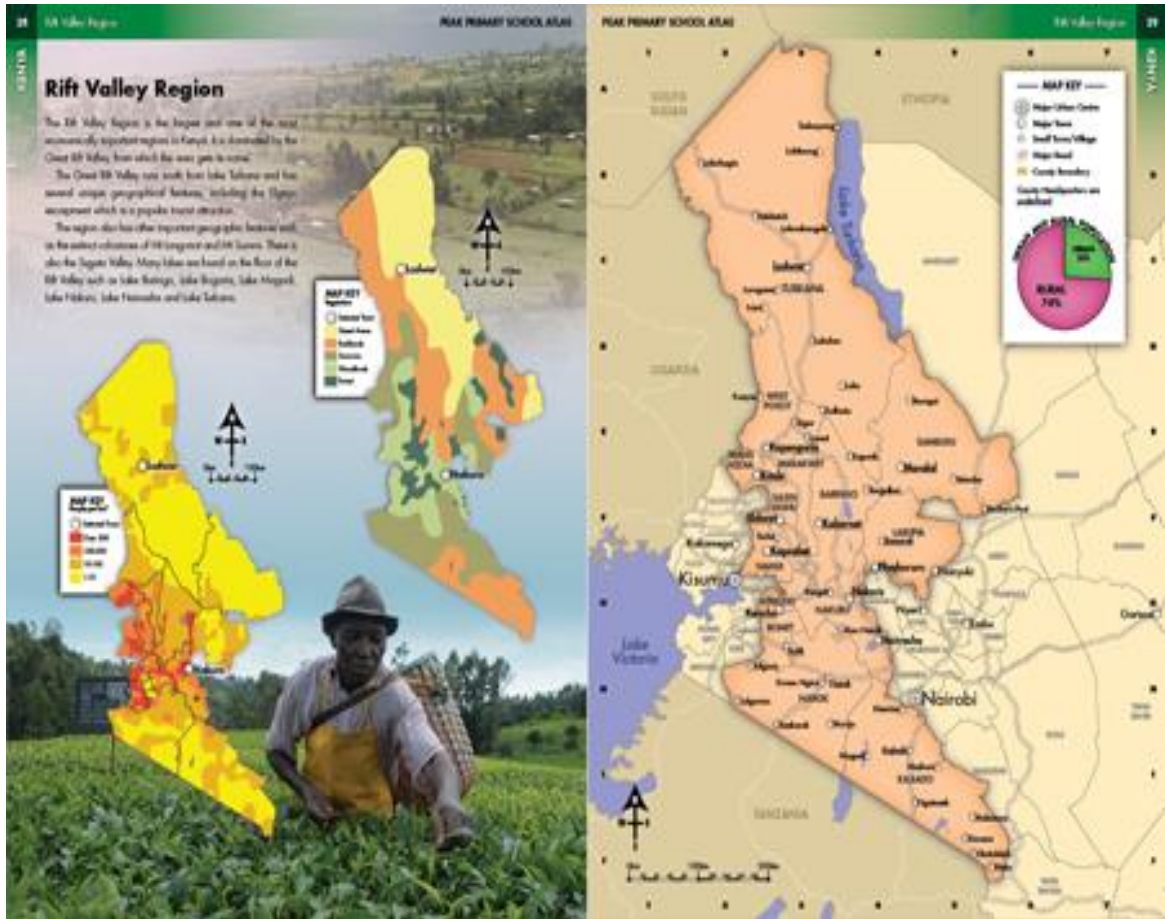
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6. What is the influence of students' attitude on enrollment of female students in technical courses in your institution?

…………………………………………………………………………………………

……………………………………………………………………………………

APPENDIX IV: MAP OF KENYA SHOWING RIFT VALLEY PROVINCE

APPENDIX V: MAP OF RIFT VALLEY PROVINCE

APPENDIX VI: SIMILARITY INDEX/ANTI-PLAGIARISM REPORT

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