FACTORS INFLUENCING FEMALE STUDENTS ENROLMENT IN TECHNICAL COURSES: A CASE OF MATILI TECHNICAL TRAINING INSTITUTE, KENYA

BY

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DECLARATION

This research project is my original work and to the best of my knowledge has not been presented at any other university for the award of a degree or a diploma.

Signature------------------------------------- Date-----------------------------

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REG. NO: L50/64288/2013

Declaration by the supervisor

This research project has been submitted for examination with my approval as University Supervisor

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DEDICATION

I dedicate this work to my husband David for his support and my children, Leslie and Leeroy, as motivation to them that with dedication achievement is possible.

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My gratitude goes to the University of Nairobi for granting me the opportunity to pursue this course with the institution.

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My family too has been with me through this challenging but worthwhile course.

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ACRONYMS AND ABBREVIATIONS

MDG   :   Millennium Development Goals

SMT   **:**   Science, Mathematics and Technology

STD   :   Sexually Transmitted Disease

UNICEF: United Nations Children's Fund

FGM   :   Female Genital Mutilation

ABSTRACT

Career patterns are influenced by a variety of forces, one of which is gender-role Stereotype. The study determined the factors influencing female students' enrolment in technical courses. The study was guided by the following objectives: to determine the influence of financial factors on students enrolment, to investigate the influence of cultural factors on female students enrolment on technical courses and to examine the effect of sociological factors and role models on female students' enrolment in technical courses. The study adopted case study research design .The study employed the Krejcie and Morgan formulae and a sample size of 219 was used. The data collection instruments consisted of the questionnaire and the interview schedule. Piloting was done to establish the reliability of the research instruments by use of half split technique where questionnaires were administered to students of the neighboring institute, Kisiwa Technical. In this study multiple regressions were used to analyze data and the findings were presented using APA tables. The study provided valuable insights on factors influencing female students' enrolment in technical training institutes in Kenya generally. It was found that cultural factors such early marriages, female genital mutilation, cultural beliefs and time spent on doing house hold chores make girl to have little time to devote to their academic work. It was also noted that financial factors such the fees paid for the technical courses and expensive learning materials and books made parents to discourage their daughters on choosing the technical courses. The girls are also not informed about possible future salaries and their abilities and are therefore not motivated to choose technical courses. Psychological factors also influenced the enrolment. The findings show that majority of the respondents indicated that technical courses are masculine and are meant to be pursued by boys. The study also indicated that girls perform equally well on many technical skills and attitudes assessment in the elementary school years and what they need is role models to encourage them to pursue the technical courses in their tertiary education programmes. It is hoped that the findings of this study will help the ministry of education to come up with ways of encouraging female students to enroll into technical training institutes and that the college administration and other education stakeholders will provide more bursary information to female students to enable them enroll in technical training institutes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Career patterns are influenced by a variety of forces, one of which is gender-role Stereotype. According to gender-stereotype studies, the beliefs that people hold about the differences between men and women can be summed up in two dimensions which define positive personal attributes. They are the communal and argentic dimensions (Cubillo, L. (2009). The communal dimension describes a concern for the wellbeing of others and is believed by some to be manifested more strongly in women than men. The argentic dimension depicts an assertive and controlling tendency and is believed by some to be manifested more strongly in men than women. This explains that girls are expected to take those careers which are directly related to nurturing while boys on the other hand are expected to take the more serious ones for example the science based careers (Coleman, 2005).

Career choice, for many individuals in our society, is a sociological issue. Individuals tend to imitate what they see and find pleasing; at an early age we grasp objects that our parents, teachers, or other important individuals place within our reach; we find pleasure in playing the games that we see our family and friends playing (Flabbi2011). Many young people choose careers by that for which they believe they or their parents can afford to finance training. Some choose careers based primarily on how much time they want to have for family and leisure activities, especially young women .For women who are currently in careers which relate to science or technology, the path to success is

filled with many obstacles. Despite the affirmative action efforts for more than fifteen years, women are still grossly under-represented in the physical sciences, equivalent positions in academia (Miranda 2011).

Globally, even though tertiary attainment rates of women are now equal to or exceed those of men in America and other developed countries; there is a persistent gender bias in the choice of discipline. Women still engage in different fields of study than men and are mostly under-represented in the STEM fields (mathematics, technology, engineering and science). At the postgraduate level, the share of women in these fields declines further and yet again in the transition to the workplace. In developed countries the large majority of degrees in humanities and health are awarded to women (average of 71%) while the majority of degrees in mathematics and engineering degrees are awarded to men (average of 75%) (Finnie and Frenette 2003). The gender gap in engineering, manufacturing and construction degrees is particularly large in Japan where only 11% of graduates are female. For mathematics and computer science degrees, the largest gender disparity is observed in the Netherlands with only 10% of female graduates. Indonesia has the most balanced distribution of female and male graduates across the subject areas with a slightly higher proportion of females graduating in all disciplines (European Professional Women Network 2010).

Attracting female students to technical fields will not be enough to remove gender inequalities in scientific careers: in the academic sector, women tend to be concentrated in the lowest academic ranks and they progress more slowly than men (Research Council of Canada, 2010). The European

Commission project "Practising Gender Equality in Science" (PRAGES), led by Italy's Department for Equal Opportunities, has taken stock of programmes and initiatives aimed at promoting gender equality in scientific research within public institutions in Europe, North America and Australia (ILO 2010). The guidelines produced within the project highlight the importance of: creating an enabling working environment through change in the work culture, support of work-life balance for all and early- stage career development, including the gender dimension in the research process itself; and promoting women in scientific leadership positions (OECD 2007).

In Africa evidence of gender gap in the trend and pattern of enrolment in Nigerian universities was observed by different researchers (Ezeliora & Ezeokana, 2010; Imhabekhai,2003; Oke, 2000; Owolabi,2001 .There was also low evidence of female enrolment in sciences and technology related courses. Adewara (2011) noted that participation of females in the study of sciences, technology and mathematics in the Nigerian institutions of higher learning has been discouraging. The females mostly subscribe for social sciences, arts and humanity courses and those that enrol into sciences are taken as gifted ones. This scenario is not only obtainable in Nigeria. At the higher education level in both industrialized and developing countries, women tend to cluster in areas of study which lead to traditional female careers of teaching, nursing and others.

Gender imbalance is noticeable in enrolment in different disciplines and programs, especially at the tertiary level. Citing National Gender Policy, 2006, Nwajiuba stated that "evidences abound that several negative aspects of gender relations, such as gender-based divisions of labour, disparities between males'

and females' access to power and resources, gender biases in rights and entitlements remain pervasive in Nigeria .The report of situation analysis on education in Nigeria done in 2001 showed that compared with the primary and secondary levels, it is striking that there is much greater gender disparity in tertiary education especially in Nigerian universities. The male/female disparity is witnessed in most science courses, Vetenary medicine, English and technology-based courses with technical education favouring males and pure arts courses like English and Linguistics favouring females (Badolato, 2008).

While it is true that females are generally under-enrolled in Kenya's formal school system, the problem is more pronounced when it comes to technical training. Here, females are not only extremely under-represented, but the few who are admitted tend to be offered a narrow curriculum focusing on the traditional feminine courses such as Home Economics, Typing, Food Processing and Tailoring rather than the pure science and technology courses leading to business management and modern technological occupations. Thus, the skills they are offered tend to prepare them for social roles of motherhood and homemaking rather than towards economic productivity and leadership. In order for females to keep in consonance with overall national development, there is an urgent need to prepare, encourage and attract more females in science and technology-based occupations so that they can play an effective role in the socio-economic and technological advancement of the Kenyan society.

According to Keino (1985), differentiation in course choice based on gender is not biological, but is rooted in sex stereotyping the world over. Firstly female trainees may be presumed unprepared to cope with science and technical subjects or lack confidence in pursuing masculine courses. Secondly, the school structure and attitudes in co-education institutions may not be supportive of females taking high-tech subjects. Thirdly, lack of female teachers to act as role models in the fields of high-tech training such as mechanical engineering, electrical engineering, building construction, wood and metal technology, motor mechanics and plumbing, may discourage the few who have the interest and aptitude to venture into any of them. Fourthly, due to the fact that there are very few women in technical training institutes, those who wish to venture into the male-dominated courses may become discouraged when they find they are the only one or two female(s) in the course. Nevertheless, although attempts have been made to integrate Kenyan women in to the development process, a great deal still remains to be done if the disparity between the de jure and the de facto positions is to be closed.

1.2 Statement of Problem

Studies have shown that parental attitude, mentality and support have a great deal of influence on girls' participation and level of success attained in Technical education. Parents and community attitudes are mainly influenced by traditional beliefs regarding the ideal roles of women and girls in society. Traditionally, the only roles available to women are those of wives and mothers. Women are thus seen as nurturers and mainly as providing support for men who worked to provide for the family. Being physically weaker, women

were therefore also perceived as being less capable and requiring the protection and guidance of men.

Ideally girls are supposed to be given the favorable conditions by the family and the society so as to study well since education is the key to success. Career wise they are suppose to hold the same position as men. Parents need to treat them equally with the boys, the house chores should be assigned indiscriminately as this will make them know that they are the same. The government for example should ensure that all girls are in school at all times. The parents who for some reasons do not take their daughters to school and those who married them off should be punished accordingly. Parents should not see girls as away of accumulating wealth through dowry but instead they should educate them

Currently, the situation has not improved since there are those careers which are perceived to be for a particular gender for example secretarial job and nursing are considered to be for ladies whereas engineering and other technical jobs are done mainly by men. The society has not fully comprehend that what men can do women can also do and vice versa. Parents too have reinforced this as evident from the way they socialize their children. It is believed that technical courses are meant for boys some parents have been reported that they tell their sons not to marry girls who have done technical courses. Girls for example are given domestic roles that include fetching water and taking care of younger siblings hence they will not get ample time to study. Technical courses are fairly expensive when compared with other courses hence girls from humble background are forced to choose other courses which

are fairly cheap. In instances where the family does not have enough money, boys are preferred hence it is believed that boys will stay at home whereas girls will be married

1.3 Purpose of the Study

The aim of the study examined the effects of gender mentality on choice of career path among students.

1.4 Research Objectives

1. To examine the influence of cultural factors on female students enrolment in technical courses.

2. To establish the influence of psychological factors on female student's enrolment in technical courses.

3. To explore the effect of financial factors on female students enrolment in technical courses.

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

1.5 Research Questions

The study was guided by the following research questions.

1. How do cultural factors influence female students' enrolment in technical courses?

2. To what extent do the influence of psychological factors and role models on female student's enrolment in technical courses?

3. How do financial factors on female students' enrolment in technical courses?

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

1.6 Significance of the Study

The study is an important area because it will help the students and their parents in identifying various problems that affect their mentality in choosing the best career paths. Once they are identified they will come up with lasting solutions thus all students irrespective of gender will be able to do technical courses and end up getting technical jobs in the job market.

The ministry of Education, parents, students and the society at large will be able to get insights on the challenges facing students when it comes to choosing careers. This insight will enable the ministry of Education and Matili Technical Training Institute to come up with various provisions which will help in alleviating the problems encountered by students when choosing careers.

This study will enhance the existing body of literature by contemplating the areas of the literature that have not yet been examined or considered and incorporating these factors into the current study. The study will thus form the basis for further studies in the field

1.7 Limitations of the study

The staff and the students of Matili Technical Training Institute were the respondents and were afraid to give out information regarding the factors influencing female students' enrolment in technical courses thinking was for commercial purposes. The researcher reminded them of the rule of

confidentiality and assured them that the study will be used for educational purposes and their identities will not be disclosed.

The study was limited to exploring the factors influencing female students' enrolment in technical courses, and did not look at students in secondary schools.

1.8 Scope and Delimitation of the Study

The study was a case of Matili Technical Training Institute. The study was conducted only within Technical institute where technical courses are offered. This is because the majority of the technical institutes in Kenya seem to have a lot of problems with enrolment of female students. It therefore, left out colleges that offer art based courses. It is possible that enrolment among art based courses is not similar, and that studies of art based colleges have different results. Only factors influencing female students' enrolment in technical courses were considered.

1.9 Assumption of the Study

The following assumptions guided the study.

All the respondents were willing to fill the questionnaires that were distributed to them and that they were knowledgeable enough to give credible information.

The study assumed that all the target population was competent to know what entails gender mentality and how it can determine the career path.

1.10 Definition of Terms

Career: describes an individuals' journey through learning, work and other aspects of life

Career path: to the growth of the employee in an organization. It refers to the various positions an employee moves to as he grows in an organization.

Gender: is the range of physical, biological, mental and behavioral characteristics pertaining to, and differentiating between, masculinity and femininity.

Mentality: a habitual or characteristic mental attitude that determines how you will interpret and respond to situations

1.11 Organization of the Study

The study comprised of five chapters namely chapter; one, two, three, and five. Chapter one deals with the background of the study, problem study, research objectives, hypothesis, significance of the study, delimitation of the study and the possible limitations that will be encountered by the researcher

Chapter two basically deals with reviewing of theories and the past studies. The past studies offer insights and are beneficial in guiding and providing information to the researcher.

Chapter three: Research design and methodology. It encompasses: the research design which the researcher will use. The study area where the researcher will undertake the study, the target population and the sample size that the researcher will obtain the information from, researcher instruments which the study will employ in collecting the information, validity and the

reliability of the research instruments, data collection procedures, data analysis procedures , operational definition of variables and ethical consideration.

Chapter four: Presents the results and discussions of quantitative data analysis of the study. It is divided into two major sections. The first section describes the demographic characteristics of the empirical survey, covering the gender, age of the respondents, and year of study. The second section of the chapter provides results and discussions which were based on the four major research questions of the study. For the purposes of this preliminary analysis, descriptive statistics was frequently used to describe the general characteristics of the data collection.

Chapter five: This chapter provides a summary of major findings as deduced by the study, it also presents Conclusions, Discussion, Recommendations and areas of further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents information on discussing the literature review of the objective of this study and the conceptual framework applied to this study .It contains information from what other researchers and scholars have already done in order to be able to facilitate the study

2.2 The Influence of Cultural Factors on Female Students Enrolment in Technical Courses

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 overtly protected and supervised to keep them from what is considered threatening to their safety i.e. 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).

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 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 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 those 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 co 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).

2.3 The Influence of psychological Factors on Female Student's Enrolment in Technical courses.

Research indicates (Elaine, 2011) that Science and Mathematics are generally considered to be the most difficult subjects. They are also considered to be "masculine" subjects. Because girls are considered less capable than boys, parents, peers, many teachers and the girls themselves do not expect them to excel at these subjects. There is often, therefore, conscious and unconscious discouragement of girls' participation in these subjects both from the school and home. Many teachers, parents and even students not only believed that girls were academically less capable than boys, they also believed that girls were less interested in academic issues and more easily distracted and were more interested in unrelated issues like romance and physical appearance.

One explanation given for this was that because technical subjects are considered masculine (therefore 'unladylike'), most girls are reluctant to try and excel at these subjects, as this would draw attention to them in ways that would make them feel uncomfortable. Success in these subjects might also alienate them from other girls and earn them the contempt of the boys, who were often reported to discourage girls from participating positively and performing well in these subjects. In Ghana for example it is reported that society regarded girls who performed well in science as witches or as men-women (Bird, 2011). Parents are also reported to discourage their sons from marrying women who were science graduates as they felt that they would not respect especially those husbands who were non-scientists. These were

identified as some of the attitudes that deterred girls from participating and performing well in technical subjects (Peterson & Runyan 2009).

In some areas of rural Tanzania, on reaching puberty (from upper primary), girls are expected to participate in initiation ceremonies aimed at preparing them for womanhood and marriage. These ceremonies are often held during the school term and result in girls missing a considerable amount of school time. Participation in these ceremonies was said to affect girls' participation in education in general and Science Mathematics and Technical subjects in two particular ways. One was that the time spent at these ceremonies was at the expense of precious school time. When these girls eventually return to school, teachers find it difficult to find the time to give them the individual attention required to help them catch up with the others. Since, as mentioned before, science and mathematics are hierarchical subjects where learning is based on building on previously learnt concepts, it becomes even more difficult to catch up in these subjects and poor performance is almost inevitable (True, & Mintrom, 2001)

Some parents say that their investment in their girls' education will be lost to the girl's husband at marriage. In the parochial cultural system, most parents' fear that their resources spent on their daughter's education will be shifted to the husband at marriage as she will be subject to the husband. The woman is equivalent to any asset the man may have, with no human value. Her value and worth is measured by the number of pigs she rears and the number of children she bears. There is no guarantee for her to go back and share the benefits of her education with her parent (Afzal-Khan, F. 2007). Therefore,

parents restrict their girls from attending school as their investment will be wasted. Moreover, parents do all the arrangements for their daughters' marriage and this could happen while the girl is still at school. They can withdraw their daughter from school at any time, sometimes, without her knowledge. Whether or not the girl is doing well academically, she has to comply as it is embedded in the cultural and tribal jurisdictions and she will be coerced to marry (Shakeshaft 2009).

The importance of education to human beings cannot be over emphasized. Education is a human right that should be accorded to all human beings solely by reason of being human. The relationship between education and development is well established such that education is a key index of development. It has been documented that schooling improves productivity, health and reduces negative features of life such as child labour as well as bringing about empowerment .This is why there has been a lot of emphasis particularly in recent times for all citizens of the world to have access to basic education. The importance and linkage of education to the development of any society is well known. It is in recognition of this importance that the international community and governments all over the world have made commitments for citizens to have access to education. Meanwhile, it has been documented that across the globe, there are inequalities in educational access and achievements as well as high levels of absolute educational deprivation especially in children (Bird, 2011).

Girls constitute the largest population of illiterate children in the world till date. The 1948 Universal Declaration of Human Rights stated that every person has a right to education. In 1990, the World Conference on Education for All which took place in Jomtien, Thailand, declared among others that every person shall be able to benefit from educational opportunities designed to meet their basic learning needs. In realization of the importance of the girl child, concerted efforts are being mounted by the governments at various levels to improve female participation in education and redress the gender inequalities in education enrolment and retention. UNICEF's long-term goal is for all the children to have access to complete and quality education. The international goals connected to girls' education include Millennium Development Goals, A World Fit for Children Goals and Dakar Goals (World Education Forum)

In 1990, 20% of the world's primary school aged children were out of school, two-third of them girls. About 25% of the world's girls are not in school as at 1999 .Estimates in 2002 indicated that the number of children out of school had been brought down to about 115 million worldwide; 62 million were girls. While there were more children than ever in the world's primary schools, far too many remain absent- the majority girls. All regions have increased overall school enrolments- the world average was 81% by 2002 – but the number can be deceiving. Regional variation is enormous, Latin America and the Caribbean enrolment rates are close to North America and Western Europe, 94% and 97% respectively; South Asia lags behind at 74% and sub-Saharan Africa languishes at a mere 59%. Many Third World or poor developing nations face severe economic pressures and this usually gives little

room for designing and initiating programs to improve girl child education. It has been observed that some measures could be adopted even within tight financial limits to redress gender inequality in educational enrolment and retention.

According to research (Anzalda, 1987) teachers, head teachers and parents become clear that for many there is a commonly held view that girls are academically less capable than boys. This attitude has a negative effect on girls' participation in education and technical courses in particular in a number of ways. First of all, in a situation where parents have to make a choice, those who uphold this belief will choose to educate boys at the expense of girls. Girls have been left uneducated by their parents since it is believed that they will be married off

Another aspect of this that highlighted in various research papers (Afzal-Khan, 2007) is that, because girls are considered less capable, they often receive less encouragement and are rarely challenged at home or school to strive to succeed in their academic work. Because less was expected of them, they also in turn expect less of themselves and are less confident of their academic abilities. Boys on the other hand are said to be "pushed" to succeed because more is expected of them.

Many communities in accordance to research are reported to favour marrying off girls while still fairly young. In most cases (Elaine, 2011). These girls drop out of school once they are married to start families. In some communities, especially in the Muslim communities, there is the practice of betrothing girls at a very young age, sometimes at birth and marrying them off

in late adolescence. The practice of early marriage often therefore leads to the end of a girls' formal education and with it in most cases the chance for the girl to participate in technical subjects and therefore careers. In most cases, the girls have little say in the matter of whether or who they want to marry.

The practice of early marriage is often a result of tradition in many cultures. However, research reveals that some parents support early marriage for young girls as a way of avoiding the risk that they might get pregnant out of wedlock and bring shame to the family. Girls are also married off so that families can benefit from the dowry which is part of the marriage ceremony in many African cultures (Elaine, 2011).In other areas of Ghana, girls and women cross over into neighboring countries to carry out trading which is often a lucrative activity. Their success has been found to lure other school girls to try this business, leading to school dropout (Attila, 2004).

Another effect of these ceremonies is said to be that the girls who are initiated regard themselves as adults and ready for marriage and no longer see the need to concentrate on their school work as they feel that it would be of little use to them in their future roles as mothers and wives. These ceremonies are said to be especially popular among those communities with economically disadvantaged parents, with little or no education, who are reported to have little awareness of the advantages of education for girls. Among such communities, marriage of daughters is considered a quick source of income and parents are often eager to marry off their daughters early which they would have difficulty doing if they were not initiated. Initiation ceremonies are therefore viewed as the key to a quick assured income, while educating girls is

considered a waste of money as the money spent will be of no benefit to the girl's family (Shakeshaft 2009).

In Cameroon, the practice of Female Genital Mutilation is mentioned as one of the traditional practices that interfere with girls' access to education. This practice in addition to resulting in absence from school also involves health risks. After participating in these activities girls are considered by society as ready for marriage and this has a negative effect on some girls' attitudes towards school (West, 2007).

2.4. The Effect of Financial Factors on Female Student's Enrolment in Technical Courses.

Together with the fundamental socio-cultural bias in favour of males, the economic factor, especially in terms of grinding poverty and hunger, is probably the most influential in adversely affecting female participation in education, especially in rural areas(West, 2007). In such harsh economic circumstances, both direct and hidden costs to a family of sending daughters to school are perceived by parents to be prohibitive in terms of the provision of books, paper and uniforms/clothing (important for social reasons) as well as the loss of vital help at home and on the land. In most cases the contribution of females is unpaid and they may have little or no experience of the handling of money which further reduces their status and power, but increases their vulnerability (Marie (2007).

Because of the patriarchal and patrilocal predominance, investment in a girl's schooling is wasteful since it benefits the family into which a girl marries rather than her own. In the more privileged classes investment in the education

of females may be an advantage in 'marrying well'. This further increases the urban/rural gap. Vocational education which might relate to employment prospects, is everywhere weak and under-valued, but especially so in respect of the interests of girls. The apparent inability of some countries to resource their schools and even to pay their teachers regularly leads to low morale, teacher absenteeism and parental disenchantment (Randell, 2007).

Much of the research on college enrolment patterns is founded upon the "human capital" model Gary Becker advanced. According to this theory, one decides to enrol in college as an investment in future earning power. Individuals calculate the value of attending college by comparing costs (direct and indirect) with expected income gains, and they make the decision that will maximize their utility over the long term. (Federal Republic of Nigeria 2008) To understand enrolment behaviour according to this model, it is necessary to look at such factors as tuition levels, student financial aid, average wages for high school graduates, and the difference in lifetime earnings between high school and college graduates (Randell, 2007)..

Within the econometric and sociological models outlined above, the factors affecting enrolment in college can be divided into two general types: those specific to individual students, such as academic achievement and parental education levels, and those specific to educational or vocational alternatives, such as college tuition, financial aid, and unemployment levels. Students' enrolment decisions can be viewed as jointly determined by their individual characteristics and the institutional or societal conditions that prevail.

Low income students are affected differently by publicly provided financial aid and aid supplied by institutions. He states that public grants tend to promote greater equity among income groups in college enrolment. Private grants, however, are often awarded on the basis of academic ability, and they tend to favour students who could afford to go to college without them. (Clotfelter 2006) expresses the same concern about the effects of institutional aid. Even public aid is not always awarded where the need is greatest

Enrolments in science course are strongly associated with a number of background factors, including gender, peer influence, socio economic status, parents' education levels and ethnic identity (Pereira, 2007). These factors constitute external influence on students' enrollment decision at all levels. They were also considered background factors that were strongly implicated in students' physical science enrollment decision. For that matter they formed part of the influential variables on students' physical science being studied.

According to the ACER studies and research in the USA (Leshie, McClure & Oaxaca 2008) and UK (Woolnough 2004), the choice of physical science is more closely associated with high socioeconomic status (based on parental occupation) than any other subject area. This is not the case, however, among biology and other science students in Australia, as enrolments tend to be fairly consistent across socioeconomic levels. In Ghana and most African countries, socioeconomic levels are generally low; most settlements are rural with very high level of illiteracy reportedly about 60% in Ghana. Aside the general socioeconomic factors across the country, disparity also exists in terms of provision of both material (educational infrastructure) and human

educational resources and opportunities between rural and urban centres. This affects quality teaching and learning (Fredua-Kwarteng & Ahia 2005), which could eventually affect students' interest in education especially science (as a practical subject) among students from rural schools in particular

2.5 The Influence of Role Models on Female Student's Enrolment in Technical courses.

Role modelling 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 (Smith, 2003). 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 (Smith, 2003).

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.

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 (Shepardson, & Pizzini, 2002).

Parents play a significant role in shaping the direction or path their children follow in their later years. Otto (2007) 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 (Badolato, 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 (Lankard, 2005). 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 (Lankard, 2005). 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 (Cunningham, 2007), and in some societies girls are limited to certain roles, while boys have almost unlimited roles. Furlong (2006) 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 (Erinosho, 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 (Erinosho, 2007; Hill, 2008). 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 (Utulu, 2010).

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 (Thody, 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 (Ndahi, 2007)

2.6 Theoretical framework

2.6.1 Expectation States Theory

The Expectation States theory explains how status hierarchies form in groups where participants share a common goal or task. The theory suggests that because members of the group must decide how to act in the group context, participants try to anticipate the relative value of what others have to offer. The members of the group form implicit "performance expectation states" for themselves compared with others in the group. These are senses about whether others will have better contributions to the group task. Performance expectations tend to be self-fulfilling and are often formed through observations of race and gender (Wright, 2006)

The Expectation States Theory can extend to explain differences in gender among women in terms of choice of technical courses. Sociologist Shelley Correll hypothesizes that because men are culturally believed to be better at technical courses, they consequentially use a more lenient standard to judge their technical ability and rate their own technical ability higher than females do. In an experiment where subjects evaluate their success on a "newly discovered ability", males rate their own ability much higher than females, even though all subjects received the same scores on the exam. Sociologist E.G. Cohen observes that in interracial school classrooms, male students are more active than female students even though the task at hand has nothing intrinsically to do with gender. He finds that female students, because they have low expectations for academic competence, participate less in the class,

are less engaged in tasks, and put in less effort in academic achievement as compared to male students.

2.3.2 Stereotype Threat Theory

Stereotype threat, a theory developed by social psychologist Claude Steele in 1979, can be described as the pressure individuals feel when they are at risk of fulfilling a negative stereotype about their group. These individuals are anxious that they could potentially behave in a way as to confirm the negative stereotype.

In an educational setting, stereotype threat can affect the intellectual performance of anyone whose group is targeted by stereotypes suggesting a lack of intellectual ability in some field. It undermines academic achievement by its effect on task performance, and by prompting students to protect their self-esteem by disengaging from the field in which they are threatened. This is applicable to this study because girls are stereotyped by the society. The society believes that there are certain courses and subjects which are meant to be done by boys only. This greatly affects girls since they will tend to shy away from them.

Claude Steele (2004) finds that African American college students performed significantly worse than whites on a standardized exam when it classified as one of diagnosing ability, but just as well as white students when the same test was presented as just a problem solving task. Women perform less well when the stereotype they face - namely low math ability, is made relevant by experimental instruction. The stereotype threat that women experience in math may cause them to decide not to pursue any further

mathematical studies in order to avoid feeling an evaluative threat. It is necessary that an individual care enough about performing well to be affected by a stereotype's implication that they may lack the ability to do so. Therefore, stereotype threat often influences students who are high achieving, such as women enrolled in advanced math class. Women perform roughly the same as men except when the test material is advanced, in which case they perform worse.

Furthermore, individuals do not need not to see the stereotype as valid in order to experience stereotype threat. When high-achieving African American students take a standardized test, the anxiety not as much about their own ability as it is about having to perform on a test and in a situation where they are expected to perform stereotypically.

The stereotyping has seen many women suffer in the society as they try to conform to the already established standards. Many girls are dropping out of the schools to be married off since the society looked down upon ladies who are unmarried at a certain age. Those who are lucky enough to complete their studies do not choose the competitive courses as they believe that they will not get suitors. In order to do away with this the society and the parents who are the primary agents of socialization has to do away with stereotyping.

2.4 Conceptual Framework

Independent Variable
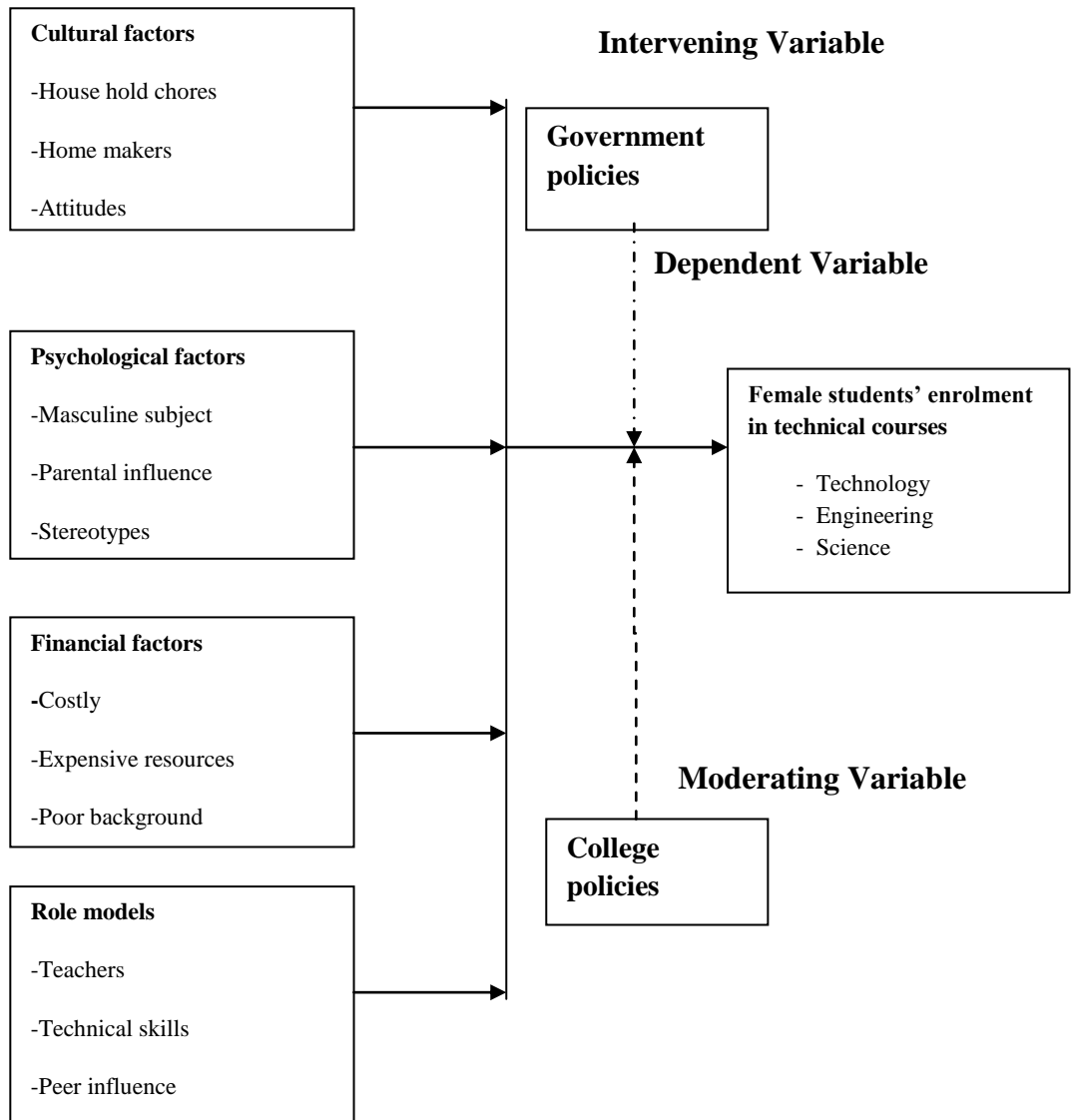
Source, Researcher (2014)

Figure 1.1: Conceptual framework

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. This 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 her to choose those careers which are 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 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.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents information on the research design, target population, sample size, sampling procedures and research instruments. It also presents the methods used for measuring validity and reliability of the research instruments. Data collection and data analysis procedures are also discussed.

3.2 Research Design

The study used a case study research design. The case study approach design was chosen because it allows the study to collect in depth data from the respondents using research instruments such as questionnaires and interview schedules which gave a detailed account of the effects of gender mentality on determination of careers. Case studies are used in preliminary and exploratory studies to allow the study to gather information, summarize, present and to be interpreted to follow with the need of clarification (Mitchell, 2012). The case that was chosen in this study was Matili Technical Training Institute. This kind of research design applies in this study because the current situation in the school is the same as the nature of the defination of problem.

3.3 Target Population

Target population was a study of a group of individuals taken from the general population who share a common characteristic such as age, sex or profession. Target population about which information is desired for the study is derived from the population (Khan, 2011). The study targeted diploma students and teaching staff from different departments of Matili Technical

Institute. In order to get the in depth information the researcher will interview the principal of the Institution, teaching staff and the students. The study targeted 224respondents. The principal and the teaching staff were chosen because of the knowledge that they poses on gender disparity in various courses with the institution. The diploma students were chosen because it was noted that the diploma level is where gender disparity in course selection is greatly visible within Matili technical institute.

Table 3.1: Target population

Category	Target Population
Principle	1
Teaching staff	39
Diploma students	184
Totals	224

Source: Matili technical institute(2014)

3.4 Sample size and sampling procedures

Sampling is that part of statistical practice which concerns the selection of individual observations intended to yield some knowledge about a population of concern, especially for the purposes of statistical inference (Ghoshi, 2002). Sampling frame which has the property that study can identify every single element and include any in the sample. The most straight forward type of frame is a list of elements of the population preferably the entire population with appropriate contact information. The sampling frame must be representative of the population and this is a question outside the scope of

statistical theory demanding the judgment of experts in the particular subject matter being studied (Kothari, 2006).

3.4.1 Sampling size

The study employed the Krejcie and Morgan formulae (1970) from where a total of one principle, 39 teaching staff and 180 students were sampled to form a total target population of 219 respondents. Krejcie and Morgan (1970) methods the following formula to determine sampling size:

$S = X2NP (1-P)/ d2 (N-1) + X2P (1-P)$

S = required sample size

X2 = the table value of chi-square for one degree of freedom at the desired confidence level

N = the population size

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05)

Table 3.2: Sample size

Category	Target Population	Sample size
Principle	1	1
Teaching staff	39	38
Diploma students	184	180
Totals	**224**	**219**

Source: Matili technical institute(2014)

3.4.2 Sampling procedures

Sampling technique is the procedure a researcher uses to gather people, places or things to study (Kombo & Tromp, 2006). The study employed the use of purposive sampling to select the principle and the head of departments. The purposive sampling was used as it enabled the researcher sample the most knowledgeable members of the institution. Convenience sampling was used to select the teaching staff so that only the teaching staff available during the study will be selected. Snowball sampling was used to select diploma student. This is because the snowball sampling enables the students to select only the diploma students using referrals from other diploma students.

3.5 Research instruments

Questionnaires were used to seek responses from respondents based on the research objectives. Questionnaires were administered to all sampled students and teaching staff to collect data on various determinants of career path. In developing the questionnaire items, the fixed choice and open ended formats were used. However, in the fixed choice item, it normally involves 'putting words 'in the respondent's mouth, especially when providing acceptable answers, there is temptation to avoid serious thinking on the part of the respondent. The respondent ends up choosing the easiest alternative and provides fewer opportunities for self-expression. It is because of this reasons that it was necessary to combine this format of items with a few open ended response items. The researcher used questionnaire because it is free from bias, cheap, respondents have adequate time to give well thought out answers and

large samples can be made used of and thus the results can be made more dependable and reliable

Interview schedules make it possible to obtain data required to meet specific objectives of the study (Mugenda & Mugenda, 1999). It also helps to standardize the interview such that the interviewer can ask the same questions in the same manner. The researcher used interview schedules to obtain in-depth information from the principal since it provides face-to-face interaction with respondents and enabled the researcher to adapt the questions as necessary, clarify doubts and ensure that the responses are properly understood, by repeating or rephrasing the questions. Interview schedules basically consist of asking questions, listening to individuals and recording their responses. At times, one may find it more profitable to ask a few individuals questions instead of carrying out a large-scale questionnaire based survey.

3.5.1 Piloting of instruments

The researcher administered a sample survey in Matili Technical Training Institute using half split reliability of instruments because if they are above 0.5 alpha, then they are employed. This is because statistical values of alpha above 0.7 are regarded significant in terms of internal consistency of variables under study.

3.5.2 Validity of the research instruments

Validity is quality attributed to proposition or measures of the degree to which they conform to establish knowledge or truth. An aptitude scale is considered valid, for example, to the degree to which its results conform to other measures of possession of the aptitude. Validity therefore refers to the

extent to which an instrument asks the right questions in terms of accuracy. The content validity of the instrument was determined in two ways. First the researcher discussed the items in the instrument with the students, lecturers from the department and colleagues. Advice given by these people helped the researcher determine the validity of the research instruments. Secondly, content validity of the instrument was determined through piloting, where the responses of the subjects were checked against the research objectives to establish that the wording and framing of the questions in the questionnaire are easily understood and clear.

3.5.3 The Reliability of the Research Instruments

The reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials. The Cronbach's coefficient Alpha was used to test the reliability of the questionnaires and was computed for each instrument in Likert scale. A reliability coefficient of 0.7 or over is assumed to reflect the reliability of the instrument.

3.6 Data Collection Procedure

This refers to the series of events to be followed during the data collecting process .In this research study, the researcher first booked appointments with all the staff of Matili Technical Institute before making a formal visit on the respective day of the appointment. The researcher requested to be allowed to conduct the study in the Institution. Upon visiting, on the day of the study, the researcher issued the questionnaire to the staff and students of the institution. The respondents were guided on how to respond and were

assured of confidentiality after which they were be given the questionnaires to fill.The researcher then gave the respondents 30 minutes to fill the questionnaires after which the questionnaires were collected upon completion. The researcher also booked an appointment with the management staff to carry out the interviews. The researcher then assembled all the collected information and appreciated the respondents before leaving.

3.7 Data Analysis Procedures

The data was analyzed using both qualitative and quantitative data collection techniques. Qualitative analysis will assist in analyzing the interview schedules responses while quantitatively; descriptive and inferential statistics was employed in analyzing the questionnaire data and the revenue targets. Inferential statistics was applied, in drawing conclusions and, in some cases, making predictions about the properties of a population based on information obtained from a sample. Inferential statistics are used to answer cause-and-effect questions, make predictions and investigate differences between and among groups. However, inferential statistics by themselves do not prove causality, thus such proof is always a function of a given theory, and it is vital that such theory be clearly stated prior to using inferential statistics.

Multiple regression analysis technique was employed with the study findings of the determinants of career path. Usually, it is most appropriate when both the independent and dependent variables are interval, though some social scientists also use regression on ordinal data. Like correlation, regression analysis assumes that the relationship between variables is linear.

3.8 Operational Definition of Variables

To achieve the objectives of the study the researcher will investigate gender mentality as a determinant of career path among students in technical training institutes. The objectives of the study include the influence of; perceived gender roles on choice of technical careers, parental attitudes towards gender mentality and choice of technical careers and traditional roles of women on choice of career path.

To achieve these objectives questionnaires will be used each with specific questions for each objective.

Table 3.3 Operational Definition of Variables

Objective	Variables	Indicators	Measurement scale	Tools of analysis	Types of tools
To examine the influence of cultural factors on female students enrolment in technical courses.	**Dependent** female students enrolment in technical **Independent** cultural factors	Level of societal support	Nominal Ordinal	Descriptive statistics. Tables	Frequency distribution tables
To establish the influence of psychological factors and role models on female student's enrolment in technical courses	**Dependent** female students enrolment in technical **Independent** psychological factors and role models	Level of parental support.	Nominal Ordinal	Descriptive statistics. Tables.	Frequency distribution tables
To explore the effect of financial factors on female students enrolment in technical courses.	**Dependent** female students enrolment in technical **Independent** financial factors	Level of poverty	Nominal Ordinal	Descriptive statistics. Tables.	Frequency distribution tables
To assess the influence of role models on female students enrolment in technical courses	**Dependent** female students enrolment in technical **Independent** role models	Level of support from parents and teachers	Nominal Ordinal	Descriptive statistics. Tables.	Frequency distribution tables

3.9 Ethical considerations

Ethical issues are those issues pertaining to or dealing with morals or the principles of morality of a study. The researcher agreed to comply with the following principles which aimed at protecting the dignity and privacy of every individual who, in the course of the research work carried out under the project, the researcher provided personal or commercially valuable information about him/herself or others (hereinafter referred to as a subject of research).

Before an individual become a subject of research, he/she shall be notified of: the aims, methods, anticipated benefits and potential hazards of the research; his/her right to abstain from participation in the research and his/her right to terminate at any time his/her participation; and the confidential nature of his/her replies.

No individual became a subject of research unless he/she was given the notice referred to in the preceding paragraph and provides a freely given consent that he/she agrees to participate. No pressure or inducement of any kind was applied to encourage an individual to become a subject of research. The identity of individuals from whom information is obtained in the course of the project was kept strictly confidential. At the conclusion of the project, any information that reveals the identity of individuals who were subjects of research was destroyed.

No information revealing the identity of any individual was included in the final or in any other communication prepared in the course of the project.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussions of quantitative data analysis of the study. It is divided into two major sections. The first section describes the demographic characteristics of the empirical survey, covering the gender, age of the respondents, and year of study. The second section of the chapter provides results and discussions which were based on the four major research questions of the study. For the purposes of this preliminary analysis, descriptive statistics was frequently used to describe the general characteristics of the data collection.

4.2 Response Return Rate

Out of 219 questionnaires dispatched, 180 were dully filled and returned. The response rate is shown in the table 4.1

Table 4.1 Response Return Rate

Dispatched	Returned	Percentage
219	180	82
Total	**180**	**82**

From the table 4.1, percentage return rate was 180 (82 %). According to Nachimias and Nachimais (1958) 80% to 90% return rate is enough for a descriptive survey study.

4.3 Demographic Characteristics

The study sought to determine the demographic characteristics of respondents based on gender, age, and year of study.

4.3.1Gender of the respondents

The gender of the respondents was sought since its findings would assist the study categorize respondents based on gender and the findings are shown in table 4.2.

Table 4.2 Gender of respondents

Response	Frequency	Percentage
Male	102	57
Female	80	43
Total	**180**	**100.0**

The findings in table 4.2 show that majority of respondents were male with 102 (57%). This ratio is based on gender composition of the target population which is fairly representative.

4.3.2 Age of respondents

The study sought to find out the age of respondents since its findings would assist the study categorize respondents based on age and the findings are shown in table 4.3.

Table 4.3 Age of respondents

Response			Frequency	Percentage
17-	20	years	76	42.2
			55	30.5
20- 25 years			51	27.1
26 Years and above				
Total			**180**	**100.0**

The findings in table 4.3 show that the bulky of students were aged between 17- 20 years with 76 (42.2%) responses. This shows that majority of the respondents were teenagers who had just completed their secondary education and are still being catered for by their parents in terms of fees payment and career choice.

4.3.3 Year of study

The year study of the respondents were sought since its findings would assist the study categorize respondents based on year of study and the findings are shown in table 4.4.

Table 4.4 Year of study

Response	Frequency	Percentage
First year	50	27.7
Second year	65	36.1
Third year	66	36.2
Total	**180**	**100.0**

The findings in table 4.4 indicate that majority of the respondents third years by 66 (36.2%) respondents. The third years were preferred since they had passed through the entire diploma system and therefore had a lot of experience and could give adequate response.

4.4 The influence of cultural factors on female students' enrolment in technical courses

The study sought to find out the influence of cultural factors on enrolment of female students in technical training institutions. The following are the study findings.

On whether number of hours spent performing house hold chores means that girls have little time to devote to their academic work and the question enlisted the following responses, 55 (30.7%) Agreed mildly with the statement, this was followed by 51 (28.5%) who strongly agreed to the statement, 46 (25.5%) Disagreed mildly, while 15 (8.0%) strongly disagreed however 13 (7.3%) were undecided. The findings are shown in table 4.5.

Table 4.5 Number of hours spent performing house hold chores

Response	Frequency	Percentage
Strongly Disagree	15	8.0
Disagree Mildly	46	25.5
Agree Mildly	55	30.7
Strongly Agree	51	28.5
None	13	7.3
Total	**180**	**100.0**

The findings show that majority of respondents agreed mildly by 55 (30.7%) that girls spent a lot of hours performing house hold chores meaning that girls have little time to devote to their academic work. This makes their concentration on academic work to be very low and therefore they do not perform as well as boys do in their academics. Most of them therefore choose art based courses which are less involving compared to the technical courses.

Perceived gender roles and characteristics also 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).

The study also sought to establish whether most female students pursue art based courses. The question enlisted the following responses, 66 (36.5%) Agreed mildly with the statement, this was followed by 43 (24.1%) who strongly agreed to the

statement, 43 (24.1%) who disagreed mildly, while 15 (8.0%) strongly disagreed however 13 (7.3%) were undecided. The findings are shown in table 4.6.

Table 4.6 Most female students pursue art based courses

Response	Frequency	Percentage
Strongly Disagree	15	8.0
Disagree Mildly	43	24.1
Agree Mildly	66	36.5
Strongly Agree	43	24.1
None	13	7.3
Total	**180**	**100.0**

The findings show that majority of respondents made their course choices in artisan oriented courses based on job market as indicated in table 4.6 by 66 (36.5%) responses. Science and Mathematics are generally considered to be the most difficult subjects. They are also considered to be "masculine" subjects. Since girls are considered less capable than boys, parents, peers, many teachers and fellow mates do not expect them to excel at these subjects. There is often, therefore, conscious and unconscious discouragement of girls' participation in these subjects both from the school and home.

Concerning whether technical courses are meant to be pursued by boys, the question enlisted the following findings, 61 (33.6%) Agreed mildly with the statement, this was followed by 49 (27%) who strongly agreed to the statement, 41 (22.6%) who disagreed mildly, while 15 (8.8%) strongly disagreed however 14 (8.0%) were undecided. The findings are shown in table 4.7

Table 4.7 Technical courses are meant to be pursued by boys

Response	Frequency	Percentage
Strongly Disagree	14	8.0
Disagree Mildly	49	27.0
Agree Mildly	61	33.6
Strongly Agree	41	22.6
None	15	8.8
Total	**180**	**100.0**

Many teachers, parents and even students not only believed that girls were academically less capable than boys, they also believed that girls were less interested in academic issues and more easily distracted and were more interested in unrelated issues like romance and physical appearance. The findings show that majority of respondents indicated that technical courses are meant to be pursued by as indicated in table 4.7 by 61 (33.6%) responses. Many factors influencing career choice can either be intrinsic or extrinsic or both, most people are influenced by careers that their parents favour, others follow the careers 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 careers that give high income.

One explanation given for this was that because technical subjects are considered masculine (therefore 'unladylike'), most girls are reluctant to try and excel at these subjects, as this would draw attention to them in ways that would make them feel uncomfortable. Success in these subjects might also

alienate them from other girls and earn them the contempt of the boys, who were often reported to discourage girls from participating positively and performing well in these subjects. In Ghana for example it is reported that society regarded girls who performed well in science as witches or as men-women (Bird, 2011). Parents are also reported to discourage their sons from marrying women who were science graduates as they felt that they would not respect especially those husbands who were non-scientists. These were identified as some of the attitudes that deterred girls from participating and performing well in technical subjects (Peterson & Runyan 2009).

4.5 The influence of psychological factors and role models on female student's enrolment in technical courses.

The study sought to find out the influence of sociological factors and role models on female student's enrolment in technical courses. The following are the study findings.

On whether Science and Mathematics are generally considered to be the masculine subjects the question enlisted the following findings, 64 (35.8%) Agreed mildly with the statement, this was followed by 50 (27.7%) who disagreed mildly to the statement, 42 (23.4%) who strongly agreed, while 15 (8.0%) strongly disagreed, however 9 (5.1%) were undecided. The findings are shown in table 4.8

Table 4.8 Science and Mathematics are generally considered to be the masculine subjects

Response	Frequency	Percentage
Strongly Disagree	15	8.0
Disagree Mildly	50	27.7
Agree Mildly	64	35.8
Strongly Agree	42	23.4
None	9	5.1
Total	**180**	**100.0**

The findings in table 4.8 above indicate that majority of the respondents agreed mildly that Science and Mathematics are generally considered to be the masculine subjects by 64 (35.8%) responses. Generally, the choice of a career is influenced by students' attitudes towards sciences and mathematics. As discussed earlier, science and Mathematics are generally considered to be the most difficult subjects. They are also considered to be "masculine" subjects. Many teachers, parents and even students not only believed that girls were academically less capable than boys, they also believed that girls were less interested in academic issues and more easily distracted and were more interested in unrelated issues like romance and physical appearance. Sciences and mathematics require more time and concentration compared to the art based courses therefore girls should concentrate more on academics and less in other affairs if they have to excel in science and mathematics.

Concerning whether, Parents contribute to their children's choice of careers. The question enlisted the following findings, 68 (38.5%) Agreed mildly with the statement, this was followed by 42 (23.4%) who disagreed mildly to the statement, 40 (21.9%) who strongly agreed, while 15 (8.0%) strongly disagreed, however 15 (8.0%) were undecided. The findings are shown in table 4.9.

Table 4.9 Parents contribute to their children's choice of careers

Response	Frequency	Percentage
Strongly Disagree	15	8.0
Disagree Mildly	42	23.4
Agree Mildly	68	38.7
Strongly Agree	40	21.9
None	15	8.0
Total	**180**	**100.0**

The findings in table 4.9 above indicate that majority of the respondents agreed mildly that Parents contribute to their children's choice of careers by 68 (38.7%) responses. In Kenya, students make their career choices after consulting with their parents. Most parents do not encourage their girls to choose technical courses since they view them as a weaker sex. Other parents are also reported to discourage their sons from marrying women who were science graduates as they felt that they would not respect especially those husbands who were non-scientists. These were identified as some of the attitudes that deterred girls from participating and performing well in technical subjects (Peterson & Runyan 2009).

Concerning whether, Stereotypes influence choice of courses. The question enlisted the following findings, 66 (37.2%) Agreed mildly with the statement, this was followed by 42 (23.4%) who disagreed mildly to the statement, 46 (24.8%) who strongly agreed, while 13 (7.3%) strongly disagreed, however 13 (7.3%) were undecided. The findings are shown in table 4.10.

Table 4.10 Stereotypes influence choice of courses

Response	Frequency	Percentage
Strongly Disagree	13	7.3
Disagree Mildly	42	23.4
Agree Mildly	66	37.2
Strongly Agree	46	24.8
None	13	7.3
Total	**180**	**100.0**

The findings in table 4.10 above indicate that majority of the respondents agreed mildly that Stereotypes influence choice of courses by 51 (37.2%) responses. As discussed earlier, many factors influencing career choice can either be intrinsic or extrinsic or both, most people are influenced by careers that their parents favour, others follow the careers that their educational choices have opened for them. Some girls choose to follow outdated stereotypes.

One explanation given for this was that because technical subjects are considered masculine (therefore 'unladylike'), most girls are reluctant to try and excel at these subjects, as this would draw attention to them in ways that would make them feel uncomfortable. Success in these subjects might also alienate them from other girls and earn them the contempt of the boys, who

were often reported to discourage girls from participating positively and performing well in these subjects. In Ghana for example it is reported that society regarded girls who performed well in science as witches or as men-women (Bird, 2011). Students holding favourable attitudes have successful learning experiences.

4.6 The influence of financial factors on female students' enrolment in technical courses

The study sought to find the influence of financial factors on female students' enrolment in technical courses and the following are the study findings.

On whether, technical education courses are costly. The question enlisted the following findings, 63 (35.0%) Agreed mildly with the statement, this was followed by 53 (29.2%) who disagreed mildly to the statement, 42 (23.4%) who strongly agreed, while 15 (.0%) strongly disagreed, however 7 (4.4%) were undecided. The findings are shown in table 4.11.

4.11 Technical education courses are costly

Response	Frequency	Percentage
Strongly Disagree	15	8.0
Disagree Mildly	53	29.2
Agree Mildly	63	35.0
Strongly Agree	42	23.4
None	7	4.4
Total	**180**	**100.0**

The findings in table 4.11 above indicate that majority of the respondents agreed mildly that technical education courses are costly by 63 (35.0%) responses. It can be summed up that financial factors had the greatest influence in students' enrolment in technical institutions. The findings are in line with other findings by West and Marie (2007) who asserted that together with the fundamental socio-cultural bias in favour of males, the economic factor, especially in terms of grinding poverty and hunger, is probably the most influential in adversely affecting female participation in education, especially in rural area. In a case where a parent has both girls and boys to take to tertiary education, the patent would prefer taking the boys for technical training which is expensive, then take the girl to an art based course which is quite cheaper.

Concerning whether, Learning materials for technical courses are very expensive. The question enlisted the following findings, 62 (34.4%) Agreed mildly with the statement, this was followed by 62 (34.4%) who disagreed mildly to the statement, 41 (22.7%) who strongly agreed, while 10 (5.5%) strongly disagreed, however 5 (3.0%) were undecided. The findings are shown in table 4.12.

Table 4.12 Learning materials for technical courses are very expensive

Response	Frequency	Percentage
Strongly Disagree	10	5.5
Disagree Mildly	62	34.4
Agree Mildly	62	34.4
Strongly Agree	41	22.7
None	5	3.0
Total	**180**	**100.0**

The findings in table 4.12 above indicate that majority of the respondents strongly agreed that Learning materials for technical courses are very expensive by 31 (22.7%) responses. In such harsh economic circumstances, both direct and hidden costs to a family of sending daughters to school are perceived by parents to be prohibitive in terms of the provision of books, paper and uniforms/clothing (important for social reasons) as well as the loss of vital help at home and on the land. In most cases the contribution of females is unpaid and they may have little or no experience of the handling of money which further reduces their status and power, but increases their vulnerability.

On whether, Most families are poor hence they cannot afford to pay fees. The question enlisted the following findings, 62 (34.4%) Agreed mildly with the statement, this was followed by 51 (28.3%) who disagreed mildly to the statement, 43 (23.8%) who strongly agreed, while 11(6.1%) strongly disagreed, and 13 (7.4%) were undecided. The findings are shown in table 4.13.

Table 4.13 Most families are poor hence they cannot afford to pay fees

Response	Frequency	Percentage
Strongly Disagree	11	6.1
Disagree Mildly	51	28.3
Agree Mildly	62	34.4
Strongly Agree	43	23.8
None	13	7.4
Total	**180**	**100.0**

The findings in table 4.13 above indicate that majority of the respondents agreed mildly Most families are poor hence they cannot afford to pay fees by 47 (34.3%) responses. The factors affecting enrolment in college can be divided

into two general types: those specific to individual students, such as academic achievement and parental education levels, and those specific to educational or vocational alternatives, such as college tuition, financial aid, and unemployment levels. Students' enrolment decisions can be viewed as jointly determined by their individual characteristics and the institutional or societal conditions that prevail.

Low income students are affected differently by publicly provided financial aid and aid supplied by institutions. Public grants tend to promote greater equity among income groups in college enrolment. Private grants, however, are often awarded on the basis of academic ability, and they tend to favour students who could afford to go to college without them. (Clotfelter 2006) expresses the same concern about the effects of institutional aid. Even public aid is not always awarded where the need is greatest.

Changes in the education system made science subjects compulsory in all Kenyan public schools. The new education policy found many schools ill- equipped to start science classes coupled with the extra demand for science teachers. The new education system's high demand for science facilities and teachers hardly gave room for teachers' professional development of how to implement the new curriculum. This has remained so for sometimes now with little done in terms of provision of bursary facilities to students.

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

The study sought to find out the influence of role models on female students' enrolment in technical courses. The following are the study findings.

Concerning whether, Teachers perceive their female students' abilities to be less than that of their male counterparts. The question enlisted the following findings, 61 (33.3%) Agreed mildly with the statement, this was followed by 58 (32.2%) who disagreed mildly to the statement, 41 (22.7%) who strongly agreed, while 10 (5.5%) strongly disagreed, and 10 (5.5%) were undecided. The findings are shown in table 4.14.

Table 4.14 Teachers perceive their female students' abilities to be less than that of their male counterparts

Response	Frequency	Percentage
Strongly Disagree	10	5.5
Disagree Mildly	58	32.2
Agree Mildly	61	33.3
Strongly Agree	41	22.7
None	10	5.5
Total	**180**	**100.0**

The findings in table 4.14 above indicate that majority of the respondents agreed mildly that teachers perceive female students' abilities to be less than that of their male counterparts by 61 (33.3%) responses. 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& Mitchell2007). 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.

There has always been an interest in the development of positive students' attitudes towards sciences. The objectives of any curriculum include fostering favorable feelings toward sciences as well as imparting cognitive knowledge.

On whether girls perform equally well on many technical skills and attitudes assessments in the elementary school years. The question enlisted the following findings, 62 (34.4%) Agreed mildly with the statement, this was followed by 41 (22.7%) who disagreed mildly to the statement, 39 (21.9%) who strongly agreed, while 19 (10.5%) strongly disagreed, and 19 (10.5%) were undecided. The findings are shown in table 4.15

Table 4.15 Girls perform equally well on many technical skills and attitudes assessments in the elementary school years

Response	Frequency	Percentage
Strongly Disagree	19	10.5
Disagree Mildly	41	22.7
Agree Mildly	62	34.4
Strongly Agree	39	21.9
None	19	10.5
Total	**180**	**100.0**

The findings in table 4.15 above indicate that majority of the respondents agreed mildly that girls perform equally well on many technical skills and attitudes assessments in the elementary school years by 62 (34.4%) responses. It can be deduced that the study findings are in line with earlier findings by Smith (2003) who suggested that role modelling 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. 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.

On whether, Men can be effective role models just as well as can women. The question enlisted the following findings, 66 (36.6%) Agreed mildly with the statement, this was followed by 41 (22.7%) who disagreed mildly to the statement, 44 (24.4%) who strongly agreed, while 13 (7.2%) strongly disagreed, and 16 (9.1%) were undecided. The findings are shown in table 4.16.

Table 4.16 Men can be effective role models just as well as women can.

Response	Frequency	Percentage
Strongly Disagree	13	7.2
Disagree Mildly	41	22.7
Agree Mildly	66	36.6
Strongly Agree	44	24.4
None	16	9.1
Total	**180**	**100.0**

The findings in table 4.18 above indicate that majority of the respondents agreed mildly that Men can be effective role models just as well as can women by 56 (40.9%) responses. In the technical fields, the population percentage of men is greater than that of women. Girls should look up to men to advice them to enroll in technical colleges 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 girls do, and also give them ideas on how to excel in technical courses.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND

RECOMMENDATION

5.1 Introduction

This chapter provides a summary of major findings as deduced by the study, it also presents Conclusions, Discussion, Recommendations and areas of further research.

5.2 Summary of findings.

Based on the data and other information obtained and analyzed to answer the research questions of the study, a number of research findings were presented in chapter four. The findings are summarized in this section.

5.2.1 Demographic characteristics of respondents

Majority of respondents were male with 102 (57%). This ratio is based on gender composition of the target population which is fairly representative. The findings also show that most of students were aged between 17- 20 years with 76 (42.2%) responses. Most of the respondents were third years by 66 (36.2%) respondents.

5.2.2 Cultural factors and female students' enrolment

On whether number of hours spent performing house hold chores means that girls have little time to devote to their academic work and the question enlisted the following responses, 55 (30.7%) Agreed with the statement, this was followed by 51 (28.5%) who strongly agreed to the statement, 46 (25.5%) Disagreed, while 15 (8.0%) strongly disagreed however 13 (7.3%) were undecided. Concerning whether most female students pursue art based courses and the question enlisted the following responses, 66 (36.5%) Agreed with the statement, this was followed by 43 (24.1%)

who strongly agreed to the statement, 43 (24.1%) who disagreed, while 15 (8.0%) strongly disagreed however 13 (7.3%) were undecided, and on whether technical courses are meant to be pursued by boys, the question enlisted the following findings, 61 (33.6%) Agreed with the statement, this was followed by 49 (27%) who strongly agreed to the statement, 41 (22.6%) who disagreed, while 15 (8.8%) strongly disagreed however 14 (8.0%) were undecided.

5.2.3 Psychological factors and female students' enrolment

On whether Science and Mathematics are generally considered to be the masculine subjects the question enlisted the following findings, 64 (35.8%) Agreed with the statement, this was followed by 50 (27.7%) who disagreed to the statement, 42 (23.4%) who strongly agreed, while 15 (8.0%) strongly disagreed, however 9 (5.1%) were undecided. Concerning whether, Parents contribute to their children's choice of careers. The question enlisted the following findings, 68 (38.5%) Agreed with the statement, this was followed by 42 (23.4%) who disagreed to the statement, 40 (21.9%) who strongly agreed, while 15 (8.0%) strongly disagreed, however 15 (8.0%) were undecided and concerning whether, Stereotypes influence choice of courses. The question enlisted the following findings, 66 (37.2%) Agreed with the statement, this was followed by 42 (23.4%) who disagreed to the statement, 46 (24.8%) who strongly agreed, while 13 (7.3%) strongly disagreed, however 13 (7.3%) were undecided.

5.2.4 Financial factors and female students' enrolment

On whether, technical education courses are costly. The question enlisted the following findings, 63 (35.0%) Agreed with the statement, this was followed by 53 (29.2%) who disagreed to the statement, 42 (23.4%) who strongly agreed, while 15 (.0%) strongly disagreed, however 7 (4.4%) were undecided. Concerning whether,

66

Learning materials for technical courses are very expensive. The question enlisted the following findings, 62 (34.4%) Agreed with the statement, this was followed by 62 (34.4%) who disagreed to the statement, 41 (22.7%) who strongly agreed, while 10 (5.5%) strongly disagreed, however 5 (3.0%) were undecided, and on whether, Most families are poor hence they cannot afford to pay fees. The question enlisted the following findings, 62 (34.4%) Agreed with the statement, this was followed by 51 (28.3%) who disagreed to the statement, 43 (23.8%) who strongly agreed, while 11(6.1%) strongly disagreed, and 13 (7.4%) were undecided.

5.2.5 Role models and female students' enrolment

Concerning whether, Teachers perceive their female students' abilities to be less than that of their male counterparts. The question enlisted the following findings, 61 (33.3%) Agreed with the statement, this was followed by 58 (32.2%) who disagreed to the statement, 41 (22.7%) who strongly agreed, while 10 (5.5%) strongly disagreed, and 10 (5.5%) were undecided and on whether girls perform equally well on many technical skills and attitudes assessments in the elementary school years. The question enlisted the following findings, 62 (34.4%) Agreed with the statement, this was followed by 41 (22.7%) who disagreed to the statement, 39 (21.9%) who strongly agreed, while 19 (10.5%) strongly disagreed, and 19 (10.5%) were undecided and lastly on whether, Men can be effective role models just as well as can women. The question enlisted the following findings, 66 (36.6%) Agreed with the statement, this was followed by 41 (22.7%) who mildly to the statement, 44 (24.4%) who strongly agreed, while 13 (7.2%) strongly disagreed, and 16 (9.1%) were undecided.

5.3 Conclusion

The study sought to investigate factors influencing female student's enrolment in technical training institutions and the following were the study findings.

Concerning the influence of cultural factors on enrolment of female students in technical training institutions, it can be deduced that majority of respondents agreed mildly that the number of hours spent performing house hold chores means that girls have little time to devote to their academic work as indicated in table 4.5 by 55 (30.7%). %. It is assumed that people, who are informed about possible future salaries and about their abilities have a better chance of choosing careers, are more prepared to achieve their goals and enter careers that fit their personalities. The findings show that majority of respondents made their course choices in artisan oriented courses based on job market as indicated in table 4.6by 66 (36.5%) responses. The findings show that majority of respondents indicated that technical courses are meant to be pursued by boys as indicated in table 4.7 by 61 (33.6%) responses. Many factors influencing career choice can either be intrinsic or extrinsic or both, most people are influenced by careers that their parents favour, others follow the careers 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 careers that give high income.

On the influence of cultural factors on enrolment of female students in technical training institutions, the findings indicate that majority of the respondents agreed mildly that Science and Mathematics are generally considered to be the masculine subjects by 64 (35.8%) responses. Generally,

the choice of a career is influenced by students' attitudes towards sciences and mathematics. The findings also indicate that majority of the respondents agreed mildly that Parents contribute to their children's choice of careers by 68 (38.7%) responses. In Kenya, students make their career choices after consulting with their parents. The findings indicate that majority of the respondents agreed mildly that Stereotypes influence choice of courses by 51 (37.2%) responses, this can attributed to students holding favourable attitudes have successful learning experiences.

Concerning the influence of financial factors on female students' enrolment in technical courses, the study findings show that majority of the respondents agreed mildly that technical education courses are costly by 63 (35.0%) responses. The findings indicate that majority of the respondents strongly agreed that Learning materials for technical courses are very expensive by 31 (22.7%) responses. Many factors influencing career choice can either be intrinsic or extrinsic or both, most people are influenced by careers that their parents favour, others follow the careers 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 careers that give high income.

On theinfluence of role models on female students' enrolment in technical courses, the findings revealedthat majority of the respondents agreed mildly that teachers perceive their female students' abilities to be less than that of their male counterparts by 61 (33.3%) responses. There has always been an interest in the development of positive students' attitudes towards sciences.

The objectives of any curriculum include fostering favorable feelings toward sciences as well as imparting cognitive knowledge. The findings indicate that majority of the respondents agreed mildly that girls perform equally well on many technical skills and attitudes assessments in the elementary school years by 62 (34.4%) responses and lastly the findings indicated that majority of the respondents agreed mildly that Men can be effective role models just as well as can women by 56 (40.9%) responses.

5.4 Recommendations

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

1. The study recommends that female students should be encouraged to enroll into technical training institutions.

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

3. The study also recommends that female students stand to gain more if they make career choices based on the available instructional materials in technical training colleges.

4. The study also recommends that college administration and other education stakeholders should provide more bursary information to female students to enable in enroll in technical training colleges.

5.5 Contributions to body of knowledge

The study had the following contribution to the body of knowledge,

Objectives	Contribution
To examine the influence of cultural factors on female students enrolment in technical courses.	The study found out that 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
To establish the influence of psychological factors on female student's enrolment in technical courses.	The study established that technical subjects are considered masculine; therefore most girls are reluctant to try and excel at these subjects, as this would draw attention to them in ways that would make them feel uncomfortable. Success in these subjects might also alienate them from other girls and earn them the contempt of the boys, who were often reported to discourage girls from participating positively and performing well in these subjects.
To explore the effect of financial factors on female students enrolment in technical courses.	The study noted that the economic factor, especially in terms of grinding poverty and hunger, is probably the most influential in adversely affecting female participation in education, especially in rural area.
To assess the influence of role models on female students enrolment in technical courses.	The study found out 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.

5.6 Areas for further study

1. A similar study to be carried out in other counties to compare the study findings**.**

2. Effects of technical education on student skill development.

3. Role school stakeholders on academic achievement in student in technical colleges

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

Dear recipients

I am a Masters student in the Department of extra mural studies at the University of Nairobi carrying out a research study on**FACTORS INFLUENCING FEMALE STUDENTS ENROLMENT IN TECHNICAL COURSES: A CASE OF MATILI TECHNICAL**

TRAINING INSTITUTE The information collected will be used to make recommendations for involvement of females in persuasion of technical careers in various Institutions. You are therefore kindly requested to participate and respond as best as you can to items in the questionnaire/interview guide. The information provided will be treated with utmost confidentiality and will be used only for the purpose of this study.

Let me take this opportunity to thank you in advance for taking part in this study.

Yours sincerely,

LAUREN KHAGUYA

APPENDIX II: QUESTIONNAIRE FOR THE TEACHING STAFF

SECTION A: DEMOGRAPHIC DATA

1. Gender: Male [ ]   Female [ ]

2. What is your highest level of education?

    Secondary Form Four [ ]   Certificate [ ]

    Diploma [ ]   Graduate [ ] Masters [ ] PHD   [ ]

3. What is your age bracket?

    20- 30 years   [   ]

    31 - 40 years   [   ]

      41 -50 years   [   ]

      51 - Above   [   ]

4. How long have you been working in Matili Technical Training Institute.

    0-1 years   [   ]

    2- 5 years   []

    6-10 years   [   ]

    11 and Above   [   ]

SECTION B: CULTURAL FACTORS AND FEMALE STUDENT'S ENROLMENT IN TECHNICAL COURSES

5. Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To determine the influence cultural factors on female students enrolment in technical courses	SA	A	D	SD	N
The chores that girls do are difficult to combine with study					
Early marriages and Female genital Mutilation influences education of girls					
Many parents and community members have the attitude that educating girls is a waste of time and money					
perceived ideal roles and characteristics of women and girls influence how girls and boys are socialized in the home					

6. Briefly explain the reason(s) for your answer above.

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7. Apart from the listed factors in (5.) above which other cultural factors influence female students' enrolment in technical courses?

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SECTION C: PSYCHOLOGICAL FACTORS AND FEMALE STUDENT'S ENROLMENT IN TECHNICAL COURSES

8. Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

The influence of psychological factors on female student's enrolment in technical courses	SA	A	D	SD	N
Science and Mathematics are generally considered to be the masculine subjects					
Parents tend to force their children to pursue courses they are interested in and not their children					
Parents discourage their sons from marrying women who were science graduates as they felt that they would not respect					
Girls are rarely challenged at home or school to strive to succeed in their academic work					

9. Briefly explain the reason(s) for your answer above.

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10. Apart from the above listed factors in (8.) above, which other sociological factors influence female students enrolment in technical courses?

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SECTION D: FINANCIAL FACTORS AND FEMALE STUDENTS' ENROLMENT IN TECHNICAL COURSES

11. Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To examine the influence of financial factors on female students enrolment in technical courses	SA	A	D	SD	N
Technical education courses are costly					
Learning materials for technical courses are very expensive					
Most parents and girls are not aware of scholarships offered					
Most families are poor hence they cannot afford to pay fees					

12. Briefly explain the reason(s) for your answer above.

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13. Enumerate any other financial factors that may influence female students enrolment in technical courses

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SECTION E: ROLE MODELS AND FEMALE STUDENTS' ENROLMENT IN TECHNICAL COURSES.

14. Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To examine the influence of role models on female students enrolment in technical courses	SA	A	D	SD	N
Classroom teachers favour male students over female students in science classes.					
The young person is affected positively by someone who is caring and has a positive attitude towards his abilities and opportunities					
Parents play a significant role in shaping the career path their children follow in their later years					
young women must be encouraged in science and technology careers by the time they reach their middle school years					

15. Briefly explain the reason(s) for your answer above.

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16. Apart from the above listed factors in (14.) above, which other role model factors influence female students enrolment in technical courses?

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APPENDIX III: QUESTIONNAIRE FOR THE DIPLOMA STUDENTS

SECTION A: DEMOGRAPHIC DATA

1. Gender: Male [ ]   Female [ ]

2. What is your age bracket?

   17 - 20 years   [   ]

   20- 25 years   [   ]

      26 Years and above [   ]

3. Which year of study are you?

   First   [   ]

   Second   [   ]

   Third   [   ]

   SECTION B: SPECIFIC RESEARCH QUESTION

4. **The influence of cultural factors on female students enrolment in technical course**s.

   Using the rating given below, provide your response in relation to the statement regarding instructional methods. Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To determine the influence cultural factors on female students enrolment in technical courses	SA	A	D	SD	N
The number of hours spent performing house hold chores means that girls have little time to devote to their academic work.					
Girls are supposed to be home makers					
Most female students pursue art based courses					

Technical courses are meant to be pursued by boys					

5. Briefly explain the reason(s) for your answer above.

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6. Apart from the above listed factors in (4.) above, which other cultural factors influence female students enrolment in technical schools?

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7. **The influence of sociological factors and role models on female student's enrolment in technical courses.**

   Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

   Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

The influence of sociological factors on female student's enrolment in technical courses	SA	A	D	SD	N
Science and Mathematics are generally considered to be the masculine subjects					
Parents contribute to their children's choice of careers					
Investment in girls education will be lost to the girl's husband at marriage					
Stereotypes influence choice of courses					

8. Briefly explain the reason(s) for your answer above.

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9. Apart from the above listed factors in (7.) above, which other sociological factors influence female students enrolment in technical courses?

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10. **The influence of financial factors on female students' enrolment in technical courses**.

    Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths.

    Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To examine the influence of financial factors on female students enrolment in technical courses	SA	A	D	SD	N
Technical education courses are costly					
Learning materials for technical courses are very expensive					
Inability of some countries to resource their schools and even to pay their teachers regularly leads to low morale					
Most families are poor hence they cannot afford to pay fees					

11. Briefly explain the reason(s) for your answer above.

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12. Enumerate any other financial factors that may influence female students enrolment in technical courses

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13. **The influence of role models on female students' enrolment in technical courses**.

Using the rating given below, provide your response in relation to the statement regarding gender mentality and choice of career paths. Key-Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N)

To examine the influence of role models on female students enrolment in technical courses	SA	A	D	SD	N
Teachers perceive their female students' abilities to be less than that of their male counterparts					
Girls perform equally well on many technical skills and attitudes assessments in the elementary school years					
Girls look to their parents when they make career choices.					
Men can be effective role models just as well as can women					

14. Briefly explain the reason(s) for your answer above.

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15. Enumerate any other financial factors that may influence female students enrolment in technical courses

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APPENDIX IV: PRINCIPALS INTERVIEW SCHEDULE

1. Gender   _____

2. How long have you been the head of the institution

    _____

3. Give your views on the effect of the following cultural factors on female student enrolment in your school.

a. House hold chores

    _____

b. Home makers

    _____

c. Attitudes

    _____

4. What is your opinion on how the following sociological factors influence female students' enrolment in your school?

a. The view that some subjects/courses are for male students.

    _____

b. Parental influence.

    _____

c. Stereotypes e.g. parents discouraging their sons from marrying women who have not done technical subjects.

    _____

5. In your own words, explain how the following financial factors affect students' enrolment in your school.

a. Cost of technical courses (in terms of fees and learning materials) compared to other courses.

_____

b. Poverty

_____

6.

a. State in your own words how a teacher as a student role model affected students' enrolment in your school.

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b. Give your views on the contribution of the parents as role models on the students' enrolment in your school.

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c. How does peer influence affect the number of students that join your college every term?

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