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Socio-Cultural Factors and Female Students' career choice in Technical and Vocational Education Training (TVET) science programmes in Technical Training Institutes in Siaya County, Kenya

Ohanya George Ochieng*, Henry K. Kiplangat, Frederick Ngala
Kabarak University, Kenya

***Corresponding author**
Ohanya George Ochieng

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Abstract: Choice of science based careers by female students in Technical and Vocational Education and Training (TVET) institutes and particularly Technical and Training Institutes (TTIs) has attracted a lot of attention of education planners, economists and administrators the world over. Female students choosing careers in TVET science programmes are still few and especially in Siaya County, Kenya. The study was based on social Cognitive. The study adopted descriptive survey design. The research instruments were questionnaires the sample size was 316 female students sampled using census method. Tools in the Statistical Package for Social Sciences (SPSS) version 22 was used to analyze data. Frequencies, percentages and means were computed. Inferential statistics such as regression coefficients, T-statistics, F-statistics, correlation of coefficients shall were derived. Charts, graphs and tables were used to present the findings. It was found out that there exists a negative and statistically significant relationship between socio-cultural factors and female students' choice of career in science TVET Programmes ($r=-0.546^{**}$; $p<0.01$). The significance of this study is that the findings could be used to come up with policies on how to increase the number of female students choosing careers in TVET. This could guarantee employment opportunities for women in the country which in turn could raise their standard of living.

Keywords: Social –cultural factors, female students', TVET science programmes.

INTRODUCTION

TVET is the foundation of any sustainable technological development [1]. It helps in human capital development of any nation and is regarded as workforce education that facilitates the adjustment of the skills and knowledge to the changing demands of the society. Technical and Vocational Education and Training is essential to the world of work and is an effective means of empowering the society to engage in productive and sustainable livelihoods [2].

Technical and Vocational Education and Training (TVET) can improve quality of life since it helps individuals to become economically productive and thus escape poverty and marginalization. This is because when individuals are equipped with skills, they become entrepreneurs, employable and informed citizens thereby contributing to economic development of a nation [3]. For that reason, UNESCO advocates for expansion of TVET programmes in the world with a view to increasing access and equity among citizens of world nations [4]. A closer look at the courses young women choose and the career opportunities these fields open up shows that a gender gap still exists in the field of technical courses such as Science, Technology, Engineering and Mathematics. Women opt for language, literature and arts when they have to choose their major. The proportion of female students in the field of engineering at universities in Germany is only 14%, and the same trend, although not as pronounced, can be identified in other countries in the EU, for example, the percentage in Poland is 24%, and in France 27%. The proportion of women in the fields of science, mathematics and computing is only slightly higher (35% in Germany and 37% in France). Poland, however, is one of the European countries with a relatively high percentage of females (57%), exceeded only by some other, mostly former socialist, countries like Romania, Slovenia, Cyprus and Lithuania. This situation is similar in countries outside Europe [5].

The problem which this study sought to address was low numbers of female students choose careers in TVET science programmes in TTIs in Siaya County as seen Table 1. From the institutional records of 2017 obtained from the Ministry of Education and presented in Table-1, female students who chose careers in TVET science programmes were only 316 compared to 1136 male in all the three TTIs. A similar picture is also painted in the year 2016(311 female students against 1055 male students) and 2015(291 female students against 989 male students) showing similar

stark disparity in choice of careers in TVET science programmes. It is clear that fewer female students than male choose careers in TVET science programmes.

Kenya's Vision 2030 initiative aims at making the country a fully industrialized middle income country providing high quality life for all its citizens [6]. Realization of vision 2030 also calls for harnessing of technological ability of both men and women in the country. However, from the background of the study, it is clear that choice of career in TVET science programmes by female students in TTIs is not at par with their male counterparts. It is comparably low. Low numbers of female students choosing careers in science TVET programmes portends a problem because it implies that more women may remain unemployed. This study seeks to investigate the problem of low number of female students choosing careers in science TVET programmes in Technical Training Institutes in Siaya County, Kenya.

Female Students' Enrolment in TVET Science Programmes

A study conducted in Nigeria found out that female participation in TVET and Science, Engineering and Technology (SET) show that females are still underrepresented and occupy the middle and lower status, in spite of the recent steady progression from this status over time [7]. This is confirmed by another study which reported that a large number of women are found mainly in poorly paid jobs and several others go into early marriages, prostitution and child labor [8].

A case study was conducted in Asia on seven countries. These countries include: - Republic of Korea, Viet Nam, Indonesia, Malaysia, Mongolia, Nepal & Cambodia. The study found out that there is a high level of female participation in countries such as Malaysia, Mongolia and the Republic of Korea [9]. For instance Malaysia recorded overall, higher enrolment and graduation rates of female students than those of their male counterparts with female students representing approximately 63 per cent of total student enrolment across all fields of study as of 2012 [10]. In comparison to other countries, female representation in engineering in the three countries remains better than other countries involved in this study [9].

The matter of female students' enrolment in TVET courses is of great concern in Kenya because not only are some of the fastest growing job categories computer related and have the highest average pay rates, but also, women need to be part of an industry that is shaping their lives in profound ways [11]. It is therefore imperative that further research is undertaken to identify factors that influence women's choice of career in TVET courses in TTIs. This will facilitate development of strategies that could increase their enrolments and participation in the TVET industry. Considering the above issues, it is clear that female students' career choice in science TVET programmes is influenced by certain factors which this study seeks to find out

Influence of Cultural Beliefs and Traditional Norms on female students' Career Choice in TVET Programmes

Cultural Beliefs and Traditional Norms

Campbell [12] observes that there has been a lot of talk on sexism in the United States of America. The scholar further notes that many people could have heard stories of a woman, about what she had to endure every day just to get their jobs done, or a smart female colleague who does not get credit for her work, or has read about the brilliant technologist, Jessie Frazelle, who was hounded from her post at Docker, with death and rape threats penalties. And that this is a typical case which can influence young ladies from choosing careers in technology- based professions. Micro-inequalities build up overtime to such an extent that it spurs women to change careers. Micro-inequalities are one of the reasons that women leave technical courses mid-way, twice the rate of men, along with stereotype threat, institutional barriers and personal penalties It can be inferred that men can make a huge difference towards encouraging women to continue participating in technical oriented professions by simple actions like asking a female colleague's opinion and making sure that everyone has a say.

Most women choose courses which are in line with what the society expects them to do as adults: home science, music, fine art, hospitality management and other arts oriented courses [13]. It implies that the society does not expect female students to choose careers which are technical or highly scientific and that such cultural beliefs are carried to the college when choosing careers. Family development efforts in developing countries, including schooling are invested on the boys because they are makers of clans while the girls are expected to be married to husbands who will speak for them. As a result, few efforts and resources are spent on girls' education [14]. Could this expenditure pattern influence their choice of career? Ballara [15] confirms the same by observing that in Africa, some fathers have a negative attitude towards women's education, especially when it results in the possibility of learning new skills that give women a new role in the family, and in the society.

According to a regional report by the World Bank [14], social norms and the perceived role of women as caregivers, can impact their chosen fields of study and careers. For instance, the higher rate of women choosing to pursue professions such as teaching may be due to the perception that such professions allow more flexibility to balance family and work responsibilities [14]. Maleche [16] posits that cultural

constraints such as male prejudice limit science education for girls. The scholar also avers that there is a belief that education makes girls discontented and immoral, less willing to engage in the heavy labour and that career in science education is undesirable for women because it interferes with their cultural authenticity.

UNESCO [17] concluded that education of women is much less developed than that of men due to traditional beliefs and prejudices held by people in society. Therefore, there is need to ensure that career prospects for women and men are made similar through increasing girls' opportunities and promoting compensatory enrolment for women at secondary, tertiary and University levels. Karugu [18] posits that whether in school or not, girls of primary school age spend significantly more time on household chores than boys and that culturally prescribed roles for girls and women especially in the domestic sphere socialize girls to take the roles of deputy mothers. Psacharopoulos and Woodhall [19] noted that parents, particularly mothers favored boys' education because they depend on the sons for old age insurance because investment in a son's education is seen as security in old age. They also rely on the daughters labour before marriage. Lack of positive policy environment and structure for girls' education, including a lack of co-ordination between the education sector and other social sectors, inhibits girls' achievement in education [20]. There is a drought of research on the influence of social norms and beliefs on female students' choice of career in TVET science programmes.

Gender Stereotypes

Chege and Sifuna [21] noted that some parents in Africa tend to discourage too much education for their daughters. There is always the fear that if a girl is highly educated she may find it difficult to get a husband or be a good wife. They argue that women stay away from too much education in order to remain manageable and to avoid entering fields, which would make it difficult to follow their husbands in case of transfer of residence. Patriarchal societies are affected by patriarchal systems, which give preferences for investment in schooling to boys who are believed to retain responsibility for their parents when they grow older, compared to girls, who are incorporated into their husbands' families [22]. Girls believe that their success and future depended on the success of their husbands and therefore it is an excuse for girls not to be taken to school [23]. For female students' who have already received basic education do these beliefs influence choice of career in TVET science programmes?

Girls are expected to be more accomplished in linguistic and social skills while boys are supposed to be better at mathematical, mechanical and other problem-solving tasks [24]. Women are therefore taught to think that they should not choose careers in technical disciplines. Daily Nation (August 1, 1993) reported that in Gusii women are discouraged from training in architectural courses because it was a taboo for women to climb on top of a house. In Luo Nyanza women are discouraged from taking electrical installation courses because among the Luo, women were not supposed to climb on trees or poles. Many African communities still have strong beliefs in taboos. Kelly [25] reported that the few female students choosing careers in Mechanical Engineering, Carpentry & Joinery, Plumbing and Metal Fabrication complained that they were often viewed as abnormal, particularly by fellow male trainees and sometimes by their teachers. Research has not been done to establish how these beliefs influence female students' choice of careers in TVET science progammes in TTIs in Siaya County.

A study of women teachers in Papua New Guinea reported that women teachers were reluctant to apply for or take up promotions because they feared their husband's violent reactions [26]. Konchora [27] observes that gender violence has provided a grim picture of the rigid cultural practices that make the main concern of the pastoral communities. This is especially rampant within the family, where complete violation against women rights are not adhered to. Kanyuka [28] also noted that girls were stereotyped as homemakers and this provided the rationale for post war girl's education by the middle of the 20th Century.

Kanyuka [28] further noted that education of the girls included domestic subjects, like needlework, cookery, laundry and housekeeping and that this was due to the fact that knowledge of such subjects is necessary for all girls as potential house makers. Accordingly, domestic subjects should be a requirement for girls who wish to proceed to domestic science colleges [28]. While Brad [29] has provided an overview of much aspect of gender stereotype towards humanities including a review of instrumentation, it is still unclear how the school environment affects the development of students' attitudes towards TVET courses.

Social Roles played by women

Wangechi [30] observed that since women stayed at home while men went hunting, women indulged in idle chatter than men. The researcher argues that colonization of Kenya provided an opportunity for traditional roles and rights of women to be eroded. Besides, the researcher notes that for working class girls, the domestic curriculum was their only option. Some middle class girls, however, had the opportunity of attending "uncompromising" secondary school education [31]. African societies are characterized by gender inequality between males and females. The ideological foundation for gender inequality is their patriarchal structure. Patriarchy is seen a set of social

relations with a material base that enables men to dominate women. It is a system of stratification and differentiation on the basis of sex which provides material advantages to the males while simultaneously placing severe constraints on the roles and activities of females [32]. Research has not been done to establish how stereotypes related to social roles influence female students' choice of careers in TVET science progammes in TTIs in Siaya County.

Kahle *et al*., [33] opines that social roles are classified as superior or inferior and that the bases of classification include age and sex. The scholars further report that, education of men enhances their abilities to earn good income which then enable them to care for their families and aged parents. Girls on the other hand are regarded as strangers or temporary members of the household as they will be married elsewhere. Investing in girls' education is considered a waste of time since it is the husband's families that reap the benefits of such education. Do these beliefs influence female students' choice of careers in TVET science progammes?

UNESCO [17] reports that society has, through the socialization process, established specific roles for men and women and that formal education and training is the modern strategy for preparing the youth for their future roles in society. Female students in tertiary colleges are therefore expected to take courses that will prepare them for appropriate occupations. The same report shows that many parents, some teachers and a number of female and male students did not think a female student should be allowed, let alone be encouraged to enroll in courses that have been the preserve of males. It can be inferred that sometimes traditional beliefs and taboos are invoked whenever necessary to discourage girls from taking certain courses. Moreover, Kahle *et al.*, [33] avers that when there are overriding family tasks such as looking after young children or food preparation, it is usually the women who are withdrawn from school. This may too contribute to low enrolment of women in technical and science courses. There is a famine of research on the influence of social roles of female students on choice of careers in TVET science progammes.

METHODOLOGY

Surveys were used for this study. Surveys aim at obtaining information, which can be analyzed and comparison made [29]. The study was carried out in Siaya County which is located in western part of Kenya. The study was conducted in 3 Public Technical Training Institutes in Siaya County that offer TVET science programmes. Siaya, Bondo and Nyangoma TTIs have totals of 386, 109 and 132 female students respectively who chose careers in TVET science programmes in 2016 and 2017. Therefore, the target population of female students is 627. The study targeted female students enrolled in the year 2016 and 2017 who are persisting in the programme given the length of the certificate and the diploma programs. It also targeted lecturers in the 3 public Technical Training Institutes in Siaya County.

Sample Size

Kerlinger [34] advises that 30% of a population is good enough to be used as a sample in surveys. This study used bigger percentages as shown in Table-1.

Table-1: Sample Size for Female Students and Lecturers per TTI

Siaya TTI	Bondo TTI	Nyangoma TTI	Total
Sample size allocation for female students 196 Sample size allocation for lecturers 44	Sample size allocation for female students(109) Sample size for lecturers 36	Sample size allocation for female students 132 Sample size allocation for lecturers 41	437 121

Table-1 show that Siaya, Bondo and Nyangoma TTIs had totals of 386, 109 and 132 female students respectively who chose careers in TVET science programmes in 2016 and 2017. Table-1 shows how sampling of female students was done. Census method was used to sample 109 and 132 female students from Bondo and Nyangoma TTIs respectively. In the case of Siaya TTI, Krejcie & Morgan [35] Table of Determination of Sample Size was used to sample 196 students from a total of 386 shown in Table-1. This study used Questionnaires to collect data.

Data was analysed systematically by tallying, coding and tabulating for computer analysis. Data were analyzed using quantitative methods using tools in the Statistical Package for social Science (SPSS) version 22. Descriptive Statistics computed were: means, frequencies and percentages. ANOVA and T tests were used to test hypotheses of significant differences. Regression analysis was carried out to show the comparative influence of independent variables on choice of careers in TVET programmes.

RESULTS

Factor Loading for Socio-Cultural Factors

Table-2 shows factor loadings values for the socio-cultural factors variable after extraction of items. As a rule of thumb, it is reported that a variable should have a rotated factor loadings of at least |0.4| (meaning

≥ +.4 or ≤ –.4) onto one of the factors in order to be considered important [44].

Table-2: Factor Loading for Socio-Cultural Factors

Item	Factor Loading
Female students choose careers in science TVET programmes because they don't want to outshine their husbands in future	.648
Men do not approve of girls who choose' careers in science TVET programmes	.642
classmates approve of female students' choice of career in science TVET programmes	.609
There are cultural beliefs within the community which influence students' choice of careers in TVET science programmes	.568
Siblings encourage their sisters to choice careers in science TVET programmes	.521
Parents discourage female children from choosing careers in science TVET programmes	.508
Female students choose careers in science TVET programmes because they want to be like boys in the same profession	.779
Traditional social roles of women influenced students' choice of career in science TVET programmes	.720
There are successful women role models with qualification in TVET who influence female students' career choice in science TVET programmes	.705
Most women in college take courses suggested by men who pay their fees	.771
Family occupation influence female students' career choice in science TVET programmes	.526
Female students who choose careers in science TVET programmes like Mechanical Engineering are viewed as abnormal by male colleagues	.526
Some Religious teachings discourage female students' from choosing careers in science TVET programmes	.467

Primarily, the item "Female students choose careers in science TVET programmes because they want to be like boys in the same profession" had the highest factor loading of 0.779 followed by the item "Most women in college take courses suggested by men who pay their fees" with 0.771.therefore, all the items were retained since they all had a factor loading between 0.467 and 0.779 and thus used in succeeding data analysis. It implies that all items under socio-cultural factors were related and that they were measuring issues related to socio-cultural construct. If any factor loading of any item would have been outside the range, it would have been excluded altogether [29].

Frequencies of Socio-Cultural Factors as reported by Female Respondents

Table-3 presents descriptive statistics related to socio-cultural factors as reported by Female Respondents in the three TTIs.

Up to 85.5% of the respondents opine that classmates have an influence on courses chosen by female students. When students are registering courses as freshmen, they tend to influence one another to change courses. This happens because Kenya Universities and Colleges Central Placement Services (KUCCPS) also allow students to change courses/programmes within the first two weeks of reporting to their respective colleges [36]. About 85% agreed that most female student chose careers suggested by men who pay their fees. Many children are often advised to choose courses that parents are able to finance [37], which confirms the findings of this study. That female students choose careers in science TVET programmes because they don't want to outshine their husbands in future was dismissed as not true by 82.7% of female respondents. As a matter of fact, a total of 82.7% of female students agreed that they choose careers in science TVET programmes because they want to be like boys in the same profession. Another 84.2% of female respondents disagreed that men do not approve of girls who choose' careers in science TVET programmes. This is corroborated by Evans [38], who avers that girls are nowadays joining professions which were initially the preserve of men. Nevertheless, this study still reveals that female students choosing careers in TVET are still fewer than their male counterparts.

Siblings encourage their sisters to choice careers in science TVET programmes was confirmed by 85% of the female respondents. According to Beal [39], siblings have an influence over one another on choice of career. Table-3 further shows that about 84% of the respondents disagree that there exist some religious teachings which discourage female students' from choosing careers in science TVET programmes. Similarly, 85.6% of the respondents also disagreed that

parents discourage female children from choosing careers in science TVET programmes.

Table-3: Frequencies of Socio-Cultural Factors as reported by Female Respondents

Statement	N	SD	D	A	SA
classmates approve of female students' choice of career in science TVET programmes	435	6.9%	7.6%	48.5%	37.0%
Most women in college take courses suggested by men who pay their fees	435	1.8%	13.3%	45.3%	39.5%
Female students choose careers in science TVET programmes because they don't want to outshine their husbands in future	435	37.2%	45.5%	10.8%	6.4%
Female students choose careers in science TVET programmes because they want to be like boys in the same profession	435	6.9%	10.3%	34.9%	47.8%
Siblings encourage their sisters to choice careers in science TVET programmes	435	6.9%	8.0%	40.2%	44.8%
Some Religious teachings discourage female students' from choosing careers in science TVET programmes	435	33.8%	49.7%	11.3%	5.3%
There are successful women role models with qualification in TVET who influence female students' career choice in science TVET programmes	435	5.3%	63.2%	29.4%	2.1%
Family occupation influence female students' career choice in science TVET programmes	435	3.9%	9.4%	40.9%	45.7%
Parents discourage female children from choosing careers in science TVET programmes	435	46.7%	38.9%	11.3%	3.2%
Traditional social roles of women influenced students' choice of career in science TVET programmes	435	4.6%	9.7%	39.1%	46.7%
Men do not approve of girls who choose' careers in science TVET programmes	435	47.4%	36.8%	11.3%	4.6%
Female students who choose careers in science TVET programmes like Mechanical Engineering are viewed as abnormal by male colleagues	435	2.5%	16.3%	41.4%	39.8%
There are cultural beliefs within the community which influence students' choice of careers in TVET science programmes	435	5.7%	11.0%	41.1%	42.1%

However, according to Lahti [40], there are some cultures that tend to direct women to choose careers like home economics and catering that help them to take care of their children. This is confirmed by 83.2% who reported that there are cultural beliefs within the Luo community which influence students' choice of careers in TVET science programmes. In addition, 85.8% of the female respondents noted that traditional social roles of women influenced their choice of careers in science TVET programmes. Besides, 81.2% of female students averred that those who choose careers in science TVET programmes like Mechanical Engineering are viewed as abnormal by male colleagues. This could discourage ladies because some men feel insecure with ladies who are likely to outshine them in the same profession [41].

Another 63% noted that there are no successful women role models with qualification in TVET who influence female students' to choose careers in science TVET programmes. This is because few women choose careers in TVET as shown elsewhere in this study. Family occupation influence female students' career choice in science TVET programmes as indicated by 86.6% of the respondents. Similarly, Stead [42] argues that family occupation has an influence on careers chosen by children.

Means of Socio-Cultural Factors as Reported by Female Students

Table-4 shows means of socio-cultural factors as reported by female students.

The socio-cultural factors overall index of 2.71 indicates that as whole, female students agreed that socio-cultural factors influenced their choice of careers in TVET programmes in the TTIs under study. However, female students disagreed that: they choose careers in science TVET programmes because they don't want to outshine their husbands in future; Some Religious teachings discourage female students' from choosing careers in science TVET programmes; there are successful women role models with qualification in TVET who influence female students' career choice in science TVET programmes; Men do not approve of girls who choose' careers in science TVET programmes. They also disagreed that parents discourage female children from choosing careers in science TVET programmes. At any rate, it is parents who encourage students to choose courses they are able to pay for [43]. The statistics in Table 21 confirm the frequencies in Table-4.

Table-4: Means for Socio-Cultural Factors as Reported by Female Students

Statement	N	Mean	SD
There are cultural beliefs within the community which influence students' choice of careers in TVET science programmes	435	3.20	0.85
Female students who choose careers in science TVET programmes like Mechanical Engineering are viewed as abnormal by male colleagues	435	3.18	0.79
Men do not approve of girls who choose' careers in science TVET programmes	435	1.73	0.84
Traditional social roles of women influenced students' choice of career in science TVET programmes	435	3.28	0.82
Parents discourage female children from choosing careers in science TVET programmes	435	1.71	0.79
Family occupation influence female students' career choice in science TVET programmes	435	3.29	0.79
There are successful women role models with qualification in TVET who influence female students' career choice in science TVET programmes	435	2.28	0.59
Some Religious teachings discourage female students' from choosing careers in science TVET programmes	435	1.88	0.81
Siblings encourage their sisters to choice careers in science TVET programmes	435	3.23	0.87
Female students choose careers in science TVET programmes because they want to be like boys in the same profession	435	3.24	0.90
Female students choose careers in science TVET programmes because they don't want to outshine their husbands in future	435	1.86	0.85
Most women in college take courses suggested by men who pay their fees	435	3.22	0.74
classmates approve of female students' choice of career in science TVET programmes	435	3.16	0.84
Socio-Cultural Factors Overall Index	435	2.71	0.23
Valid N (listwise)	435		

Perception of Socio-Cultural Factors by Female students in different Institutions

ANOVA was conducted to determine whether there existed a significant difference in female students' perception of socio-cultural factors in Nyang'oma, Bondo and Siaya Technical Training Institutes at 0.05 level of significance. Table-23 presents the analysis.

Table-1: Differences in female Students' Perception of Socio-Cultural Factors by Institute

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.002	2	.001	0.018	.983
Within Groups	23.404	432	.054		
Total	23.406	434			

The findings show that there is no significant difference in how female respondents perceive socio-cultural factors in Nyangoma, Bondo and Siaya Technical Training Institute at the 0.05 level, F (2,432) = 0.018, p> 0.05. It means that female students in the three TTIs had similar perception of how socio-cultural factors influence choice of careers in TVET programmes in the TTIs under study.

Differences in Perception of Socio-Cultural Factors by Respondents Category

One-way ANOVA was used to determine whether there existed a significant difference in perception of Socio-Cultural Factors between male students, female students and lecturers at 0.05 level of significance. Table-5 shows the findings.

Table-5: Differences in Perception of Socio-Cultural Factors by Respondents Category

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.271	2	.136	2.735	0.065
Within Groups	43.568	879	.050		
Total	43.839	881			

The results show that there was no statistically significant difference in perception of socio-cultural factors between female students, male students and lecturers, at the 0.05 level, F (2, 879) = 2.735, p> 0.05. It means that female students, male students and lecturers in the three institutes perceive socio-Cultural Factors influencing female students' choice of careers in TVET programmes in a similar manner. This is because the social- cultural environs is the same.

Difference in Perception of Socio-Cultural Factors by Institution Type

ANOVA was conducted to determine whether there existed a significant difference in perception of Socio-Cultural Factors between respondents of Nyangoma, Bondo and Siaya Technical Training Institutes at 0.05 level of significance. Table-6 shows the findings.

Table-6: Difference in Perception of Socio-Cultural Factors by Institution Type

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.000	2	.000	0.003	0.997
Within Groups	43.839	879	.050		
Total	43.839	881			

The findings show that there is no statistically significant difference in perception of socio-cultural factors by institute namely; among Nyangoma, Bondo and Siaya Technical Training Institutes at the 0.05 level, F (2,879) = 0.003, p> 0.05. This is because the institutes are all in one county, inhabited by the same community living in the same socio cultural environment.

CONCLUSION

Up to 85% of female students are influenced by classmates to choose courses in TVET science programmes when during course registration as freshmen. About 85% agreed that most female student chose careers suggested by men who pay their fees. A total of 82.7% of female students choose careers in science TVET programmes because they want to be like boys in the same profession. Siblings encourage their sisters to choice careers in science TVET programmes was confirmed by 85% of the female respondents. Similarly, 85.6% of the respondents also disagreed that parents discourage female children from choosing careers in science TVET programmes. This is confirmed by 83.2% who reported that there are cultural beliefs within the Luo community which influence students' choice of careers in TVET science programmes. In addition, 85.8% of the female respondents noted that traditional social roles of women influenced their choice of careers in science TVET programmes. Besides, 81.2% of female students averred that those who choose careers in science TVET programmes like Mechanical Engineering are viewed as abnormal by male colleagues.

Another 63% noted that there are no successful women role models with qualification in TVET who influence female students' to choose careers in science TVET programmes. This is because few women choose careers in TVET as shown elsewhere in this study. Family occupation influence female students' career choice in science TVET programmes as indicated by 86.6% of the respondents. The socio-cultural factors overall index of 2.71 indicates that as whole, female students agreed that socio-cultural factors influenced their choice of careers in TVET programmes in the TTIs under study.

The findings show that there is no significant difference in how female respondents perceive socio-cultural factors in Nyangoma, Bondo and Siaya Technical Training Institute at the 0.05 level, F (2,432) = 0.018, p> 0.05. It means that female students in the three TTIs had similar perception of how socio-cultural factors influence choice of careers in TVET programmes in the TTIs under study. The results show that there was no statistically significant difference in perception of socio-cultural factors between female students, male students and lecturers, at the 0.05 level, F (2, 879) = 2.735, p> 0.05. The findings show that there is no statistically significant difference in perception of socio-cultural factors by institute namely; among Nyangoma, Bondo and Siaya Technical Training Institutes at the 0.05 level, F (2,879) = 0.003, p> 0.05. This is because the institutes are all in one county, inhabited by the same community living in the same socio cultural environment.

RECOMMENDATIONS

Emanating from the findings of this research, several recommendations are herein made. Men should not place undue pressure on female students to choose courses which the students don't like just because they pay fees. Female students should not choose courses just be like men. Siblings should encourage their sisters to choice careers in science TVET programmes. Parents should not discourage female children from choosing careers in science TVET programmes. Retrogressive cultural beliefs should be eradicated so that more female students can choose careers in TVET science programmes. The society should work towards liberating women from role stereotyping to increase the number of female students choosing TVET science. More successful women role models with high qualifications in TVET should give regular talks to female students with a view to encouraging them to choose careers in science TVET programmes.

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