The Relationship between Selected Psychological Factors and Female Students' Choice of Career in Science TVET in Technical Training Institutes in Siaya County, Kenya.

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ABSTRACT:

This study aimed at establishing the relationship between selected psychological factors and female students' choice of career in science TVET in technical training institutes in Siaya County, Kenya. Social Cognitive Theory postulated by Bandura (1986), and Holland's Theory of Occupational Choice (1959, revised 2017) guided the research. The study adopted a descriptive survey design. It is based on the conceptual framework whereby the choice of careers in TVET by female students is assumed to depend on social-cultural, economic, psychological and institutional context factors. The test-retest method was used to test the reliability of the instruments. Cronbach alpha method was also used to test internal reliability. The research instruments were questionnaires for lecturers, female and male students. Piloting was done in the village polytechnics. The sample size was 316 female students sampled using census method. In addition, 291 male students from a total target population of 1136 determined using Krejcie and Morgan Table of Sample Size Determination (1970). Proportionate sampling technique was used to sample respondents in different strata and TTIs. Tools in the Statistical Package for Social Sciences (SPSS) version 22 were used to analyse data. Frequencies, percentages and means were computed. Inferential statistics, namely; regression coefficients, T-statistics, F-statistics, correlation of coefficients, were derived. The findings were presented in tables. Further, a negative and non-significant relationship between psychological factors and female students' career choice in science TVET Programmes ($r = -0.163^*$; $p < 0.01$) was established. The researcher recommends that principals should institute measures for changing students' attitudes towards TVET courses.

Key Terms: psychological factors, TVET, Technical Training Institutes, female students.

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INTRODUCTION

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 (European Commission, 2009).

Kenya recognises the role of education and training in contributing to the Gross Domestic Product (GDP) with particular emphasis on TVET (Republic of Kenya, 2003). The subsector has been identified as one that will be able to spur economic development within the next 13 years and help achieve Vision 2030. Recently, Kenya revitalised the TVET subsector to locate herself strategically in the international scene (Republic of Kenya, 2012). In spite of global initiatives by UNESCO to enhance access, equity, retention, quality, completion rates and gender parity in education and training, the Technical, Vocational, and Education Training (TVET) subsector in Kenya continues to experience low enrolment among female students and especially in Science, Technology, Engineering and Mathematics (STEM) based courses leading to the creation of TVET Authority Board of Kenya (GOK, 2016).

The problem, which this study addressed, was persistent low numbers of female students choosing careers in science TVET in Technical Training Institutes in Siaya County. Institutional records for the years 2016, 2017 and 2018 were obtained from the Ministry of Education. In 2018, for instance, female students who chose careers in TVET science programmes were only 316 compared to 1136 male counterparts in all the three TTIs. A similar picture is also painted in the year 2017 (311 female students against 1055 male students) and 2016 (291 female students against 989 male students). This shows that choice of careers in science TVET programmes by female students was a matter of concern. The stark disparity between male and female students in the choice of careers in TVET science programmes shows that fewer female than male students chooses careers in TVET science programmes. It means that many young female students are likely to miss employment opportunities available in the TVET industry.

LITERATURE REVIEW

Krumboltz (1996), in the paper on the learning theory of career counselling, argues that students who have an interest in learning often choose careers in what they are interested in. Kunnen (2013) on the other hand, noted that career choice influences identity development. Lee (2001) notes that some students in high school are still not mature to make a career choice in some schools in Korean schools compared to United States high school students. Using vocational identity as a moderator and regret as a mediator, Li et al. (2015) found out that social comparison influenced career decision-making. Bubić and Ivanišević (2016) reported the influence of emotional stability on competence in young adolescents' career judgments. In Kenya, Nyamwange (2016) in research established the influence of students' interest on career choice among first-year university students in public and private universities in Kisii County, Kenya. According to Choi and Kim (2013), learning motivation, academic achievement,

and career decision self-efficacy are important antecedents on career preparation behaviour. According to Fan et al. (2012), personality trait and vocational interests influence career exploration.

Self-concept consists of at least two levels; personal identity and a social one. Features such as personality, skills and abilities, occupation, careers and hobbies and physical characteristics, are assessed and applied to self-schemas, which are ideas of oneself in a particular dimension. For example, someone who considers himself a doctor will associate doctor-like qualities to himself or herself, including the subjects they take, right from high school level (Baumeister, 1999).

Fennema and Sherman (2000) identified as critical, beliefs about the usefulness of, and confidence in learning technical courses, with males providing evidence that they were more confident about learning Mathematics and believed that technical courses were, and would be, more useful to them than did the female learners. Fennema and Sherman (2000) further affirmed that there was evidence that, while young men did not strongly stereotype technical course as a male domain, they did believe much more strongly than did young women that technical courses were more appropriate for males than for females. The importance of these variables (confidence, usefulness and male stereotyping), their long-term influence, and their differential impact on females and males was re-confirmed by many other studies (Hyde, 2005; Fennema and Tartre, 2000; Leder, 2005).

The physical aspect of the college does not only include the buildings but also its organisational setting and the demographics of the registered students in college. The values, makeup, attitudes, and personality of individual students shall affect the choice of careers and performance of learners. The values, makeup and attitudes of a people in a college make up what may be summed up as the

psychological or cultural feel of the campus itself. This feeling may be associated with access to institute officials, academic advising, career services, counselling and faculty (Byrne, 2008).

Some researchers (Brandell, et al., 2002; Pehkonen, 2004) showed that beliefs towards technical courses, the study of technical courses, and the experience of being a learner of technical courses, which were held by students in colleges, were changing. The students expressed beliefs indicating that technical courses were becoming more popular among girls than for boys, and her research further showed that girls worked better in technical course class and were more successful. This is in contradiction with other researchers, thus necessitating this research to establish if beliefs influence female students' the enrolment in TVET courses in Kenya (Pehkonen, 2004).

Gender-based differences in technical courses are due to the individual's perception of their abilities and the sex role (Schiefele, & Csikszentmihalyi, 2010). Costello (2003) reported that almost all literature on this topic points to the commonly held perception that doing a technical course is consistent with a male self-image and inconsistent with a female self-image. This self-image is usually caused by peer pressure. Males are more inclined towards the study of technical courses than females. This is because males view technical courses with passion while female with detachment (Costello, 2003). It has been found that at tertiary level of education; most of the girls do not actively participate in technical courses due to their poor perceptions about technical courses (Fennema, and Sherman, 2000). Therefore, looking into the influence of personal ability on female students' career choices in science TVET programmes is necessary.

Girls are negatively influenced by their sex-role stereotypes (Boswell, 2004; Fennema, & Sherman, 2000; Sherman, 2009; Ethington, 2008). Campbell (2006) found that girls'

lack of confidence to enrol in technical courses, their perception of technical courses as difficult, and their view that Mathematics is a male activity; all had an impact on girls' attitudes, achievement, and enrolment in technical courses. In a longitudinal study of the sixth, eighth, tenth, and twelfth graders, Fennema and Tarte (2000) found that, for girls, viewing technical courses as a male domain was correlated to their achievement in such courses.

According to Leder (2005), views held by girls about technical courses are shaped in part by gender-based stereotypes that there exists different innate technical abilities exist between males and females. Research that focuses on cognitive development among students of various ages, the document that Mathematical reasoning among girls and boys develops from a shared set of biologically-based capabilities that lead both genders to develop an equal aptitude for technical courses (Spelke, 2005). In general, both girls and boys have the same innate ability to learn technical skills and are born interested in a variety of objects and ideas (Spelke, 2005; Spelke & Grace, 2007). Little research has not been done to show how the perception of an individual students' ability to influence her choice of career among in TVET in TTIs.

Lindgren (1980) stressed the role of students holding attitudes, which are favourable if learning experiences are to be fortunate. Diverse definitions have been offered to define attitudes are. Fishbein and Ajzen (2010) stated that an attitude is one's general feeling of favour or otherwise toward some stimulus or object. Thorndike and Hagen (2015) and Richardson (1977) offered a corresponding definition. They added that this judgment or feeling is towards an individual, a group, an object, an institutions or a proposition. Negative attitudes can powerfully hinder curiosity and intellect and can keep us from learning what is within our understanding and power (Tobias, 2016). Choice of a course in TVET can therefore be influenced by a female student's change of attitude towards that course.

According to Mukherjee and Umar (1978) of Kano state polytechnic, Nigeria, attitudes can be changed as theories of attitude change have shown. Thus, attitudes like values are social interaction products, which are likely to be experienced by a child with his teachers, parents and neighbourhood community. Therefore, it essential to look into the influence of attitude towards TVET courses on female students' career choices in science TVET programmes.

Simpson and Oliver (1990) noted that female students' attitudes towards science subjects affect their choice of subjects. Generally, lack of interest is because of a negative mindset to a given subject, and when subjects are about to be selected, it leads to avoiding the subject or course in senior secondary schools. It can be inferred that a positive attitude towards TVET courses can influence the choice of careers in the same area. There is also need to put measures in place to improve students' and parents' attitudes so that they become more familiar with STEM fields to overcome the fear of their daughters choosing technical courses and getting related jobs in future (UNESCO, 2010).

According to Glynn et al. (2011), Korean high-school students are in a career development process, and career motivation is one of the most significant factors in their science learning. Science learning is the process in which students find the utility value of learning for their future careers. Career motivation is motivations that arise from students' perception of their future career. Career motivation is crucial for students to achieve their expected careers and develop skills required for their jobs. Here, career motivation is determined by the level of motivation students derive from their perception that science relates to their chosen careers (Glynn et al., 2011).

As mentioned above, Glynn et al. (2007, 2009) found that non-STEM majors' perception of career relevance is an

important factor in their science motivation. In other words, when non-STEM students valued science learning for their future career, they could be easily motivated to choose and learn science courses. Moreover, students who aspire to STEM careers would value science learning as a means of accomplishing their future goals. Eccles and Wigfield (2002) defined the utility value as an individual perception of the degree of how well a task relates to one's current and future goals. Some research shows that future goals and perceived utility values of learning for future goals improved students' self-regulation processes and motivation (De Volder, & Lens, 1982; Miller, & Brickman, 2004). Given these findings, it appears that career motivation is expected to have a direct influence on female students' choice of careers in technical courses.

Many studies have reported that female students have shown a lower level of career motivation in science courses than male students (Debacker, & Nelson, 2000; Eccles, et al., 1993; Meece, et al., 2006).

This is the greatest stimulus in decision making within the environment. Due to the proximity of peer groups and small communities developed within campus residence halls, peer-to-peer interactions have the most significant influence, positive or negative, on the choice of careers. Thus, a female student who joins a college and finds that most of the female students in that college take arts-oriented courses will easily be influenced to follow suit,

even if the intention from home was to take a technical course (Bernard, 2002).

Peer pressure determines what students learn and their willingness to learn. Peer pressure influence students career paths as what is passed on to students to stay with them for the remaining period of studying (Philips, 1980). In secondary school, Fakuode (1973) established that it is common knowledge that most of the in Nigerian Secondary schools, students dislike mathematics when the two sexes are compared. Internationally, females have been seen to exhibit more negative peer pressure (Iben, 1991; Dike, 1984; Omuoha, 1982; Oyewole, 1982; Tobias, & Weissbrod, 1980; Preece, 1979; Fennema & Sherman, 1976). Therefore, it is considered important to look into the influence of peer pressure on female students' career choices in science TVET programmes.

RESULTS

Influence of Psychological Factors on Female Students' Choice of Career in TVET Institutions.

Frequencies of Psychological Factors

Table 1 presents the frequencies of psychological factors which female students' choice of career in TVET institutions. Previous performance, levels of aspirations, preference/interest in practical courses, the perception that TVET courses are easy, motivation by graduates and role models, stress level, Attitude of female students, Intellectual ability are the selected psychological factors.

Table 1: Frequencies of Psychological Factors reported by Female Students

Statement	N	SD	D	A	SA
Some female students chose TVET courses because of their previous performance in science	435	4.1%	13.3%	40.7%	41.8%
Some female students chose TVET courses because they have high levels of aspirations	435	3.9%	38.9%	24.4%	32.9%
Some female students chose TVET courses because they like practical courses	435	5.5%	20.7%	28.0%	45.7%

Some female students chose TVET courses because they perceive such courses to be easy	435	3.2%	12.0%	34.5%	50.3%
TVET graduates motivate female students to choose careers in science TVET programmes	435	3.4%	20.9%	33.1%	42.5%
Some female students do not choose careers in TVET programmes because TVET courses are stressful	435	51.3%	31.7%	12.6%	4.4%
Interest in specific TVET courses on the part of female students influence their choice of careers in science TVET programmes	435	3.7%	15.6%	41.4%	39.3%
Attitude of female students towards TVET course influence their choice of careers in science TVET programmes	435	3.9%	20.9%	41.4%	33.8%
Intellectual ability of female students influence their choice of careers in science TVET programmes	435	4.4%	9.9%	34.5%	51.3%

Table 1 shows that the choice of TVET courses by female students depends on their previous performance in science (82.5% agree or strongly agree). Another 85.8 per cent of the respondents also agreed or strongly agreed that the intellectual ability of female students influences their choice of careers in science TVET programmes. According to KUCCPS (2018), students chose courses they are qualified for. Recently the number of students who qualified to join colleges in Kenya declined sharply (Dindi, 2018). It implies that students could only choose careers in TVET in which they were qualified. Table 33 also shows that some female students choose TVET courses because they have high levels of aspirations (57.3% agree or strongly agree). According to Shumba and Naong (2012), the student's level of aspiration influences their choice of career. The small percentage of 57.3 per cent is a pointer to why few students choose careers in TVET; that is, many students have low aspirations for careers in TVET. The 38.9 per cent of the respondents who disagree implies that they chose careers in TVET because of reasons other than aspiration.

Some female students chose TVET courses because they like practical courses (73.7% agree or strongly agree).

Shubha et al. (2017) argue that TVET is practically oriented. It implies that those who chose careers in TVET must like practical component. Since few female students chose careers in TVET, it could be inferred that those who do not choose careers in TVET may not like the practical component, and again they are the majority. This could explain why few female students choose careers in TVET. Some female students chose TVET courses because they perceive such courses to be easy (84.8% agree or strongly agree). This concurs with the view that some students chose careers, which are less stressful (Bani-Khaled, 2014). Given that few female students choose careers in TVET, it can be construed that those who do not choose such careers do not consider them easy or less stressful. This is supported by another 83 per cent who agreed or strongly agreed that some female students do not choose careers in TVET programmes because such TVET courses are stressful TVET.

Graduates motivate female students to choose careers in science TVET programmes (75.6% agree or strongly agree). This is in accords the observation that successful role models or graduates of a programme influence others to choose the same career (LeBlanc, 2015). 62.8 per cent of

female students disagreed that there were role models to motive them to choose careers in TVET. Since few female students choose careers in TVET and that 75.6 per cent of the few say that graduates motivate them but that graduates or role models are few (62.8%), it is clear why few female students choose careers in TVET. Interest in specific TVET courses on the part of female students influences their choice of careers in science TVET programmes (80.7%). Olawale (2014) argues that interest is a major determinant of choice of career. It can be construed that 80.7 per cent of female students those who are enrolled have interest in TVET. Since fewer women are enrolled in TVET programmes than men are, it can be said that lack of interest accounts for the smaller numbers. Attitude of female students towards TVET influence their

choice of careers in the area (74.8% agree or strongly agree). It means that 74.8 per cent of the female students, who have already chosen careers in TVET, have positive attitudes. This confirms that view that attitude possessed by a student influences the choice of career in related fields (Kazi, et al., 2017). Since there are fewer female students who have careers in TVET, it can be concluded that those who do not choose careers in the TVET could be having negative attitudes, among other reasons.

Frequencies of Psychological Factors (Lecturers and Students Combined).

Table 2 presents frequencies in percentages of psychological factors as reported by both lecturers and female students.

Table 2: Frequencies of Psychological Factors (Lecturers and Female Students, N=555)

Statement	SD	D	A	SA
Some female students chose TVET courses because of their previous good performance in science.	4.9%	15.0%	38.7%	41.4%
Some female students chose TVET courses because they have high levels of aspirations	3.8%	31.5%	29.2%	35.5%
Some female students chose TVET courses because they like practical courses	4.7%	17.7%	33.2%	44.5%
Some female students chose TVET courses because they perceive such courses to be easy	4.0%	11.2%	35.5%	49.4%
TVET graduates motivate female students to choose careers in science TVET programmes	3.2%	17.7%	35.7%	43.4%
Some female students do not choose careers in TVET programmes because TVET courses are stressful	51.7%	32.8%	11.5%	4.0%
Interest in specific TVET courses on the part of female students influence their choice of careers in science TVET programmes	3.8%	14.4%	38.7%	43.1%
Attitude of female students towards TVET course influence their choice of careers in science TVET programmes	3.6%	16.8%	43.8%	35.9%
Intellectual ability of female students influence their choice of careers in science TVET programmes	3.4%	10.1%	36.0%	50.5%

The statistics in Table 34 largely confirms the ones in Table 33. Lecturers also confirm what female students perceive as the psychological factors which influence the latter's choice of careers in TVET.

Means of Psychological Factors Influencing Female Students' Choice of Careers in Science TVET.

Table 3 presents the means of psychological factors Influencing Female Students' Choice of Careers in Science TVET as reported by female students.

Table 3: Means of Psychological Factors as Reported by Female Students

Statement	N	Mean	SD
Intellectual ability of female students influence their choice of careers in science TVET programmes	435	3.33	0.83
Attitude of female students towards TVET course influence their choice of careers in science TVET programmes	435	3.05	0.84
Interest in specific TVET courses on the part of female students influence their choice of careers in science TVET programmes	435	3.16	0.82
Some female students do not choose careers in TVET programmes because TVET courses are stressful	435	1.70	0.85
TVET graduates motivate female students to choose careers in science TVET programmes	435	3.15	0.87
Some female students chose TVET courses because they perceive such courses to be easy	435	3.32	0.81
Some female students chose TVET courses because they like practical courses	435	3.14	0.93
Some female students chose TVET courses because they have high levels of aspirations	435	2.86	0.93
Some female students chose TVET courses because of their previous good performance in science	435	3.20	0.82
Psychological Factors Overall Index	435	2.99	0.44

In all cases, female students agreed that psychological factors influence their choice of careers in TVET except in item number 4 where they disagree that some female students do not choose careers in TVET programmes because TVET courses are stressful. Nevertheless, in even in that item, it can still be put otherwise to mean that female students choose careers in TVET, which are less stressful. It implies that those who do not choose careers in TVET (who are the majority among female students in colleges) consider that such careers are stressful. This

explains the fewer number of female students who choose careers in TVET. According to Bani-Khaled (2014), female students do not choose courses, which they consider to be stressful.

Means of Psychological Factors that Influence Female Students' Choice of Careers in Science TVET.

Table 4 presents the means of psychological factors influencing female students' choice of careers in science TVET as reported by female students and lecturers.

Table 4: Means of Psychological Factors as Reported by Female Students and lecturers combined.

Statement	N	Mean	SD
Intellectual ability of female students influence their choice of careers in science TVET programmes	555	3.34	0.79
Attitude of female students towards TVET course influence their choice of careers in science TVET programmes	555	3.12	0.81
Interest in specific TVET courses on the part of female students influence their choice of careers in science TVET programmes	555	3.21	0.83
Some female students do not choose careers in TVET programmes because TVET courses are stressful	555	1.68	0.83
TVET graduates motivate female students to choose careers in science TVET programmes	555	3.19	0.84
Some female students chose TVET courses because they perceive such courses to be easy	555	3.30	0.82
Some female students chose TVET courses because they like practical courses	555	3.17	0.88
Some female students chose TVET courses because they have high levels of aspirations	555	2.96	0.91
Some female students chose TVET courses because of their previous good performance in science	555	3.17	0.86
Psychological Factors Overall Index	555	3.02	0.41
Valid N (listwise)	555		

The data presented here corroborate the ones in Table 35. It means that lecturers' perceptions of psychological factors influencing female students' choice of careers in science TVET are similar to those of female students.

The difference in Perception of Psychological Factors among Female Students in different Institutions

ANOVA test was done to determine the existence of a significant difference in how female students perceive psychological factors between N, B and S Technical Training Institutes at 0.05 level of significance. Table 5 shows the findings of the analysis.

Table 5: Difference in Perception of Psychological factors among Females respondents

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.156	2	.078	.406	.667
Within Groups	83.235	432	.193		
Total	83.391	434			

The results of ANOVA test indicated that there is no significant difference in perception of psychological factors among female respondents across N, B and S Technical Training Institutes at 0.05 level, $F(2, 432) = 0.406, p > 0.05$.

Differences in Perception of Psychological Factors by Respondents Category

The study employed T-test to determine whether there exists a significant difference between Female students and Lecturers concerning psychological factors that influence female students' choice of career at the 0.05 alpha level. Table 6 reveals the results of the analysis.

Table 6: Difference in Perception in Psychological Factors by Respondents Category

Respondent Category	N	Mean	SD	Df	t-value	p-value
Female students	435	2.99	.438	553	-3.484	0.005*
Lecturers	120	3.11	.295			

*. The difference is significant at the 0.05 level (2-tailed).

The findings established that there was a statistically significant difference in perception concerning psychological factors that affect female students' career choice between females and lecturers at 0.05, $t(553) = -3.484, p < 0.05$. Lecturers tend towards strongly agree ($M=3.11$), while female students tend to agree ($M=2.99$). They both concur with Azubuike and Azubuike (2014) who aver that female students' choice of careers in science subjects are influenced by psychological factors. It can be concluded that whenever negative psychological factors prevail, many female students do not choose careers in

TVET. Conversely, reduction of negative psychological factors would cause more female students to choose careers in TVET.

The difference in Perception of Psychological Factors by Institute

ANOVA test was conducted to determine whether there existed a significant difference in perception by lecturers and female students of psychological factors between N, B and S Technical Training Institutes at 0.05 alpha level. Table 7 shows the findings of the analysis.

Table 7: Difference in Perception of Psychological Factors by Institution Type

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.204	2	.102	0.594	0.552
Within Groups	94.863	552	.172		
Total	95.068	554			

The results of ANOVA test indicated that there is no significant difference in perception of psychological factors across N, B and S Technical Training Institutes at 0.05 level, $F(2, 552) = 0.552, p > 0.05$. Put otherwise, lecturers and female students of N, B and S Technical Training institutes perceived psychological factors in much the same way.

Psychological factors affect students directly and personally. Accordingly, lack of positive attitude, motivation and interest in specific TIVET courses cause fewer students to choose careers in Science TVET programmes. According to female respondents alone, there exists a negative and non-significant relationship

between psychological factors and female students' career choice in science TVET Programmes ($r = -0.163^*$; $p < 0.01$). This indicates that lack of positive attitude; motivation, and interest in specific TVET courses adversely influence their chosen careers in science TVET programmes.

H₀₃: There is no statistically significant influence of psychological factors on female students' choice of careers in TVET science programmes in Technical Training Institutes in Siaya County, Kenya. The null hypothesis was rejected.

Correlation between Psychological Factors and Female Students' Choice of Career in TVET

Table 8 presents correlation between psychological factors and female students' choice of careers in TVET as reported by female students and lecturers.

Table 8: Correlation between Psychological Factors and Female Students' Choice of Career in TVET

			Psychological Factors
Female Career Choice In Science TVET programmes	Students' Choice In TVET	Pearson Correlation Coefficient	-0.209**
		Sig. (2-tailed)	.000
		N	555

** . Correlation is significant at the 0.01 level (2-tailed).

The findings in Table 8 indicated that there exists a negative and statistically significant relationship between psychological factors and female students' career choice in Science TVET Programmes ($r = -0.209^*$; $p < 0.01$). This implies that high prevalence of negative attitude, low motivation and interest in specific TIVET courses cause fewer students to choose careers in Science TVET programmes. This finding corroborates what Shin, Jun-Ki and Minsu (2017) who found out by reporting that attitude, motivation and

interest in Science influence female students' choice of career.

Correlation between Psychological Factors and Female Students' Choice of Careers in TVET as reported by Female Students

Table 9 presents correlation between Psychological Factors and female students' choice of careers in TVET as reported by female students.

Table 1: Correlation between Psychological Factors and Female Students' Choice of Career in TVET

			Psychological Factors
Female Career Choice In Science TVET programmes	Students' Choice In TVET	Pearson Correlation Coefficient	-.163**
		Sig. (2-tailed)	.050
		N	435

*. Correlation is significant at the 0.01 level (2-tailed).

The finding in Table 9 showed that there exists a negative and non-significant relationship between psychological factors and female students' career choice in science TVET Programmes ($r = -0.163^*$; $p < 0.01$). This indicates that lack of positive attitude, motivation and interest in specific TIVET courses may adversely influence their choice careers in science TVET programmes. Shin, Jun-Ki and Minsu (2017) also found similar results and noted that interest and attitude have strong influence on choice of career.

Correlation between Psychological Factors and Female Students' Choice of Careers in TVET as reported by lecturers

Table 10 presents correlation between psychological factors and female students' choice of careers in TVET as reported by lecturers

Table 10: Correlation between psychological factors and female students' career choice

		Psychological Factors
Female Students' Career Choice In Science TVET programmes	Pearson Correlation Coefficient	-.490**
	Sig. (2-tailed)	.000
	N	120

** . Correlation is significant at the 0.01 level (2-tailed).

The findings in Table 10 indicated that there exist a negative and statistically significant relationship between Psychological Factors and Female Students' Career Choice in Science TVET Programmes ($r = -0.490^{**}$; $p < 0.01$). This indicates that prevalence of negative attitude, low motivation and lack interest in specific TVET courses may adversely influence their choice careers in science TVET programmes. Okiror and Otabong (2015) confirmed the finding, arguing that positive attitude towards a course may influence their choice of careers in related areas.

CONCLUSION AND RECOMMENDATION

Conclusion: Therefore, psychological factors have a significant influence on female students' choice of careers in TVET science programmes in Technical Training Institutes

in Siaya County, Kenya. Such factors are: the intellectual ability of female students, Attitude of female students towards TVET course, low interest in specific TVET courses on the part of female students, TVET courses are stressful, TVET graduates motivate female students to choose careers in science TVET programmes, some female students chose TVET courses because they perceive such courses to be easy, some female students chose TVET courses because they like practical courses, some female students chose TVET courses because they have high levels of aspirations and that some female students chose TVET courses because of their previous good performance in science.

Recommendation: Female students should work hard to pass KCSE exams to raise their chances of being admitted in TVET science programmes. This is because students only choose careers they are qualified to pursue, Students who find TVET courses stressful should be counselled, principals should institute measures for changing students' attitudes towards TVET courses, TVET graduates should motivate female students to choose careers in science TVET programmes, Female students should change their apperception that chose TVET courses are difficult, Female students should change their attitude towards practical courses, and finally female students should have higher levels of aspirations.

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