

Factors Affecting Female Enrolment in TVET: A Case Study of Abubakar Tafawa Balewa University, Bauchi, Bauchi State

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Abstract

The study investigated the factors affecting female enrolment in technical and vocational education and training programme (TVET): A case study of Abubakar Tafawa Balewa University, Bauchi. Descriptive survey research design was adopted in the study. Three research questions and three null hypotheses were generated and formulated respectively to guide the study. The population of the study was 35 regular female students (20 female year II students and 15 female final year students) both 2023/2024 and 2021/2022 academic session in ATBU, Bauchi. No sample was done in the study since the population size was considered manageable. The instrument was validated by two experts and the reliability coefficient of 0.8 was obtained. A – 15 item questionnaires structured on a 4 point rating scale was used to collect data for the study. Data was analyzed using statistical mean and standard deviation to answer the research questions, while t-test statistics was used to test the hypotheses at 0.05 level of significance. The study revealed among others that parental factors such as religious and socio-cultural tradition, parental poor perceptions and negative attitude, school factors such as inadequacy and state of TVET facilities, inflexibility in the mode of selection and entry requirement, and government factors such as poor implementation of educational policies, and poor scholarship scheme for female TVET students are factors that affect female enrolment in technical and vocational education and training programmes in ATBU Bauchi. The practical implication of these findings is disturbing as the enrolment figure of women in TVET programme in Nigeria will continue to remain low if nothing serious is done as to change the orientation of all relevant stakeholders towards TVET programmes. Based on these findings it was recommended that there is need for public education and sensitization on the prospects of female enrolment in TVET in Nigeria and other developing counties, particularly in Sub- Saharan Africa.

Keywords: Female, Enrolment, Technical and Vocational Education and Training.

Introduction

Globally, challenges of a fast-growing youth population and high unemployment have brought renewed attention to Technical and Vocational Education and Training (TVET) as a practical route to economic empowerment and long-term development (ILO, 2025). Technical and Vocational Education and Training (TVET) hold enormous space to resolve

the growing unemployment challenges. Considering the increasing demand for technology and digitalization in the global economy, TVET is now seen as the face of the labour market distribution and allocation of the teeming unemployed youth. Basic education is insufficient to adequately prepare the citizens for the rigours of the fast-changing technological driven economy. Undoubtedly, the existence of an effective education and training system for both personal and national development is no longer a choice but a necessity (Mohammed, 2020).

TVET being the oldest form of education in the world has passed through various stages of transformation over the years to be what it is today. TVET with its characteristic comprehensiveness in nature and to emerging technologist remains a veritable tool for training manpower. Technical education is a prime-mover that provides people with skills to improve their lives by supporting them in becoming economically productive and thus escaping poverty and marginalization. Individuals with skills become entrepreneurs, employees, and informed citizens who contribute to a country's economic and long-term development (Nzembe, 2018). As a result, human development through TVET contributes not only to economic development and job creation but also to increased social inclusion. Technical and vocational education and training has been regarded as the bedrock for human and economic development which has to be problem oriented, person centered, community centered and should be able to cater for both social and economic problems which include unemployment, poverty, crime, drug abuse, health, and others.

TVET refers to a planned program of courses or learning that occurs in various settings, which focuses on preparing learners for specific careers in the labour market based on manual or practical activities ((EC, 2020). Academic qualification is essential to obtain decent work in the labour market. However, current trends indicate that academic qualifications alone are insufficient to adequately prepare the citizens for the rigours of the fast-changing technological driven economy and perform well on the job (Succi & Canovi, 2020). As a result, the existence of an effective post-school education and training system for both personal and national development is no longer a choice but a necessity (Mohammed, 2020). Improvements in technology and the globalization have changed the demands of the labour market (Sima et al., 2020).

Employment for TVET graduates has increased tremendously over the last few decades, with the unemployment rate among vocational and commercial education graduates going from 28.7% in 2011 to 17.9% in 2020 (ILO, 2020). This achievement is significant, considering Nigeria's unemployment rate increased from 21.1% in 2010 to 27.1% in 2020 (ILO, 2021). However, gender-disaggregated data on unemployment shows a constant gap between men and women. In 2010, the unemployment rate in Nigeria was 17.7 and 24.9% for men and women, respectively, but it increased to 24.0 and 26.5%, respectively, in 2019, with a narrower gap (ILO, 2020). However, men's unemployment rate in 2020 fell slightly to 22.9%, while women's increased 5 points to 31.6%, partly because of the COVID-19 pandemic (ILO, 2020). The impetus of this study stems from the fact that TVET is underrated by the populace in Nigeria despite the government's continued effort to scale

up enrolment in TVET programmes, and as such, female participation in TVET education and job market remains a forlorn hope. The present study focuses on factors affecting female enrolment in technical and vocational education and training programme (TVET): A case study of Abubakar Tafawa Balewa University, Bauchi.

Statement of the Problem

Enrolment in technical and vocational education and training programmes (TVET) in Nigeria is unequal, with the enrolment of female students (32%) being significantly lower than male students (68%). Similarly, the percentage of male graduates (65%) was significantly higher than female graduates (35%) in 2025. Even when you look across different institutions, female enrollment barely hits 36% (ZibDo, 2025). This shown that female enrolment in TVET in Nigeria is at very low ebb compared to general enrolment in education. For women to make a meaningful impact on Nigeria's development process and to ensure women can reach their educational and employment potential, the participation of women in TVET needs to increase toward better gender parity. Despite government tireless efforts geared towards ensuring that technical and vocational education and training programmes remains attractive and sellable at all levels of education, gender disparity still exist in technical training institutions.

Scholars have advanced several factors to be responsible for the low enrolment of women in TVET. These factors can be classified as cultural, societal, technical, socio-economic and financial. Cultural and societal barriers that limit the participation of women in TVET include low place value on TVET in Nigerian society, which has led to a lack of recognition and discrimination against graduates of TVET (Pető & Reizer, 2021). It is becoming obvious that in recent times a lot of employers engage the services of male trainees instead of the female trainees from the TVET sector, with the general perception that male TVET products perform better than the female TVET products under the same working conditions. The gender gap within Nigeria's rapidly expanding tech sector is a crucial concern that needs to be addressed. Indeed few studies exist in Nigeria that has focused on analysing and bridging the gender gap in TVET education and related job streams. Therefore, it is against this backdrop, this study was conceived to investigate the factors affecting female enrolment in technical and vocational education and training: A case study of Abubakar Tafawa Balewa University, Bauchi.

Purpose of the Study

This study aimed at investigating the factors affecting female enrolment in technical and vocational education and training programme: A case study of Abubakar Tafawa Balewa University, Bauchi. Specifically, the study intended to:

1. Determine parental factors affecting female enrolment in technical and vocational education and training programme in ATBU Bauchi.
2. Find out school factors affecting female enrolment in technical and vocational education and training programme in ATBU Bauchi.

3. Determine government factors affecting female enrolment in technical and vocational education and training programmes in ATBU Bauchi.

Research Questions

The study was guided by the following research questions:

1. What parental factors are responsible for low enrolment of female in technical and vocational education and training programmes in ATBU Bauchi?
2. What school factors are responsible for low enrolment of female in technical and vocational education and training programmes in ATBU Bauchi?
3. What government factors are responsible for low enrolment of female in technical and vocational education and training programmes in ATBU Bauchi?

Hypotheses

The following null hypotheses stated and tested at $\alpha = 0.05$ level of significance:

1. There is no significant difference in the mean responses of female year II students and female final year students on parental factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.
2. There is no significant difference in the mean responses of female year II students and female final year students on school factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.
3. There is no significant difference in the mean responses of female year II students and female final year students on government factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.

Literature Review

Theoretical Framework

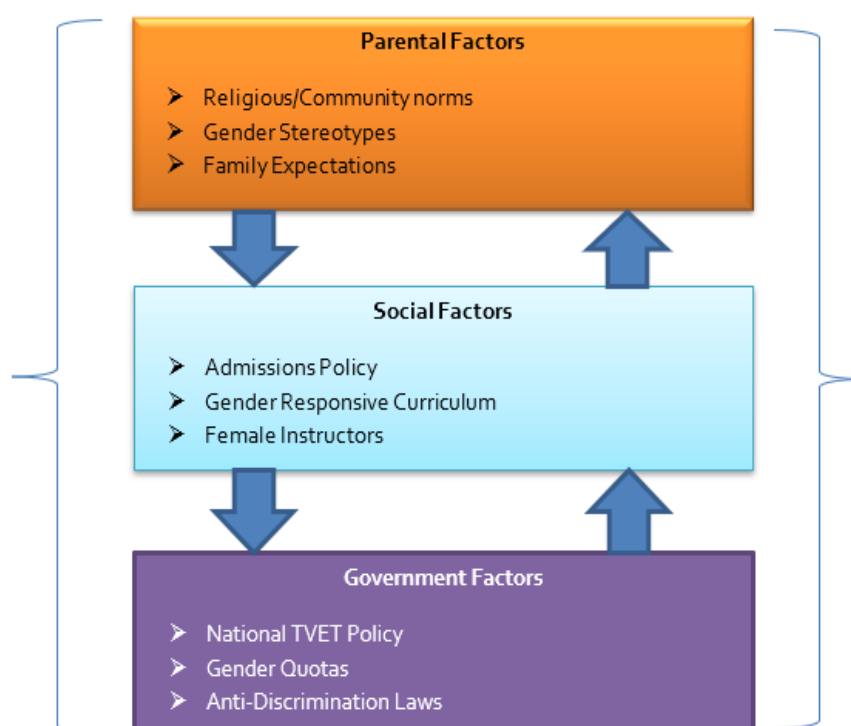
Social Cognitive Theory by Albert Bandura

Social Cognitive Theory (SCT), a well-known theory formulated by Albert Bandura (1986), offers a comprehensive framework for understanding human behavior, learning, and motivation. It explains how individuals acquire knowledge, develop skills, and regulate behavior through the continuous interaction of personal factors, environmental influences, and behavioral response processes. Social Cognitive Theory's primary principle is that, individuals are capable of consciously choosing a certain path of action (Bandura, 2001). This concept emphasizes that human functioning is shaped not by a single determinant, but by the dynamic interplay between one's internal beliefs and emotions (personal factors), one's social and physical surroundings (environment), and one's actual actions (behavior). Social Cognitive Theory (SCT) is essential in Technical and Vocational Education and Training (TVET) as it emphasizes learning through observation, imitation, and modeling. It posits that skill acquisition stems from reciprocal interaction between personal factors (e.g., self-efficacy), environment (e.g., workshops) and behaviour.

At the core of SCT is self-efficacy, defined as an individual's belief in their ability to successfully perform specific tasks or behaviors required to achieve desired outcomes. Bandura argued that self-efficacy determines not only how people feel, think, and motivate themselves, but also how they act when confronted with challenges. Individuals with high self-efficacy are more likely to set ambitious goals, persist in the face of obstacles, and recover quickly from setbacks, while those with low self-efficacy tend to doubt their abilities and disengage when confronted with difficulties.

According to this idea, mastery experience, vicarious experience, verbal persuasion, and psychological condition all serve as sources of self-efficacy. By way of explanation, Bandura stated that success at a task strengthens one's sense of self-efficacy, but failure damages it. Vicarious experiences entail witnessing other people succeed at a task, which may lead one to believe in one's capability at completing a job. Verbal persuasion happens when people are convinced or persuaded that they possess the skills necessary to do a task successfully. The feeling of self-efficacy is also influenced by physiological and emotional arousal. People's feeling of self-efficacy rises when they can control their stress responses and change their negative dispositions in the face of difficulty.

Conceptual Framework



Source: Adapted from Social Cognitive Theory (1986)

Concept of Vocational and Technical Education

The definition of vocational and technical education tends to pose problems of classifications based on the level of entry, level of work, proportion of theoretical and

scientific studies and emphasis on practical training. Evidence has shown that in most academic research within the context of the Nigerian educational system, “Vocational Education and Training” as terms are used interchangeably within the context. It should be noted that these are different key terms within the context of a research, although they have similar or almost serve the same purpose within the context. In line with the study of Oviawe et al. (2017), vocational education is seen in a very simple term as an acquisition programme designed within a context for skill-based education at a lower level within the context. These skills programme aim at vocations that are specific within the context that must be in line with a defined workplace entry requirement or need. Vocational education is education designed to prepare skilled personnel at lower levels of qualification for one or a group of occupations, trades or jobs. Vocational education usually provided at upper secondary level, include general education, practical training for development of skills required by the chosen occupations, and related theory. The proportions of these components may vary considerably but the emphasis is usually on practical training. For the essence of this current study, technical and vocational education can be defined within a context of any settings as follows. Technical education within any organisational setting is an act of vocational preparation or training of a learner for a specific job at hand, which involves acquiring recent technology skills aimed at the workforce/learner becoming self-independent and competent within the organisational settings. This term is targeted at the preparations of technical graduates to become self-dependent to meet up with the current unemployment rate. Technical education is the education designed at upper secondary and lower tertiary level to prepare middle-level personnel (technicians, middle management and at university level, to prepare engineers and technologists for highest management level. Technical education includes general education, theoretical, scientific and technical studies and related skill training. The components of technical education may vary considerably depending on the type of personnel to be prepared and the educational level. While the term vocational education is seen as a programme which is structured for skills acquisition at a lower level of an organisation (Olagbaju, 2020).

Current Level of Female Participation in TVET Programs

The current level of female participation in TVET programs in Nigerian universities remains low. This is due to several factors, including limited access to funding, insufficient institutional support, and a lack of awareness about the available opportunities. Previous study has highlighted the need for targeted interventions to address these barriers and promote greater gender inclusiveness in TVET (Bray-Collins, 2022). For instance, the implementation of flexible training schedules, establishment of mentorship programs, and provision of scholarships can significantly enhance the participation of female in these essential professional development activities. To address the gender disparities in TVET participation among females, it is crucial to develop and implement strategies that promote gender equality and inclusiveness. Institutions should adopt gender-sensitive policies that ensure equal access to training opportunities and actively work to create an inclusive

environment. Providing financial support, creating mentorship and networking opportunities, and raising awareness about the benefits of TVET are all essential steps in this direction (DHET, 2023a).

Gender Inequalities in TVET Sector

Gender inequalities in the TVET sector are driven by both internal and external factors. Bray-Collins et al. (2022), in an extensive literature review on gender inequality in African TVET programmes, observed that internal factors which disadvantage women in the TVET sector are often shaped by perceptions of gendered roles in the labour market and include educational choices and gender barriers in TVET colleges. External drivers are often influenced by socio-cultural, socio-economic, and sociopolitical relationships which result in gender inequality. For example, even when women enter the labour market, the burden of care and domestic responsibilities often restricts equal participation (Posel et al., 2024). In particular, educational choices often result in women being over-represented in the care and service sector professions and under-represented in technical and industrial fields. This is particularly evident in programmes related to science, technology, engineering, and mathematics (STEM) careers, which are becoming more important for progress in the 21st century (UNESCO, 2020). While university degrees are required for some STEM careers, the TVET sector also offers STEM-related qualifications. However, there is empirical evidence that young women in TVET institutions are less likely to select programmes which prepare them for STEM careers (e.g. engineering) (UNESCO, 2020; Bray-Collins et al., 2022).

Comparisons are often difficult to make across different contexts, but one stylized fact is that employment in STEM careers is biased towards male and more likely to result in more secure, formal sector jobs which are better remunerated (UNESCO, 2020). Although gender parity in STEM graduates has been achieved in many countries, including Nigeria, women's remuneration in such male-dominated occupations still tends to be less than men (Bray-Collins et al., 2022). An additional source of gender inequality is found in the gap between female enrolment in STEM-related TVET programmes and employment in STEM-related occupations (UNESCO, 2020). This phenomenon is often termed the 'leaky pipeline' and is characterized by women dropping out between training and labour market entry.

In terms of the gendered barriers in TVET colleges, a root cause is often ascribed to the lack of gender-awareness which potentially creates barriers for women to succeed (Bray-Collins et al., 2022). This is often exacerbated by gender bias in curriculum content, available facilities, the availability of female role models/mentors, and selection into apprenticeships (Bray-Collins et al., 2022). More broadly, Bray-Collins et al. (2022) have suggested that TVET policies and strategies for implementation do not sufficiently address gender inequalities in the African TVET context. Thus, while progress has been made in the TVET sector, more is needed to ensure gendered equality in study choices, qualification completion and labour market outcomes (UNESCO, 2020; Bray-Collins et al., 2022).

ICT and Digital Learning Policies: Policy Framework and Strategic Direction

When the Federal Ministry of Education came up with the National Digital Learning Policy (NDLP) in May 2023 (Nigeria Education News, 2025), it felt like someone finally said what many have been thinking for years. Walk into any Nigerian school and you will see the same tired scene: learners crammed into classrooms with peeling paint, textbooks older than some of the teachers, and educators doing their absolute best with almost nothing (World Bank, 2019). The ministry's new policy is not just another fancy document it is a way of saying "enough is enough" to a system that has been limping along for decades. The government is basically throwing in the towel on the old-school approach where students sit in rows, copy notes until their hands cramp, and regurgitate information they will completely forget the moment they leave the exam hall.

What is smart about this new policy is that Nigeria did not just start from scratch; it actually looked at what has already been tried before. Looking at the National ICT Policy from 2019; the ICT in Education Policy from the same year; even the broadband plan has been working since 2020 (Nigeria Education News, 2025). The NDLP takes lessons from all these earlier attempts and tries to build something that is impactful. They broke it down into five main areas that sound complicated but are pretty logical; Creating clear rules everyone can follow, building online platforms that do not crash every five minutes, creating educational content that reflects Nigerian realities instead of importing everything from abroad, making sure people actually have laptops and internet that work, and teaching everyone from principals to first-graders how to use this stuff properly. The whole idea is to build something strong enough that when the next crisis hits, learners can keep learning instead of losing entire academic years (WifiTalents, 2025).

Methodology

Research Design

The study employed a descriptive survey design. This study employed descriptive survey design because the study involves large population and sought their opinions on fundamental issue on factors affecting female enrolment in TVET. According to Flynn, et al. (2018), descriptive survey designs are those research procedures in which researcher administers a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviours, or characteristics of the population.

Population of the Study

The population of the study consisted of thirty five (20 female year II students and 15 female final year students) both 2023/2024 and 2021/2022 regular undergraduate students in the Department of Vocational/Technology Education of Abubakar Tafawa Balewa University, Bauchi. This figure was obtained from Vocational/Technical Education Unit of Abubakar Tafawa Balewa University, Bauchi in 2025.

Sample and Sampling Technique

No sample was done, rather all the 20 female year II students and 15 female final year students were used for the study since the population size was considered manageable.

Instrument for Data Collection

A structured instrument titled "Factors Affecting Female Enrolment in TVET Programmes Questionnaire (FAFETPQ)" developed by the researcher was used to gather data for the study. The FAFETPQ instrument was divided into two sections, namely, A, and B respectively. Section A elicit responses on the personal data of the respondents, while section B was aimed at obtaining information about parental influence that affect female enrolment in TVET programmes, school factors that affect female enrolment in TVET programmes and government factors that act affect female enrolment in TVET programmes. The questionnaire was structured based on a four points Likert scale format that runs from Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The scoring for the positive items runs from SA = 4, A = 3, D = 2 and SD = 1 and the reverse for the negative items.

Validity of the Instrument

The instrument was validated by two experts in the areas of Vocational/Technology Education and Measurement and Evaluation from Abubakar Tafawa Balewa University, Bauchi. The face and content validity was established after subjecting the instrument to vetting by the two experts. Attempt was made to ensure that the instrument adequately cover all the relevant dimensions under study that were implied by the research questions and hypotheses. The inputs and the suggestions of the validators which include among others, substitution and rearrangement of the items and the amendments of grammatical errors used in the instrument were acted upon in developing the final draft of the instrument.

Reliability of the Instrument

The reliability of the instrument was established by the application of test re-test method which was administered to twenty (20) technical education female students of Federal University, Kashere, Gombe who were not part of the study area. The Person Product Moment Correlation Coefficient (r) (PPMC) technique was used to process the result to obtain a reliability of 0.80 which was considered adequate for the study.

Method of Data Collection

A total of thirty five (35) copies of the instrument were administered to the respondents directly by the researcher with the help of two research assistants. The total number of copies of the completed instrument retrieved was 32 (18 female year II students and 14 female final year students). This number of completed instrument represents 91% which was considered adequate and were used for the analysis of the study.

Table 1.1: Questionnaire Return Rate

Respondent Category	No. Dispatched	No. Returned	Percentage
Year II students	20	18	90
Final year students	15	14	93.33
Total	35	32	91.67

Method of Data Analysis

Mean and standard deviation were used to answer the research questions, while t-test was used to test the hypotheses at 0.05 level of significance. For the research questions, real limits of number of 3.50 - 4.00 (Strongly Agree), 2.50-3.49 (Agree), 1.50-2.40 (Disagree), 0.50- 1.40 (Strongly Disagree) were used. Standard deviation values were used to determine the level of homogeneity among the respondents. All the null hypotheses tested were accepted because the calculated t-values were less than and equal to the critical-values.

Results and Discussion

Research Question 1: What parental factors are responsible for low enrolment of female in technical and vocational education and training programmes in ATBU Bauchi?

Table 1: Mean and Standard Deviation on parental factors responsible for low enrolment of female in TVET programmes in ATBU Bauchi

S/N	Statements	Year II Students N=18			Final Year Students N=14		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Religious and socio-cultural tradition such as early marriage, child bearing and unwillingness to allow girls to travel long distance	3.14	0.89	Agree	3.00	0.80	Agree
2	The traditional and conservative belief that woman's education ends in the kitchen.	3.05	0.82	Agree	3.24	0.82	Agree
3	Parental higher interest in boys' education over girls' education	3.54	0.86	Agree	2.75	0.83	Agree
4	Parents viewed TVET with skepticism because educated girls become and feel reluctant to undertake heavy field labour	2.85	0.79	Agree	2.87	0.81	Agree
5	Parental poor perceptions and negative attitude about the benefits of TVET programmes on female education	2.84	0.79	Agree	2.57	0.76	Agree
	Grand Mean	3.08	0.83	Agree	2.87	0.80	Agree

Source: Field work, 2025

The results in Table 1 shows that items 1, 2, 3, 4 and 5 had mean ranging from 2.57- 3.54 and as such were accepted by the respondents. The grand means 3.08 and 2.87 for both male and female students shows that they all agreed on those parental factors affecting female enrolment in TVET programme in ATBU, Bauchi. Furthermore, the standard deviations which ranged from 0.76 -0. 89 indicate closeness in the opinions of both categories of respondents.

Research Question 2: What school factors are responsible for low enrolment in female in technical and vocational education and training programmes in ATBU Bauchi?

Table 2: Mean and Standard Deviation on school factors responsible for low enrolment of female in TVET programme in ATBU Bauchi

S/N	Statements	Year II Students N=18			Final Year Students N=14		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Lack of female technical teachers	3.39	0.92	Agree	3.00	0.90	Agree
2	Inadequacy and state of TVET facilities	2.58	0.82	Agree	2.67	0.83	Agree
3	Poor relations practice by administrator and lecturers of TVET department	3.15	0.82	Agree	2.65	0.82	Agree
4	Inflexibility in the mode of selection and entry requirement	2.50	0.80	Agree	2.58	0.80	Agree
5	Gender base curriculum materials	3.35	0.90	Agree	2.95	0.89	Agree
	Grand Mean	2.99	0.85	Agree	2.77	0.85	Agree

Source: Field work, 2025

Data in Table 2 indicate that items 1, 2, 3, 4 and 5 had mean ranging from 2.50 - 3.35 and as such were accepted by the respondents. The grand means 2.99 and 2.77 for both male and female students shows that they all agreed on those societal factors affecting female enrolment in TVET programme in ATBU, Bauchi. Furthermore, the standard deviations which ranged from 0.80 -0. 92 indicate homogeneity in the opinions of both categories of respondents.

Research Question 3: What government factors are responsible for low enrolment on female in technical and vocational education and training programmes in ATBU Bauchi?

Table 3: Mean and Standard Deviation on government factors Responsible for Low enrolment of Female in TVET programmes in ATBU Bauchi

S/N	Statements	Year II Students N=18			Final Year Students N=14		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Poor implementation of educational policies	3.40	0.87		3.63	0.88	
2	Poor funding of TVET programmes	3.33	0.84		2.84	0.84	
3	Policy related factors (lack of goals and adequate monitoring of gender equality)	3.51	0.83		3.67	0.89	
4	Poor scholarship scheme for female TVET students	3.26	0.82		2.76	0.79	
5	Poor implementation of research findings in TVET programmes	2.65	0.75		2.88	0.85	
	Grand Mean	3.23	0.82	Agree	3.16	0.85	Agree

Source: Field work, 2025

Data in Table 3 indicate that items 1, 2, 3, 4 and 5 had mean ranging from 2.65- 3.67 and as such were accepted by the respondents. The grand means 3.23 and 3.16 for both male and female students shows that they all agreed on those governmental factors affecting female enrolment in TVET programme in ATBU, Bauchi. Furthermore, the standard deviations which ranged from 0.75 -0. 89 indicate homogeneity in the opinions of both categories of respondents.

Hypothesis 1: There is no significant difference in the mean responses of female year II students and female final year students on parental factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.

Table 4: T-test of difference between the responses of female year II and female final year students' on parental influence factors responsible for low enrolment of female in TVET programmes in ATBU Bauchi

Respondents	N	X	SD	Df	P	t-cal.	t-crit.	Decision
Year II Students	18	3.20	0.84					
				110	0.05	0.50	1.96	Accepted
Final Year Students	14	3.53	0.89					

Results from Table 4 reveals that 18 year II students had a mean rating of 3.20 (SD = 0.84) and 14 final year students a mean rating of 3.53 (SD = 0.89) yielding a calculated t-value of 0.50. With the calculated t-value of 0.50 less than the critical t-value of (1.96) at df = 110 and 0.05 level of significance indicates that there is no significant difference between the

opinions of year II students and final year students on parental factor that affect female enrolment in TVET programmes in ATBU Bauchi. The first null hypothesis was therefore accepted. The implication of this result is that both year II students and final year students hold the same opinion regarding those parental factors that affect female enrolment in TVET programmes in ATBU Bauchi.

Hypothesis 2: There is no significant difference in the mean responses of female year II students and female final year students on school factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.

Table 5: T-test of difference between the responses of female year II and female final year TVET students' on school factors responsible for low female enrolment in TVET programmes in ATBU Bauchi

Respondents	N	X	SD	Df	P	t-cal.	t-crit.	Decision
Year II Students	18	3.45	0.86	110	0.05	0.35	1.96	Accepted
Final Year Students	14	2.99	0.82					

The result in Table 5 shows that 18 year II students had a mean rating of 3.45 (SD = 0.86) while 14 final year students had a mean rating of 2.99 (SD = 0.82) yielding a calculated t-value of 0.35. With the calculated t-value of 0.35 less than the critical t-value of (1.96) at df = 110 and 0.05 level of significance indicates that there is no significant difference between the opinions of year II students and final year students on school factor that affect female enrolment in TVET programmes in ATBU Bauchi. The second null hypothesis was therefore accepted. The implication of this result is that both year II students and final year students hold the same opinion regarding those school factors that affect female enrolment in TVET programmes in ATBU Bauchi.

Hypothesis 3: There is no significant difference in the mean responses of female year II students and female final year students on government factors that affects female enrolment in technical and vocational education and training programme in ATBU Bauchi.

Table 6: T-test of difference between the responses of female year II and female final year TVET students' on government factors that affect female enrolment in technical and vocational education programme in ATBU Bauchi

Respondents	N	X	SD	Df	P	t-cal.	t-crit.	Decision
Year II Students	18	3.30	0.84	110	0.05	0.46	1.96	Accepted
Final Year Students	14	3.25	0.83					

Results from Table 4 reveals that 18 year II students had a mean rating of 3.30 (SD = 0.84) and 14 final year students a mean rating of 3.25 (SD = 0.83) yielding a calculated t-value of 0.50. With the calculated t-value of 0.46 less than the critical t-value of (1.96) at $df = 110$ and 0.05 level of significance indicates that there is no significant difference between the opinions of year II students and final year students on governmental factor that affect female enrolment in TVET programmes in ATBU Bauchi. The third null hypothesis was therefore accepted. The implication of this result is that both year II students and final year students hold the same opinion regarding those governmental factors that affect female enrolment in TVET programmes in ATBU Bauchi

Findings of the Study

The following were the findings of the study:

1. Parental factors such as religious and socio-cultural tradition, parental higher interest in boys' education over girls' education, parents viewed TVET with skepticism affects female participation in technical and vocational education and training programme in ATBU Bauchi.
2. School factors such as lack of female technical teachers, poor relations practice by administrator and lecturers of TVET department, inflexibility in the mode of selection affect female participation in technical and vocational education and training programme in ATBU Bauchi.
3. Government factors such as poor implementation of educational policies, poor funding of TVET programmes, and poor scholarship scheme for female TVET students affect female participation in technical and vocational education and training programme in ATBU Bauchi.

Discussion of Findings

From the analysis of the data presented, Table 1 indicated that the following parental factors affect female participation in technical and vocational educational and training (TVET) programmes in ATBU. These factors are, religious and socio-cultural tradition, traditional and conservative belief that woman's education ends in the kitchen, parental higher interest in boys' education over girls' education, parents viewed TVET with skepticism and parental poor perceptions and negative attitude. These findings concur with findings of Adams and Baddianaah (2023) who averred that a number of factors including but not limited to the ill-informed parental perception about the girl child in TVET education, the relegation of the girl child to the home and kitchen, the societal belief that TVET is masculine dominated and discrimination against women in the job market.

The results in Table 2 reveals that the following societal factors affect female participation in technical and vocational education training (TVET) programmes in ATBU. These factors are lack of female technical teachers, inadequacy and state of TVET facilities, poor relations practice by administrator and lecturers of TVET department, inflexibility in the mode of

selection and entry requirement and gender base curriculum materials. This finding is in conformity with the findings of Boateng (2025) who affirmed that societal stereotype is a contributing factor to low female enrolment in TVET programmes. These findings also corroborated with the findings of (Khan et al., 2017), which revealed that derogatory comments from the public that portray technical education as inferior is a factor that hinder female enrolment in technical education programmes. In other word, many societal and cultural framings, females are stereotyped and associated with child care. These cultural attitudes are prevalent in many developing countries including Nigeria and are as old as the society itself. They are difficult to break through even with today's access to information brought by communication devices such as satellite television and the World Wide Web. From the analysis of the data presented in Table 3, it indicated that the following governmental factors affect female participation in technical and vocational education and training (TVET) programme in ATBU. These factors include: poor implementation of educational policies, poor funding of TVET programmes, policy related factors, poor scholarship scheme for female TVET students and poor implementation of research findings in TVET programmes. This result is in tandem with the findings of Boateng (2025) who averred that insufficient institutional support and absence of government targeted intervention affect female enrolment in TVET. This result also concurred with the findings of (Muhwezi, et al., 2021; Agbara et al., 2018; Mason et al., 2018) who found that the nature of the curricula, institutional norms, unavailability and quality of educational resources discourage female students from pursuing TVET programmes. The educational implication of these findings is disturbing as the enrolment figure of women in TVET programme in Nigeria will continue to remain low if nothing serious is done as to change the orientation of all relevant stakeholders towards TVET programmes.

Conclusion

The findings underscore the importance of addressing gender disparities in TVET fields. Efforts to promote gender equality and provide equal opportunities for skill development and employment are crucial. Additionally, understanding the factors that contribute to low female enrolment in TVET is essential for developing targeted interventions to address these disparities.

Efforts to address the gender difference in agreement and to understand the factors affecting female enrolment to this disparity are crucial for promoting gender equality and inclusivity in the TVET. Policymakers and educators must come together to formulate TVET educational policies and regulations. This is essential for adequate policy formulation as well as the accurate implementations of the policies thereof.

It can be inferred that parental factors such as parental higher interest in boys' education over girls' education in TVET, Parental poor perceptions and negative attitude about the benefits of TVET programmes on female education among others affect female participation in technical and vocational education and training programme in ATBU. School factors such as lack of female technical teachers, poor relations practice by

administrator and lecturers of TVET department, among others affect female participation in technical and vocational education and training programme in ATBU. Finally, government factors such as poor implementation of educational policies, poor funding of TVET programmes, and poor scholarship scheme for female TVET students affect female participation in technical and vocational education and training programme in ATBU. All the relevant stakeholders must recognize the relevance of female enrolment in technical and vocational education in national development, adopt and adapt what works in developed nations. No amount of rhetoric (or fanciful slogan) would solve Nigeria's socio-political and economic problems. Thus, without a fundamental shift in values, beliefs and thinking, and without technological capability, Nigeria will continue to dream of becoming a 'Great Nation'.

Recommendations

Based on the foregoing, the following recommendations are made:

1. There should be attitudinal change on the part of parents towards the need to ensure female participation in technical and vocational education. This is achievable through public enlightenment and campaign.
2. The school should be flexible in the mode of selection and entry requirement by making admission softer for the female candidates.
3. The government should earmark a substantial amount of the annual budget to fund technical vocational education and training.

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