

Women's Accessibility to Public and Private
TVET Systems: A Case Study of District
Nowshera and Peshawar Khyber Pakhtunkhwa
(KP)



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PIDE2021FMPHILECO18

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Dedication

To myself and my Parents

ACKNOWLEDGEMENTS

First and foremost, I would like to thank Allah Almighty, the most gracious and merciful, for giving me the ability to complete this task. Without His favors, this accomplishment would have been beyond reach.

I am grateful to my thesis supervisor, Dr. Anjeela Khurram from PIDE for guiding and encouraging me throughout this research. I appreciate her patience and expertise.

I also want to reveal my deepest gratitude to my family and friends for their incredible support and encouragement throughout the process of working on this thesis. Their belief in me has been an everlasting source of creativity.

Furthermore, I would like to thank all my teachers who have played a crucial role throughout in my education. Their knowledge and advice have been irreplaceable; I am thankful for their influences.

Thank you all for your support.

Haseena Kamal

July, 2024

Abstract

This study examines the issues and prospects surrounding women's access to public and private Technical and Vocational Education and Training (TVET) systems in the districts of Nowshera and Peshawar in Khyber Pakhtunkhwa (KPK), Pakistan. The study indicates that societal and cultural norms, ignorance, inadequate facilities, and financial constraints are some of the major barriers that keep women from enrolling in TVET programs. Through a thorough analysis of a few selected institutions, such as the Government Polytechnic Institute (W) Peshawar and the Government Technical and Vocational centers in Gulbahar and Hayatabad, the study highlights the crucial role these institutions play in promoting technical education among women. The findings show that in order to promote women's TVET participation, targeted legislation, improved industry ties, funding, and infrastructure are all necessary. This study also provides suggestions for reducing these barriers and promoting women's socioeconomic advancement through expanded course selections and supportive settings in TVET institutions.

Keywords: Women's accessibility, TVET systems Nowshera and Peshawar Khyber Pakhtunkhwa, Technical Education, Vocational Training, Gender Equality, Cultural Barriers, socio-economic Development.

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List of abbreviation

AJK	Azad Jammu and Kashmir
CBT	Competency-Based Training
CTE	Career and Technical Education
DIT	Diploma in Information Technology
ECFDVT	European Center for The Development of Vocational Training
EU	European Union
FATA	Federally Administered Tribal Areas
FBTVET	Federal Board of Technical and Vocational Education and Training
G. B	Gilgit Baltistan
GTVC (W)	Government Technical and Vocational College for Women
ICT	Islamabad Capital Territory
IT	Information Technology
KPK	Khyber Pakhtunkhwa
NAVTEC	National Vocational and Technical Education Commission
NAV TTC	National Vocational & Technical Training Commission
NGOs	Non-Governmental Organization
NISTD	National Institute of Standards and Technology
PPDP	Private-Public Development Partnerships
RPL	Recognition of Prior Learning
TEVTA	Technical Education and Vocational Training Authority
TVET	Technical and Vocational Education and training
UNDP	United Nation Development Program
UNSECO	United Nations Educational Scientific and Cultural Organization
VET	Vocational Education and Training
WEE	Work Experience Education
WID	Women in Development

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Education represents an indispensable tool for fostering national development, standing at the core of a nation's socioeconomic and technological progress. It plays a pivotal role in driving a self-sustaining and self-propagating mechanism that brings about positive societal transformation. Ocho (2005) and Offorma (2009) characterizes education as the means through which individuals are molded into productive members of society, enabling young individuals to acquire knowledge, unlock their potential, and employ it for self-fulfillment. The significance of women's education and empowerment should not be underestimated, as it is often said that educating a man impacts an individual, but educating a woman has the potential to shape an entire nation.

Women in Khyber Pakhtunkhwa (KP), particularly in the districts of Nowshera and Peshawar, face significant barriers in accessing Technical and Vocational Education and Training (TVET) opportunities, which are crucial for their socio-economic empowerment. These barriers are deeply rooted in the socio-cultural fabric of the region, where strict gender norms and societal expectations restrict women's mobility and participation in education. Many families in these districts adhere to conservative cultural practices that discourage women from pursuing education outside their homes, especially in mixed-gender environments, further limiting their access to formal technical training.

In addition to cultural constraints, financial barriers present another significant hurdle. The cost of education, including fees, transportation, and other related expenses, is often too high for

many families in these districts. Women are disadvantaged as they are often perceived as less likely to contribute to the household income, leading families to prioritize educational spending on male members. The lack of financial aid or targeted scholarships for women exacerbates this problem, further reducing the opportunities available to them.

Institutional gaps also play a crucial role in limiting women's access to TVET in this region. Many TVET institutions in Nowshera and Peshawar lack the necessary infrastructure and resources to support female students. There is a shortage of women-only training centers and inadequate support services, such as counseling and job placement, tailored to the specific needs of women. Additionally, the available programs are often not aligned with the local job market, leaving women with limited employment opportunities even after completing their education.

1.2 National Vocational and Technical Education Commission and TVET

In 2005, the National Vocational and Technical Education Commission (NAVTEC) was established with the primary aim of providing guidance, setting policy direction, and fostering coordination among Technical and Vocational Education and Training (TVET) entities in Pakistan. Acknowledging the gravity and scale of the challenges, the Pakistani government responded in 2006 by instituting NAVTEC to facilitate, regulate, and guide policies on technical education and vocational training. It aims to address the need for a skilled workforce both at the national and international levels. NAVTEC was initially established as the foremost autonomous entity entrusted with overhauling and enhancing Pakistan's TVET sector. This decision was influenced by the global recognition of the significance of TVET and its potential role in a country's overall development.

However, TVET was considered of such high importance by the government that a national-level authority was established through a Cabinet Division notification, by passing the need for

a formal parliamentary act to confer it with national policy-making powers. This authority, though lacking a proper legal mandate, was tasked with the regulation and provision of guidelines to duly constituted bodies that derived their authority from specific statutes. The government views TVET education as essential in tackling unemployment, inequality, and poverty. The Department of Higher Education and Training [DHET, \(2012\)](#) supports this perspective, aligning with the view that TVET should equip learners with both vocational skills and broader life competencies Nash et al. in Lopez-Fogues, (2014). This comprehensive approach aims to prepare individuals for various aspects of life, beyond mere job skills necessary for economic prosperity and social advancement.

1.3 International Outlooks on TVET

In order to gain insights into TVET system, I delve into the existing literature regarding TVET across various countries. Technical and Vocational Education and Training (TVET) has the potential to exert a pivotal influence on both economic growth and sustainability. It possesses the capacity to boost productivity, enhance employability, elevate human capital, foster creativity, and attract investments, provided specific conditions are met, especially in developing nations such as Pakistan. TVET should place a high priority on producing skilled workers at all skill levels in the context of the contemporary economy. It should also continuously improve and elevate skill sets to meet the needs of developing industries, reduce unemployment, and lesson social exclusion and poverty. TVET is thought to be an effective technique for reducing unemployment, poverty, and social exclusion. This highlights how vocational training might help with more general socioeconomic problems.

Government in underdeveloped nations are increasingly using capacity building programs as a development strategy, such as Private-Public Development Partnerships (PPDP). These

initiatives seek to close gaps in the labor market and TVET while also increasing investment in the industry. The references to Private-Public Development Partnership alludes to cooperation between public and private organizations in order to improve the TVET system.

1.4 Women and Technical Education

The primary goal of Technical and Vocational Education, or TVET, is to provide students with the knowledge and skills they need for a particular job or career. It is frequently regarded as an alternative to more conventional educational paths, like college or university, and is designed to get students ready for a certain job or career. The reason and objectives of TVET must be examined, as they vary based on particular programs and the demands of the regional labor market. Generally speaking, though TVET seeks to fill any gaps in the labor market and give students the information and abilities they need to thrive in their chosen fields, for those who prefer a hands-on, direct approach to learning and who wish to begin their profession as soon as possible, this kind of education and training may be the greatest option

Technical and vocational education and training (TVET) is essential for societal and economic development because it promotes human capital expansion. Several studies have highlighted the importance of institutional frameworks for skill development in promoting economic success across distinct regions. According to Finch and Crunkilton (1999) mention this subject as education and training that prepares individuals for and makes them more productive in numerous economic fields.

The field of technical and vocational education has been developing globally from many years. Different terms like internship training, vocational education and training (VET), career and

technical education (CTE), and labor force education have been utilized to describe this type of education ([UNESCO, 2012](#)).¹

1.5 Importance of Technical Education for Women

Technical and vocational education and training is a crucial aspect of human development. (TVET). According to World Bank Report 2019 about 49.4 percent which is almost half of the population of Pakistan are women. According to Power (1999), promoting gender equality in education can boost economic growth by expanding the units of educated and skilled labor in the workforce. However, aside from empowering girls and women, gender equality in education also influences positively on macroeconomic and financial stability. Specifically, by using technology to give educational resources, training opportunities, and access to information can be a catalyst for empowering women. The necessity to modernize TVE in the current global economic environment to make it more responsive to the requirements of students and workers. It must also make provision for vocational training in the labor market as well as promotion of Lifelong Learning, to prepare its new generation for Sustainable Development. In addition, it is considered that training in entrepreneurial skills will enable workers to generate employment opportunities through the establishment of new businesses essential aspect of TVET.

Technical, Vocational Education and Training (TVET) aim to equip individual with the necessary skill on practical tasks, to enable them perform effectively. Wapmuk (2011) states that it encompasses the acquisition of competencies and skills which is essential for productive role in industrial and commercial occupations. Technical, Vocational Education and Training (TVET) have been widely acknowledge globally as mean of empowering people, providing them with the skills, knowledge and attitudes required for successful employment in specific

¹ <https://redined.educacion.gob.es/xmlui/handle/11162/118721>

Occupations. United Nations Educational Scientific and Cultural Organization [UNESCO \(2005\)](#) defined Technical Vocational Education and Training (TVET) as a comprehensive term which mention those aspects of the educational process including, in addition to general education, that encompasses the study of technologies and related to science, the procurement of knowledge, practical skills and attitude relating to occupations in different sectors of economic and social field.

- a) an integral part of general education;
- b) a means of preparing for occupational fields and for effective participation in the world of work;
- c) an aspect of lifelong learning and a preparation for responsible citizenship;
- d) an instrument for promoting environmentally sound sustainable development;
- e) a method of facilitating poverty alleviation

TVET is often perceived as an additional form of education, particularly for individuals who do not meet university admission requirements noted by Butler and Ferrier (2000); Leathwood (2006). Despite this common perception, TVET is crucial for integrating educational and occupational elements, which helps bridge the association between educational and the economy highlighted by Fogués (2014). This integration enhances the practical relevance of education and addresses the need of labor market by aligning skills with employment opportunities.

1.6 Research Gap

This study addresses the significant demand-supply gap in female participation in the labor force following graduation from Technical and Vocational Education and Training (TVET) institutions in Khyber Pakhtunkhwa, Pakistan. Previous research has largely focused on gender inequality in education but has not adequately explored the specific challenges women face in accessing

TVET and transitioning to the workforce. In Khyber Pakhtunkhwa, particularly in districts like Nowshera and Peshawar, societal and economic factors play a crucial role in shaping female labor force participation. Cultural restrictions, traditional gender roles, limited financial resources, and lack of institutional support continue to be major barriers. These challenges limit women's ability to leverage their technical skills for employment, perpetuating a cycle of low female workforce representation despite completing TVET programs.

Moreover, labor market studies in the region reveal that women's transition from education to employment is hampered by a mismatch between the skills provided by TVET institutions and market demand. This disconnect highlights the lack of demand-driven training and employment pathways that cater specifically to female graduates, which is critical for economic growth in the region. Furthermore, policy frameworks have been inadequate in addressing these systemic issues, with limited initiatives aimed at bridging the gap between female skills development and labor market absorption.

The objectives of this study have been realigned to explore these demand-supply linkages, focusing on how public and private TVET institutions address—or fail to address—the needs of female participants in transitioning to the workforce. Unlike previous studies that primarily concentrated on gender equality, donor impact, or general TVET evaluations, this research investigates specific barriers such as cultural norms, accessibility issues, and institutional inadequacies. It also explores the distinct roles of public and private TVET providers in promoting gender inclusivity and assesses the effectiveness of their programs in empowering women economically. By focusing on these aspects, the study aims to provide actionable insights for enhancing female labor force participation in the region, contributing to both local socio-economic development and broader gender equality goals.

1.7 Problem Statement

We know that people are generally more likely to make more money, the more years of schooling they have. There is also a big problem with credentialism. One of the most researched correlations in labor economics is that between an individual's salary rate and the number of years of schooling they have completed. By equipping adult and young women with technical skills and conceptual knowledge, TVET aims to improve their lives and enable them to have a positive impact on their communities. Women make up about 49.2% of the Pakistan population, yet they participate relatively little in TVET. Even, millions of educated women do not utilize their education because of various factors e.g. personal, religious, social and cultural norms and factors. This study aims to identify factors that hinder female's accessibility to TVETs, thus lowering their chances of participation in labor force.

1.8 Objective of the Research

- i. To assess the accessibility and inclusivity of females in public and private TVET in Nowshera and Peshawar to evaluate the effectiveness of TVET policies for promoting gender equality in TVET.

1.9 Research Questions

- i. What are the major challenges women face in accessing and participating in public and private TVET opportunities in Nowshera and Peshawar?
- ii. To what extent do government policies and initiatives support women's access to public and private TVET opportunities in Nowshera and Peshawar?

1.10 Significance of the Study

The investigation of women's participation and employability in the TVET industry is the special subject of this study. This study tries to ascertain the effect of TVET on local women's means of subsistence.

How they see the problems associated with women's participation in social life, employment, technical education, and other key concerns will be addressed in this study. What prevents women from advancing in TVET? What limitations did they experience and what kinds of possibilities they had allowed them to pursue their careers through Technical Education effectively?

1.11 Scheme of the Study

The scheme of the study outlines the structure of this thesis to provide a clear roadmap for readers. Chapter 2 presents a comprehensive review of the literature, highlighting existing studies on women's access to TVET systems and identifying research gaps. Chapter 3 introduces the theoretical framework that underpins the research, focusing on human capital theory and gender equity in education. Chapter 4 details the methodology used, including the research design, sampling technique, data collection methods, and analytical tools. Chapter 5 discusses the results, offering both quantitative and qualitative insights into the barriers women face in accessing TVET in Nowshera and Peshawar. Finally, Chapter 6 concludes the study by summarizing key findings, drawing conclusions, and providing recommendations for policy improvements to enhance women's accessibility to TVET in Khyber Pakhtunkhwa.

CHAPTER 2

TVET SECTORS

2.1 Pakistan Approves its first-ever TVET Policy

Currently, there are around 3,581 Public and private TVET institutes in Pakistan, enrolling 314,188 students who work throughout the nation and supply the labor force with technical skills. Technology colleges, polytechnic schools, and mono technic institutes are among them. Over 200 commercial training institutes offer business sector education in commerce. Vocational schools are also operational around the nation. There are over 1,000 private institutes offering TVET across the nation, according to a NISTD research. Authentic data on private TVET enrollment and graduation are unavailable. According to [NISTD \(2009\)](#), one million skilled workers are annually produced.

The Government of Pakistan approved the nation's inaugural policy for technical and vocational education and training (TVET) on May 22, 2018. This policy marks a strategic initiative to prioritize the development of employable skills among the youth, outlining the country's vision in this regard.

The national TVET policy Emphasis the need of creating chances and an environment that let youth engage in the economy of their nation. A structure for developing national standards that directs the policy's establishment of credentials. To put these requirements into practice, a competency-based training (CBT) approach delivery method will be employed.

One of its distinctive aspects is the policy support for the economy's unorganized sector. For those working in the informal sector, official accreditation can be obtained through the 'Recognition of Prior Learning' system.

The policy promotion of the unorganized sector of the economy is one of its unique features. Formal accreditation is obtainable for individuals in the informal sector through the ‘Recognition of Prior Learning’ (RPL) system. This act not only recognizes the abilities that are acquired through non-formal channels, but it also aligns them with national requirements.

The national TVET strategy places a strong emphasis on the private sectors pivotal role in establishing and growing the TVET industry. In addition, it provides a platform for young people to learn skills relevant to the labor market, improving their preparation for the workforce.

Recognizing the integral role of TVET in realizing the objective outlined in vision 2025, a key government policy for the country macroeconomic development, the policy positions TVET as a critical element. By imparting practical skills, TVET becomes a catalyst for empowering young individuals, significantly increasing their potential for securing meaningful employment.

Most importantly, the TVET Sector Support Program provided technical help for the creation of the national TVET policy. Since 2011, this program—which is supported by the European Union, the governments of Germany and Norway—has been actively assisting the Pakistani government in TVET system reform. The program's areas of concentration include governance, the creation of excellent human resources (trainees and trainers), and the building of connections between the public and commercial TVET domains. The dedication to thorough reform and improvement of Pakistan's TVET system is demonstrated by this cooperative endeavor.

2.2 Private TVET Sector

There are many private institutions offering technical or skills education generally for all and specifically some institution or only offer courses for women.

- i. Basic Education And Employable Skills Training Pakistan BEST Pak
- ii. Research And Awareness For Human Development Benefits And Rights RAHBAR

- iii. Khadim Welfare Society KWS
- iv. Education Health Social Awareness & Rehabilitation Foundation EHSAR
- v. Association For Rehabilitation Of The Physically Disabled ARPD
- vi. Anjuman Nawjawanan Charsadda ANC

Collectively 10,184 individuals have been graduated from all these in last 15 years by getting skill or technical education. In which about 45% are female. All these skilled individuals got employed by different sectors and some of them have started self-employment and a large part started small businesses. Through which provides opportunities for employment for some portion of society. According to the profile reports of this Private technical and vocational education and training (TVET) about 80-85 percent their graduates get more quickly as compare to government technical vocational education and training TVET institutions.

The data in table 1 below, when analyzed, shows that there are 445 Public and 489 private technical institutions in Pakistan, and 617 Public and 2,030 private vocational institutions. Of these, the technical institutions make up 26% of the total, and the skilled workforce they produce accounts for approximately 26% of this as well. The fact that only 11% of the institutions are private technical institutions highlights the need for improvement and focused attention in this area.

Based on a breakdown of institutions by province, Punjab has 1,196 total, of which 66% are private institutions. Though private technical colleges make up 51% of the total, they only contribute 18% of the skilled labor force, indicating a decline in the number of students enrolled in some trades. Private vocational schools account for 75% of all institutions in the same province and 43% of the skilled labor force. With the exception of Khyber Pakhtunkhwa, where private institutions make up 88% of the technical workforce, the trend is similar throughout other

federating units. But just 14% of the skilled labor force is made up of them, compared to 94% of the vocational workforce.

Table 2.1 Public and Private Institution in Pakistan

Province	Technical		Vocational		Grand Total
	Public	Private	Public	Private	
Pakistan	445	489	617	2030	3581
Punjab	337	325	283	872	1817
Sindh	65	121	127	276	589
Khyber Pakhtunkhwa	26	4	44	525	599
Baluchistan	2	10	34	81	127
GB	1	7	25	142	175
AJK	4	4	44	58	110
ICT	3	16	34	50	103
FATA	7	2	26	26	61

Source: Comparative Analysis of TVET Sector in Pakistan

The data analysis shown in the Table 2 below sheds light on how institutions are distributed by gender. The nation has, on average, 42% institutions dedicated to women, 40% institutions specifically for men, and 18% (mostly private) for both genders. In Punjab, the distribution of educational institutions is as follows: 36% are dominated by males, 44% by women, and 20% are coeducational. The distribution of educational institutions in Sindh is as follows: 32 institutions serve both genders, 32% are for men, and 36% are for women. At 71%, Khyber Pakhtunkhwa has a larger percentage of male institutions compared to 24% female institutions and 5% mixed institutions. In Baluchistan, the breakdown is as follows: 42% of institutions are run by men, 47% by women, and 11% by both genders. There is a suggestion that more coeducational institutions should be established in order to augment their role in human skill development and supply the market with a trained labor force.

The table below illustrates the different roles and duties that fall within the purview of the federal and provincial governments in a national Technical and Vocational Education and Training

(TVET) system. According to the applicable Acts, NAVTTC shall perform duties and responsibilities at the federal level that are comparable to those performed by Provincial TEVTAs in their provinces. The effectiveness of this position would be further enhanced by the establishment in Islamabad of a Federal Board of Technical and Vocational Education and Training (FBTVET) to supervise the examination and evaluation systems for the areas of ICT, G.B, and FATA.

Table 2.2 Distribution of Institutions by Gender

Province	Male	Female	Co-education	Total
Pakistan	1443	1497	644	3581
Punjab	662	793	362	1817
Sindh	190	210	189	589
Khyber Pakhtunkhwa	426	141	32	599
Baluchistan	53	60	14	127
GB	28	121	26	175
AJK	35	67	8	110
ICT	27	66	13	103
FATA	22	39	0	61

Source: Comparative Analysis of TVET Sector in Pakistan

2.3 Policy Context

On May 22, 2018, the National Technical and vocational training and Education [TVET Policy](#) was adopted by the federal cabinet. The first national strategy for technical and vocational education and training in Pakistan has been adopted by the government. It outlines the goals of the nation in terms of providing young with employable skills. This strategy gives the private sector a leading role in promoting the TVET sector while also giving young people a platform to acquire skills in line with market need and prepare for the workforce. Investing funds to establish TVET institutional frameworks that will enhance the development of women's human

capital. to assess the obstacles and challenges facing women in the TVET industry. Therefore, policy changes that support women's empowerment via TVET and help them become independent in a society dominated by males will be implemented.

Table 2.3 Role of Federal and Provincial in the Implementation Measures

	Provincial role	Federal role
Policy	<ul style="list-style-type: none"> • Identification of issues and inputs to national policy • Responsible for jurisdiction based policy, plus application of national policy within provincial economic contexts and priorities 	<ul style="list-style-type: none"> • National leadership and primary location policy determination • Identify national priorities • Ensure policy agreed with and applicable to provinces
Regulation	<ul style="list-style-type: none"> • Provide input into national standards and share authorization of those standards • Apply standards to their own jurisdiction using institutions with delegated national regulatory authority • Collaborate with national body to audit compliance and performance of bodies with delegated regulatory responsibility 	<ul style="list-style-type: none"> • Development of national standards with input from all stakeholders • Application of standards nationally overseen • Delegation of most regulatory activity to provinces under agreed conditions • Responsible for maintaining quality and national consistency through audits in collaboration with provinces
Funding	<ul style="list-style-type: none"> • Determine budget and fund regulatory bodies and publicly owned TVET organizations (e.g. Institutes) within their jurisdiction • Fund agreed national priorities with support from federal government, plus province specific funding of local priority areas 	<ul style="list-style-type: none"> • Determine budget and fund national and federal organizations. Advocacy for increased budget allocations. • Identify and agree national priorities in conjunction with stakeholders, plus determine budget and fund national priorities
Delivery	<ul style="list-style-type: none"> • Responsible for application of TVET standards both under national delegation and through owned institutes • Contract third-party private training organizations to provide training 	<ul style="list-style-type: none"> • Responsible for direct application of standards for TVET in federal jurisdiction. Delivery of training through federally owned institutes • Operation of some services to support development of national TVET system

CHAPTER 3

LITERATURE REVIEW

According to Hashaam and Yasmeen (2022), the 1970s saw the emergence of awareness and acceptance of female education in general and female higher education in particular. It has been shown that educating women can influence society and play an important role in women's empowerment and consequently socioeconomic progress. A new term, WID (Women in Development), was introduced. Do women also benefit from educated people making more money than those without education? Empirical research on women's education has shown that education for women has several positive economic and social effects, including raising wages. Women's education is a crucial tool for developing self-respect, awareness, empowerment, and a higher standard of living.

In a descriptive study concentrating on Baluchistan, Ahmed, Shakeel et al. (2021) evaluated the impact of TVET institutes on women's socioeconomic upliftment. Using a sample of 178 TVET-qualified women selected through a three-stage stratified sampling technique, the study discovered that institutional frameworks, skill requirements, and personal background all have a substantial impact on women's socioeconomic development in the region. The findings indicate that investing in TVET institutional frameworks is critical to increasing women's human capital. Additionally, to raise their standards of living, TVET policies must be in line with the restrictive social/tribal institutional setups in both rural and urban Baluchistan.

Rahman (2021) stated that in Bangladesh, where women make up nearly half of the population (49.4%, according to WB, 2019), it is crucial to make sure their active involvement in both the

white collar and blue-collar job sectors if Bangladesh is to meet its goal of leaving the Least Developed Countries category by 2024. Data show that English plays a significant role in the TVET sector, even though English is not being treated well in institutes. It is a prerequisite for anyone, regardless of gender, who wants better access to higher education and better career opportunities; however, in the case of women, knowing English can be particularly advantageous as women face different types of challenges due to their gender. The report concludes with a list of recommendations for where English should be taught, how to empower women, how to reduce the gender gap in technical and vocational education, and how to increase employability.

The study conducted by Shabiralyani, Malik et al. (2015) investigates the causes of Pakistan's rural areas' predilection for TVET and the findings suggested that the preference for technical vocational education in Pakistan is a result of professionals' and students' happiness with how poverty alleviation, work satisfaction, pieces of training and courses, and institute skill standards have changed their living standards.

According to Calvert and Al-Shetaiwi (2002), the importance of various elements was determined by a poll of private sector business managers in four major cities as part of a comprehensive study on the factors impacting women's employment in the Saudi private sector. The managers believed that the structure of TEVT education in Saudi Arabia, rather than female preferences or social constraints, was the primary factor determining the employment of women in technical and vocational education.

Technology involves the systematic exploration of scientific knowledge and the utilization of scientific methodologies to address practical challenges in industry. Its primary objective is to produce goods and services as well as materials, for the benefit of humanity. According to Ezeji

(2011), it's a process of using techniques, equipment, technical know-how, machines, and system to address problems involving people.

Kazmi (2007) conducted a study that evaluated how TVET education in Pakistan contributes to skill development, capital accumulation, and the improvement of human capital. The study conclusion, which indicate a positive correlation between these factor and the labor market, emphasized the significance of TVET for the country.

Mustafa, Abbas et al. (2005) evaluated the correlation between the vocational and total economic production indexes. A number of variables were included in these indicators, including the existence of training facilities, student enrollment rates, and the quantity of instructors working in these facilities. Significant correlations were found in their study's results between these features of vocational training and variations in the growth of the nation's economic output.

In Rus, Yasin et al. (2015)'s study, they put forth a grounded theory that clarifies the goal of vocational and technical training, to provide students with the skills they need to find jobs quickly. According to their idea, this process entails moving through the following five stages: Entry, Acceptance, Adoption, Transformation, and Attainment of Job-Relevant skills.

Oyebolu and Lemo (2013) claim that by providing the required knowledge, skills, and attitudes, technical and vocational education prepares people for employment options.

According to Chukwuedo and Omofonmwan (2015), TVET programs are essential in producing skilled workers who are suited to the demands of the labor market, which helps achieve sustainable industrial and technical advancement.

Mayombe and Lombard (2015) expounded on the interconnectedness of training program objectives, the financial resources of training institutions, the judicious selection of trainees,

assessments of training needs, and the conducive environment for skill acquisition, culminating in successful employment outcomes.

Cooke (2004) conducted an investigation into the relationships between earnings in Germany, specifically analyzing the income of vocational labor in comparison to other types of labor. The study employed panel data spanning from 1984 to 1997. It was observed that the wage gap between female and male labor was narrower. Furthermore, the results revealed positive correlations between education, vocational training, and earnings for both young labor groups. Additionally, the findings supported the notion that individuals with a combination of general education and vocational training earned more than those with similar training but lower levels of education. These findings underscore the significance of both general education and vocational training in enhancing productivity and income.

It is probable that Pavlova (2014) recorded that programs for TVET significantly improve worker productivity, earnings, and employment opportunities.

TVET is one of the great way to help adults and young people become independent and self-sufficient. Furthermore, TVET collaborates in the areas of developing skills, reducing the likelihood that skills will become obsolete, and boosting resilience in the face of excessive employment turnover, as pointed out by Okolocha (2012).

Vocational Education and Training holds a crucial role in alleviating poverty within society and furnishing individuals with the necessary skills for employability, as highlighted by Powell (2012).

Considering the viewpoint of human development, TVET should encompass more than just securing employment and income; it should also encompass enhancing the overall worth of human life, as emphasized by McGrath and Powell (2016).

The Study conducted by Sheena and Naresh (2017) and Cho, Kalomba et al. (2015) investigate how entrepreneurship and vocational education contribute to improving skills and assess its impact on various levels of women empowerment.

Shioyama (2020) stated that the finding indicate that women's empowerment through Work Experience Education (WEE) at the secondary school level is impacted by access to resources, job opportunities, and the development of decision-making skills. WEE plays a significant role in influencing women empowerment.

Chinen, De Hoop et al. (2017) emphasized on the significant impact of vocational and business training programs in boosting women's participation in labor force, income level, self-employment, sales, profits, and overall economic empowerment. The Study also revealed that incorporating life skills training can further enhance the effects of vocational education. Furthermore, gender-based challenges such as societal norms, limited mobility of women, and traditional gender roles, access to childcare facilities and transportation allowances can contribute to women's empowerment.

According to Pal and Gupta (2023) assessed the influence of personal and household attributes, as well as social, and economic factor and ownership paperwork on accessing credit, and its effect on social & psychological empowerment and economic empowerment of women, ultimately leading to sustainable women empowerment.

In the study conducted by Coleman (2017) argues that proficiency in regional languages and the ability to speak multiple languages in social setting play a crucial part in the economic growth on national scale.

Traditionally, Women have been limited access to and participation in science and engineering studies. In the south African perspective, there has been a rise in the enrollment of post-school engineering studies at Technical and Vocational Education and Training (TVET) institutions. Despite this, the proportion off female students still remain low, the women tend to focus in business related studies as reported by Education and Training (2014).

According to Fisher, Jaff et al. (2003) argue that the primary responsibility of TVET colleges' offer intermediate level skills, consequently causative to the growth of the economy. Emphasize that TVET colleges play a key role in providing intermediate-level skills that contribute to economic growth. Moreover, these institutions are instrumental in addressing social disparities, particularly those stemming from apartheid era, by offering skills and training to underprivileged individuals and communities DHET, (2012).

Another role of TVET education is to deliver entrepreneurship training for the informal sector; and it is also perceived as a second opportunity to access higher education by McGrath and Badroodien (2006).

Throughout history, TVET has been established based on the advancement of industrialization and economic growth; As a result, its policies have frequently been informed by economic and justice viewpoints ([UNESCO, 2012](#))².

² <https://hrdcsa.org.za/wp-content/uploads/news-downloads/2017/TVET%20Colleges%20PURPOSE%20in%20a%20Developmental%20State%20PAPER%20Version%2014%20-%2015%20August.pdf>

The difficulties lies in the fact that, keeping conventional approaches, like human capital theory, leads to hold deeply rooted societal inequities, perpetuate the helplessness and the marginalization of specific groups of people in society, rather than intense the challenges reminiscent of apartheid as explained by Karodia (2014).

Sears (2003) conducted a study suggesting that human capital theory, which serves as the basis for skills information, has not been successful. He argues that an alternative theory essential to be developed. Baatjes, Baduza et al. (2014) conducted a study and conclude that the common trust that increased the education and skills acquisitions will lead to whole development in poor countries remains unfulfilled.

The history of TVET in the United States and the United Kingdom, shows that this training primarily targeted black working class men and women by Hyland and Musson (2001).

Atkins, Flint et al. (2011) conducted a study focusing on the perspectives of adult individuals enrolled in TVET institutions in England. They highlighted the lack of extensive research on students' experiences and viewpoints in this field. Their findings indicate that TVET is seen as a potential pathway for employment, offering opportunities to make valuable contributions to communities Atkins, Flint et al. (2011).

The European center for the Development of Vocational Training (ECFDVT) has significantly contributed to the literature on European TVET. In European Union (EU), TVET is closely linked to skills provision and economic growth by Fogués (2014). This connection underscores the importance of TVET in fostering economic development and meeting the evolving demands of the labor market.

The employment opportunities associated with TVET in India are low paying jobs, as Agrawal (2012) suggests, 'TVET serves as educational option for the poor and educationally marginalized communities who are unable to get admission in higher education. One of major difficulties for graduates is inability secure a job after completing a TVET program. Agrawal (2012) states that employers shows a preferences high school graduates and individuals with higher education qualifications over graduates of TVET program.

A Report by Dar (2008) from the World Bank revealed that in India, as many as 60% of TVET graduates remained unemployed for the three years after completing TVET graduation. Furthermore, Agrawal (2012) and Government of India (2010) highlight the fact that female TVET graduates experiences significantly higher unemployment rates compared to overall unemployment rates. These gender inequality highlight significant problems that persist within the skill development sector in the India.

Theoretical framework

This study aims to identify factors that hindering female's accessibility to Public and Private TVET institutes, thus lowering their chances of participation in labor force. There is a problem of credentialism. They participate relatively little in TVET. Even, millions of educated women but do not utilize their education because of various factors e.g. personal, religious, social and cultural norms and factors. By equipping adult and young women with technical skills and conceptual knowledge, TVET aims to improve their lives and enable them to have a positive impact on their communities. All these three theories support the women to get Technical and vocational education for career, personal development. And their capabilities to enhance the skill and institutional and governmental structures and policies affect the women access to TVET institute

1. Human Capital Theory:

This idea holds that people can improve their career prospects and financial results by investing in their education and training. It can be used in the context of this study to comprehend the ways in which women's economic empowerment and the development of their human capital are facilitated by their access to TVET.

2. Capability Approach:

The second strategy is the capability approach, which was created by Amartya Sen and Martha Nussbaum and emphasizes people's freedom and capacities to pursue meaningful lives. Regarding this study, it can be applied to evaluate the skills that women acquire via Technical and Vocational Education and Training (TVET) and the ways in which these skills enhance their general well-being.

3. Institutional Theory:

This theory investigates how both official and informal institution affect people's conduct. By identifying potential obstacles and opportunities within the educational systems, it can be used to examine how institutional structures and policies affect women's access to TVET.

CHAPTER 4

PROPOSED METHODOLOGY

The present chapter encompasses the research design, strategy, analytical methods, data gathering approach, UDCs, and sampling procedure employed in the investigation. The accessibility of women to public and private TVET institutions was investigated using a mixed-methods approach. This approach allowed the researcher to compare and define their significant differences or association. The quantitative approach gave statistical evidence, while the qualitative approach gave a better understanding of variables. It also gained intuition to the research questions and objectives by conducting qualitative and quantitative analysis.

4.1 Research strategy

To study the women Accessibility to public and private TVET system mixed method research strategy were used for the analysis. This approach includes both quantitative and qualitative research approach. A survey for quantitative research was conducted through a questionnaire from currently enrolled females of vocational program from GTVC and IT program from Private institute which includes information about challenges, financial barrier, support by institutes, TVET impact on empowerment, perception and awareness, and satisfaction. And for qualitative research interviews were conducted with TVET instructors and head of institute to analyze the women accessibility. The mixed method approach was employed in this research which provides valuable information about women accessibility of both types of institutes.

4.2 Research Design

The research design implemented in this study is cross-sectional data. Data was collected from selected private and public TVET institute. This approach gives a complete picture of the current

situation within the public and private TVET institute in Peshawar and Nowshera. Offering valuable insights into the differences and association between the two sectors enabled a full exploration of the research topic and facilitated a deep investigation of the relationships between variables.

4.3 Data Collection Method

A survey questionnaire has been adopted from the past studies which have been conducted previously in the context of accessibility for women (Please see Appendix A). I have adopted the questions to make them comprehensible for majority of the population to respond. I conducted pilot survey to check the validity of questions in questionnaire. The survey was used to collect data from the current enrolled and past graduate female students of the public and private TVET institutions. TVET graduates (current and past), TVET Officials, TVET Regulatory Authorities. Structured interviews were used to gather data for the qualitative analysis. Participants are able to respond with great detail and context when using this strategy. For further Analysis, the audio recordings of the interviews were taken and verbatim transcribed. To assess women's access to public and private TVET institutes, interviews were undertaken with instructors and heads of institutes.

4.4 Units of data collection

For this research, data collected from females, heads of institutes and instructors of Public and private TVET institute in Nowshera and Peshawar. Instrument used for all these UDCs are Questionnaire for Female students and Structured interview taken from Head of institutes and Instructors.

1. GTVC (W) Nowshera

2. GTVC (W) Jehangira
3. Pakistan Degree College of Commerce and Information Technology Nowshera
4. Cambridge Institute of Information Technology Nowshera
5. Government Technical & Vocational Centre (W) Gulbahar Peshawar
6. Government Technical & Vocational Centre (W) Hayatabad Peshawar
7. Frontier Institute of Technology Peshawar
8. Comtech Institute Peshawar

4.5 Sampling technique

The study employs a targeted sampling technique to ensure that the sample accurately represents the population under investigation, specifically focusing on female graduates of public and private Technical and Vocational Education and Training (TVET) institutions in Nowshera and Peshawar, Khyber Pakhtunkhwa. This sampling method was selected to capture the experiences of a specific group—women who have graduated from TVETs and are navigating accessibility and employability challenges in the local labor market. The sampling framework includes both direct and indirect stakeholders in the TVET sector, such as institutional administrators, policy advocates, and employers, to provide a comprehensive view of the barriers and facilitators impacting women’s transitions from education to employment.

The sampling criteria required participants to be recent female graduates from TVET institutions within the designated districts, ensuring a relevant and focused dataset. This targeted approach is appropriate because it allows for in-depth analysis of issues pertinent to this group, such as cultural constraints, institutional barriers, and market demand alignment. The study’s sample size was determined based on the availability of records from TVET institutions and the feasibility of conducting in-person visits for data collection. By directly contacting these

institutions and verifying participant eligibility, the sampling process maintains rigor and relevance to the research objectives.

This approach ensures representativeness within the specific context of female TVET graduates in Khyber Pakhtunkhwa, capturing a nuanced understanding of their challenges in accessing vocational training and employment opportunities. The targeted sampling technique is justified due to the study's aim to investigate a particular demographic, which would not be possible through random or stratified sampling. This framework thus aligns with the research goals by enabling the collection of data specific to female accessibility and employability, providing meaningful insights into the effectiveness of TVET programs in addressing gender disparities in the workforce.

4.6 Analytical techniques

The chi-square test, likelihood ratio, and one-way ANOVA statistical procedures will be used to analyze the gathered data. The Stata software has been used for data analyzation.

ANOVA Models

The statistical significance of the correlation between a qualitative or dummy regressor is evaluated using ANOVA models. Compared to the t-test, which can only be used to compare the means of two groups or categories, they are more widely used to compare the variations in the mean values of two or more groups or categories, making them more generic (Gujarati 2022).

Chi-square tests (χ^2)

One may do chi-square (χ^2) tests on the actual numbers of occurrences rather than on percentages, proportions, observation means, or other derived statistics.

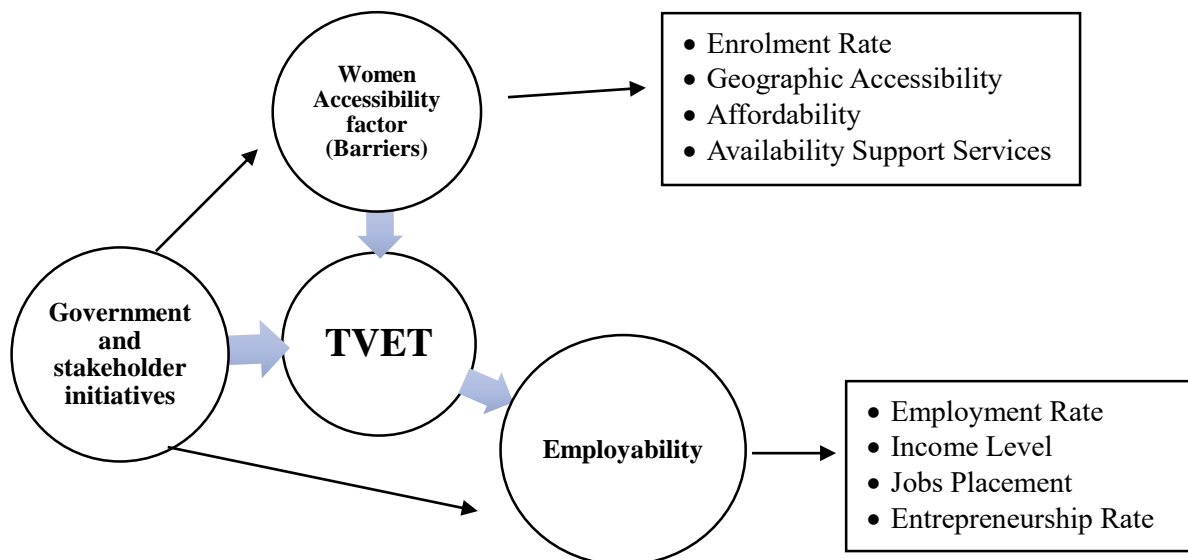
Likelihood-Ratio Test

The likelihood-ratio test is a statistical technique that evaluates the quality of fit of two competing statistical models, one derived by maximizing across the whole parameter space and the other found after imposing a restriction, by comparing their likelihood ratios. The two likelihoods should not differ by more than sampling error if the observed data support the constraint or the null hypothesis. To determine if this ratio is statistically distinct from one or, conversely, whether its natural logarithm is significantly different from zero, the likelihood-ratio test is used (Yousefy and Baratali 2011).

4.7 Locales

Nowshehra and Peshawar compare the state of women inclusivity in the developed and under developed regions, specifically targeted in government and stakeholder initiatives to improve the living standard of women in these areas.

Figure 4.1 Conceptual framework



Government Initiatives:

1. Budget allocations for TVET programs.
2. Implementation of policies supporting TVET.
3. Establishment of partnerships between government agencies and industry.
4. Launch of skill development programs targeting specific sectors.

Stakeholder Engagement:

1. Employers' involvement in curriculum development and apprenticeship schemes.
2. Employers' and students' satisfaction with TVET programs
3. The cooperation of community organizations and TVET institutions to provide outreach and support services.
4. Integration of feedback of mechanisms for continuous improvement.

4.8 General Equation Model

Women Accessibility

$$\begin{aligned} &= \beta_0 + \beta_1 \textit{perception \& Awareness} + \beta_2 \textit{Satisfaction \& support} \\ &+ \beta_3 \textit{Future Aspiration} + \beta_4 \textit{Impact of TVET on Empowerment} \\ &+ \beta_5 \textit{Public \& Private comparison} + \varepsilon_i \end{aligned}$$

Women accessibility is a Dependent Dummy Variable which represent the women Accessibility barriers to public and private TVET institute.

Perception and Awareness is an independent variable which measures the level of Awareness of TVET program in both districts for women.

Satisfaction and support is dummy independent variable that indicate whether they are satisfied with the support provided by institution and quality of education in TVET program.

Future Aspiration is an independent variable that indicates the career ambition and employment opportunities after completing TVET program.

Impact of TVET on empowerment is an independent variable that represents the TVET program impact on personal development and changes in societal perceptions toward women in TVET program.

Public and Private Comparison is an independent variable that compared the level of the accessibility to public and private TVET program for women.

All the quantitative variable measurements mentioned above are measured numerically such as with questionnaire and analytical techniques that produce measurable outcome. Qualitative measurement used descriptive data such as interviews and transcribed verbatim that themes provide insights into the variable.

4.9 Variable Selection

To align with the research objectives, this study focuses on variables that directly impact or are influenced by female participation in Technical and Vocational Education and Training (TVET) and subsequent employment outcomes. The variables were refined to ensure specificity and relevance to the central research question, examining the barriers and enablers affecting women's access to and success in TVET programs in Nowshera and Peshawar, Khyber Pakhtunkhwa.

The primary variables selected for analysis include:

- i. **Access to TVET Programs:** These variable measures the availability and accessibility of TVET programs for women, considering factors such as distance to institutions, enrollment processes, and admission policies. It is critical for understanding the logistical and administrative challenges women face in accessing vocational education.
- ii. **Cultural Constraints:** This variable assesses the societal and cultural norms that influence women's participation in TVET. It includes aspects such as family support, societal expectations, and traditional gender roles that may hinder or support female engagement in vocational training. This variable is essential in exploring the socio-cultural barriers that impact women's choices and opportunities in technical education.
- iii. **Financial Resources and Support:** This variable examines the financial aspects related to women's participation in TVET, including tuition fees, availability of scholarships, and family financial support. Financial constraints are a key determinant in access to education, especially for low-income families, and are directly relevant to understanding economic barriers to TVET.
- iv. **Institutional Support and Infrastructure:** This variable focuses on the quality and adequacy of institutional facilities, resources, and support services available to female students in

TVET institutions. It covers aspects such as mentorship, counseling, and gender-sensitive facilities, which are important for creating an enabling environment for women's education and skill development.

- v. **Employability and Job Placement Services:** This variable explores the extent to which TVET programs provide job placement assistance, internship opportunities, and career guidance. It is directly linked to post-graduation employment outcomes, assessing how well TVET institutions prepare female graduates for the labor market and connect them with employment opportunities.
- vi. **Policy and Regulatory Environment:** This variable evaluates the influence of government policies and regulations on female participation in TVET, including any targeted initiatives, gender quotas, or incentives. Policy support can play a significant role in shaping TVET access and outcomes, making it relevant to the study's goal of assessing structural factors impacting female participation.

Each of these variables is defined clearly to ensure alignment with the research question. By focusing on these specific variables, the study aims to provide an in-depth analysis of the factors that directly affect or are affected by female participation in TVET and subsequent employment. This approach avoids overly broad categories and ensures that each variable is meaningful and relevant to understanding the unique challenges and opportunities for women in the TVET sector in Khyber Pakhtunkhwa.

4.10 Methodology Justification

The robustness of the research question is enhanced through a carefully selected methodology that includes an appropriate sampling technique, qualitative data collection, and analysis methods. Given the study's focus on understanding the barriers and enablers affecting female

participation in Technical and Vocational Education and Training (TVET) and subsequent employment, a qualitative approach is ideal. This methodology enables an in-depth exploration of complex social and cultural dynamics that are not easily captured through quantitative methods.

A targeted sampling technique was chosen to ensure that the sample reflects individuals with direct experience and insights relevant to the research objectives, specifically female graduates from TVET institutions in Nowshera and Peshawar, Khyber Pakhtunkhwa. This purposive sampling method allows for a focused selection of participants who can provide valuable perspectives on gender-related challenges within TVET and the labor market. By concentrating on a specific population, the study can delve into nuanced details that might be overlooked in a broader sampling approach.

Qualitative data collection methods, such as in-depth interviews and focus group discussions, were employed to capture the lived experiences and perceptions of female TVET graduates. These methods are well-suited to the research goals, as they allow participants to openly discuss sensitive issues, including cultural constraints, financial barriers, and institutional support, which may affect their educational and career trajectories. Interviews offer a platform for individual stories and reflections, while focus groups facilitate a collective discussion that can reveal shared experiences and differing viewpoints within the group.

Qualitative analysis is particularly suitable for this study because it enables a comprehensive understanding of gender-specific challenges in the context of TVET. Thematic analysis was used to identify patterns and themes within the data, providing a structured approach to interpreting qualitative insights. This method aligns with the research question by highlighting the social, economic, and policy-related factors that impact women's participation in TVET and subsequent

employment opportunities. Through qualitative analysis, the study can uncover underlying reasons and motivations, as well as the subtle, context-dependent factors influencing women's experiences in TVET.

In conclusion, the combination of targeted sampling, qualitative data collection, and thematic analysis aligns well with the study's objectives, enabling the capture of rich, detailed insights into gender-related issues in TVET. This methodology complements the research question by offering a deeper understanding of the complexities surrounding female participation in vocational training and the labor market, contributing valuable perspectives that quantitative methods alone could not provide.

CHAPTER 5

RESULTS AND DISCUSSION

This chapter describes the findings and discussion of this research. The data were collected in two parts. In the first part, data were collected from currently enrolled student in vocational and technical education from public and private TVET institutes through a well-defined questionnaire. In the second part, structured interviews were conducted with TVET instructor and Head of institutes to compare the women accessibility in vocational education to Public and Private TVET institutes. The interviews were audio recorded and transcribed verbatim for Analysis. And adopting the structured interview method for enabling participant to gives the rich information and detailed discussion. The analysis of this study gives brief information on the women accessibility to public and private TVET institute.

5.1 Quantitative Analysis

5.1.1 Women's accessibility to Public and Private TVET institute

5.1.1.1 Cross Tabulation of Suggestion for Improvement Govt Private Sector Support for Women

Table 5.1 presents a cross-tabulation of suggestions for improvement against the government and private sector support for women. It showcases various categories (from 0 to 16) and their frequency of responses across different support levels (0 to 15).

Interpretation:

1. NA

NA responses indicated no support from the government or private sector (column 0).

No responses indicated any form of support from the government or private sector.

2. Awareness

This category received 15 responses for support level industry linkages, 16 for support level Awareness, 8 for support levels improvement in AI and Financial Support, and 7 for support level Transport, making a total of 54 responses.

3. Scholarships and societal perception

There were 8 responses for support level Technology, with no other support levels receiving any responses in this category.

4. Facilities

This category shows that 8 responses indicated support levels Jobs, Funds, financial support, Nearest institute, totaling 32 responses.

5. Categories 4 to 16

Each category received specific numbers of responses across various support levels, with some categories Transport, Funds, financial support, Technology, having responses concentrated in certain support levels.

6. Total Responses

The total number of responses across all categories and support levels is 200.

The chi-squared test statistic is 2014.66, with a p-value of 0.0000, indicating a significant association between suggestions for improvement and the level of support from the government and private sector.

The chi-square test was used to determine the relationship between women's accessibility to TVET programs and various socio-cultural and financial barriers in Nowshera and Peshawar. The test results indicated a statistically significant association between key variables, such as financial constraints and cultural restrictions, and women's participation in TVET. A p-value of less than 0.05 for the chi-square test suggests that the barriers women face are not occurring by chance but are strongly correlated with specific socio-economic factors in the region.

For example, the test revealed that financial barriers, such as high costs of enrollment and lack of transportation support, are significantly related to the low participation rate of women in TVET. Similarly, cultural norms and societal expectations that limit women's mobility were shown to have a significant impact on their ability to enroll in and complete TVET programs. These results highlight the importance of addressing these barriers to improve women's access to education. The chi-square test confirms that targeted interventions in these areas are necessary to increase female participation in TVET and foster socio-economic development in Khyber Pakhtunkhwa.

Table 5.1 Cross tabulation of Suggestion for improvement Government and private sector support for women

Suggestion for Improvement	Govt & Private Sector Support for Women																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	NA	Industrial Linkages	Connect with NGOs	Jobs	Funds	awareness	Improve AI	equipment	financial support	Support services	Technology	transport	TVE courses	Nearest institute	Support & facilities	specific section	Total
0	NA	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1	Awareness	0	15	0	0	0	16	8	0	8	0	0	7	0	0	0	54
2	Scholarships & societal perception	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	
3	Facilities	0	0	0	8	8	0	0	8	0	0	0	0	8	0	0	32
4	Transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
5	Staff	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
6	Online classes	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
7	Other than beautician courses	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
8	Feasible environment & area	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
9	Family support	0	0	0	0	0	0	0	0	7	0	0	0	1	0	0	8
10	More levels in beautician	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8
11	Economically	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
12	District wise accessibility to women	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
13	Financial Support	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
14	Internet & electricity	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
15	Scholarships and transport	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
16	best for women	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
	Total	7	15	24	30	17	16	8	7	16	7	8	15	7	9	7	200
	Pearson Chi2 = 2014.66 Prob = 0.0000																

5.1.1.2 Regression results on Current Enrollment

The table 5.2 shows regression results analyzing the impact of various factors on current enrollment.

Interpretation:

Coefficients:

Each row corresponds to a variable impacting current enrollment, but the coefficients and other statistics are not provided, making it challenging to interpret specific impacts.

Model Fit:

The mean dependent variable is 1.000, and the standard deviation is 0.000, suggesting a lack of variability in the dependent variable.

R-squared and F-test statistics are not available, limiting the evaluation of model fit.

Table 5.2 Regression results on Current Enrollment

Current Enrollment	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Public & Private T~	0	-	-	-	-	-
1 Public	0	-	-	-	-	-
Commute to TVET in~e	0	-	-	-	-	-
1 Public	0	-	-	-	-	-
2 Private	0	-	-	-	-	-
challenges in acc~r	0	-	-	-	-	-
1 yes	0	-	-	-	-	-
Specify Challenges~0	0	-	-	-	-	-
1 satisfied	0	-	-	-	-	-
2 Affordability	0	-	-	-	-	-
3 family issue	0	-	-	-	-	-
4 Geographic accessibility	0	-	-	-	-	-
5 Availability Support Services	0	-	-	-	-	-
6 Geographic Accessibility, Affordability, Availability Support Services	0	-	-	-	-	-
Constant	1	-	-	-	-	-
Mean dependent var		1.000	SD dependent var			0.000
R-squared			Number of obs			200
F-test			Prob > F			.

* $p < .01$, $p < .05$, * $p < .1$

5.1.1.3 Regression results on Financial Barrier

The table 5.3 presents regression results for the impact of various factors on financial barriers.

Interpretation

Cultural Factors

Permission, Male dominancy, and Societal Problem significantly impact financial barriers, with positive coefficients indicating an increase in financial barriers as these cultural factors rise.

Source of Availability

Mixed impacts on financial barriers are observed, with some sources increasing barriers (e.g. Cousin, College, Locality) and others decreasing them (e.g. Neighbors, job requirement, Relatives, Newspaper).

Awareness Levels

Agree, Neutral, Strongly Disagree, and Disagree, significantly reduce financial barriers, as indicated by the negative coefficients.

Model Fit

The mean dependent variable is 0.420 with a standard deviation of 0.495.

The R-squared value of 0.860 indicates a high proportion of variance in financial barriers explained by the model.

The F-test statistic of 55.147 ($p < 0.000$) suggests the model is statistically significant.

Table 5.3 Regression results on Financial Barrier

Financial Barrier	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cultural Factor :	0	-	-	-	-	-	
~0 No impact							
1 permission	.379	.041	9.29	0	.298	.459	*
2 Male dominancy	.687	.153	4.47	0	.384	.989	*
3 Societal Problem	1.217	.086	14.07	0	1.046	1.387	*
Source of	0	-	-	-	-	-	
Availabi~0 No							
1 Neighbors	-.347	.135	-2.57	.011	-.614	-.08	
2 Job Requirement	-.361	.153	-2.35	.02	-.663	-.058	
3 Cousin	1.236	.154	8.05	0	.933	1.539	*
4 Friends	.009	.126	0.07	.945	-.239	.256	
5 family	0	-	-	-	-	-	
6 relatives	-.692	.157	-4.40	0	-1.003	-.382	*
7 college	.664	.181	3.68	0	.307	1.02	*
8 newspaper	-.313	.153	-2.04	.043	-.616	-.011	
9 locality	.761	.135	5.63	0	.494	1.027	*
10 Advertisement	-.183	.118	-1.54	.124	-.416	.051	
11 Computer	.664	.179	3.71	0	.311	1.016	*
course							
12 inspire from	.664	.177	3.75	0	.314	1.013	*
others							
13 Learning	.043	.175	0.24	.808	-.303	.389	
Awareness Level :	0	-	-	-	-	-	
~1 strongly Agree							
2 Agree	-1.04	.105	-9.87	0	-1.248	-.832	*
3 Neutral	-.846	.116	-7.31	0	-1.075	-.618	*
4 Strongly	-.49	.09	-5.47	0	-.667	-.313	*
disagree							
5 Disagree	-.621	.109	-5.71	0	-.836	-.406	*
Mean dependent var		0.420	SD dependent var				0.495
R-squared		0.860	Number of obs				200
F-test		55.147	Prob > F				0.000
Akaike crit. (AIC)		-66.620	Bayesian crit. (BIC)				2.645

* $p < .01$, $p < .05$, * $p < .1$

5.1.1.4 Regression results on Support by TVET Institutions

The table 5.4 highlights regression results for the support provided by TVET institutions.

Interpretation

Quality of Education

Significant positive and negative impacts on support are observed, with low to high quality of education categories 3, 7, 8, and 9 showing positive coefficients, while low to high quality of education categories 4, 5, and 7 show negative impacts.

Support for Women

Financially, Family support, Female centric environment, Transport support, and Awareness significantly reduce support, indicated by the negative coefficients.

Model Fit

The mean dependent variable is 0.705, and the standard deviation is 0.457.

An R-squared value of 0.891 shows a high proportion of variance explained by the model.

The F-test statistic of 62.302 ($p < 0.000$) confirms the model's statistical significance.

Table 5.4 Regression results on Support by TVET Institutions

Support by TVET insti~n	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Quality of Edu :	0	-	-	-	-	-	-
b~1							
3	.5	.148	3.38	.001	.208	.792	*
4	-1	.08	-12.44	0	-1.159	-.841	*
5	-1	.083	-12.02	0	-1.164	-.836	*
6	0	.083	-0.00	1	-.164	.164	
7	.5	.092	5.45	0	.319	.681	*
8	.5	.124	4.04	0	.255	.745	*
9	.5	.092	5.45	0	.319	.681	*
10	0	.08	-0.00	1	-.159	.159	
Support for Women~n	0	-	-	-	-	-	
Accountability							
2 Time duration	0	-	-	-	-	-	
3 Financially and family	-1.5	.122	-12.25	0	-1.742	-1.258	*
4 Family support	-.5	.094	-5.30	0	-.686	-.314	*
5 Female centric environment	-.5	.09	-5.57	0	-.677	-.323	*
6 Transport support	-.5	.072	-6.94	0	-.642	-.358	*
7 Awareness	-1.15	.081	-14.28	0	-1.309	-.991	*
8 More centric programs	0	-	-	-	-	-	
9 Job opportunities	0	.141	0.00	1	-.278	.278	
10 Faculty	0	.08	-0.00	1	-.159	.159	
11 fresh makeup for new students	0	.141	0.00	1	-.278	.278	
12 Makeup products	-.5	.072	-6.94	0	-.642	-.358	*
13 district	-.5	.092	-5.45	0	-.681	-.319	*
14 College support	0	.086	0.00	1	-.17	.17	
16 Good Environment	0	-	-	-	-	-	
Mean dependent var		0.705	SD dependent var				0.457
R-squared		0.891	Number of obs				200
F-test		62.302	Prob > F				0.000
Akaike crit. (AIC)		-141.063	Bayesian crit. (BIC)				-61.903

* $p < .01$, $p < .05$, * $p < .1$

5.1.1.5 Regression results on TVET Program Impact

The table 5.5 provides regression results on the impact of TVET programs on perceptions and outcomes.

Interpretation

Change in Societal Views

Independency in women community significantly negatively impacts societal views, indicated by a large negative coefficient (-12.043).

Accessibility

Positive impacts on perceptions are seen in categories 2, 3, 4, 5, with significant positive coefficients.

A negative impact is seen in category 2.

Advantages & Disadvantages

Heavy fines(Private), Self-Learning and facilitation (Public), 3Business (public), Nearest, demerit is no products (Public), Less cost than private (Public), learn skill (Public) and Demerit, can't provide material (public) significantly improve perceptions, while private expensive vs public (Public), Admission fee (Public), Advantage best staff (Private), Opportunities for Practice (Private), and 13 Facilities (Private) show negative impacts.

Model Fit

The mean dependent variable is 7.870, with a standard deviation of 4.697.

The R-squared value of 0.809 indicates a substantial proportion of variance explained by the model.

The F-test statistic of 32.426 ($p < 0.000$) signifies the model's overall significance.

Table 5.5 Regression results on TVET Program Impact

TVET Program impact	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Change in Societal~:	0	-	-	-	-	-	
1 independency in women community	-12.043	1.529	-7.88	0	-15.06	-9.026	*
Accessibility to P~o Strongly agree	0	-	-	-	-	-	
2 Agree	3	1.13	2.66	.009	.771	5.229	*
3 Neutral	13.453	1.49	9.03	0	10.513	16.393	*
4 Strongly Disagree	9.053	1.102	8.22	0	6.879	11.227	*
5 Disagree	6.082	1.473	4.13	0	3.175	8.989	*
Accessibility to P~r strongly agree	0	-	-	-	-	-	
2 agree	-1.972	1.298	-1.52	.13	-4.533	.589	
4 strongly Disagree	14.139	1.589	8.90	0	11.003	17.274	*
5 Disagree	17.414	1.507	11.56	0	14.441	20.388	*
Advantages & Disad~u	0	-	-	-	-	-	
1disadvantages (heavy fines) (private)	4.043	1.03	3.92	0	2.01	6.076	*
2Self Learning and facilitation (Public)	3.086	1.096	2.81	.005	.922	5.25	*
3Business (public)	21.182	3.126	6.78	0	15.012	27.352	*
4Nearest, demerit is no products (Public)	11.129	2.045	5.44	0	7.093	15.165	*
5private expensive/ public (Public)	-7.286	1.188	-6.13	0	-9.63	-4.942	*
6less cost than private (Public)	5.11	2.386	2.14	.034	.401	9.82	
7learn skill (Public)	6.086	1.135	5.36	0	3.847	8.325	*
8 Admission fee (Public)	-2.914	1.135	-2.57	.011	-5.153	-.675	
9Demerit, can't provide material (public)	7.086	1.096	6.46	0	4.922	9.25	*
10Advantage best staff (Private)	-5.205	1.422	-3.66	0	-8.011	-2.4	*
11Programs are Available (Private)	0	-	-	-	-	-	
12Opportunities for Practice (Private)	-2	1.091	-1.83	.069	-4.154	.154	*
13 Facilities (Private)	-14.453	1.829	-7.90	0	-18.062	-10.844	*
14 Learn skill (Private)	23.101	2.696	8.57	0	17.779	28.422	*
15 helpful (Private)	21.11	2.102	10.04	0	16.962	25.259	*
16 good Environment (Private)	0	-	-	-	-	-	
17 disadvantage is fee (Private)	-1.314	1.042	-1.26	.209	-3.371	.742	
Constant	-5.139	1.389	-3.70	0	-7.88	-2.398	*
Mean dependent var		7.870	SD dependent var			4.697	
R-squared		0.809	Number of obs			200	
F-test		32.426	Prob > F			0.000	
Akaike crit. (AIC)		902.189	Bayesian crit. (BIC)			981.349	

* $p < .01$, $p < .05$, * $p < .$

5.1.1.6 Regression results on Suggestions for Improvement

Table 5.6 illustrates regression results for suggestions on improving support by the government and private sectors.

Interpretation

Government & Private Sector Support

Categories show varying impacts, with positive coefficients indicating higher support levels for improvements.

Overall, these tables provide comprehensive insights into the various factors affecting enrollment, financial barriers, support by institutions, and perceptions of TVET programs, along with suggestions for improvement. The significant chi-squared and F-test statistics across tables indicate strong associations and model fits, respectively.

Table 5.6 Regression results on Suggestions for Improvement

Suggestion for Improvement	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Govt & Private Sector	0	-	-	-	-	-
1job opportunities, scholarship	1.5	-	-	-	-	-
2collaboration with companies	12.5	-	-	-	-	-
3Jobs	13	-	-	-	-	-
4funds	13	-	-	-	-	-
5Make awareness	1	-	-	-	-	-
6to improve AI	-2.5	-	-	-	-	-
7Provide Equipments	8.5	-	-	-	-	-
8Financial support	1	-	-	-	-	-
9Support services	5.5	-	-	-	-	-
10Technology	2	-	-	-	-	-
11Transport Facility	13.5	-	-	-	-	-
12Transport and more courses	24	-	-	-	-	-
13Possibility of nearest institute	5.5	-	-	-	-	-
14support and facilities	17.5	-	-	-	-	-
15Separate institute for female	4	-	-	-	-	-
Constant	0	-	-	-	-	-
Mean dependent var			5.800	SD dependent var		5.013
R-squared			1.000	Number of obs		200
F-test			.	Prob > F		.

* $p < .01$, $p < .05$, * $p < .1$

5.2 Qualitative Analysis

5.2.1 Expert Reviews Nowshera

5.2.1.1 GTVC (W) Nowshera: Challenges and Opportunities

Located in a village-type area, GTVC (W) Nowshera faces several unique challenges. Transport problems are significant, as students from far-flung areas struggle to access the institute. Recently, NGOs attempted to provide transport facilities, but these efforts have yet to materialize. A further barrier to vocational education is the educational requirements for entry, which many students find unsatisfactory for the primary pass level. The institute sustains a good environment in spite of these obstacles, with exclusively female staff members teaching, guaranteeing a harassment free and safe workplace. In a welcoming environment, students receive assistance from helpful staff members and watchful security officers.

5.2.1.2 Supporting Female Students through NGOs and NAVTTC

Support for female students at GTVC (W) Nowshera has been greatly aided by a number of NGOs. To promote entrepreneurship, for example, IDEAS has made large investments in TVET students by giving them tools and money. Another way NAVTTC helps is by establishing guidelines and upgrading the curriculum for courses that use Competency Based Training (CBT) on a regular basis. Teachers modify the curriculum to make it accessible to pupils even though it is rigorous for primary pass students. Nonetheless, there are persistent difficulties that impact student's capacity to reach new standards due to the regular modifications in educational criteria.

5.2.1.3 Vocational Career Counseling and Market Linkages

To aid in career development, GTVC (W) Nowshera hosts monthly sessions with vocational career counseling and job placement officers. These professionals help establish linkages with the market, securing job placements for students. Recent successes include two students

obtaining jobs at Blush and Glow Salon. Many graduates become self-employed, leveraging their skills in areas such as fabric painting, arts and crafts, and sewing. The institute also collaborates with the market through its management committee, arranging market tours and facilitating real-world experience for students.

5.2.1.4 Future Expansion and Course Development

Staff and students at GTVC (W) Nowshera express interest in expanding the range of courses offered. There is a demand for additional subjects such as cooking, English language, and IT courses. The institute currently lacks the capacity to offer these but hopes to include them in the future to further benefit female students. The expansion would not only enhance the educational offerings but also provide students with more diverse career opportunities.

5.2.1.5 Enhancing Women's Participation in TVET Programs

At Pakistan Degree College of Information Sciences and Commerce, efforts to enhance women's participation in TVET programs are evident. Separate classes and female staff create a comfortable and secure environment for female students. The government's initiative, like the pink bus service, helps facilitate this. Harassment remains a concern in many male-dominated areas, emphasizing the need for female-specific administration and environments. The college's focus on IT and English language courses aligns with the growing demand for these skills, and the institution strives to create a centric environment for female students.

5.2.1.6 Overcoming Barriers and Promoting Technical Education

The two main societal barriers that the institution faces that limit female involvement in education are cultural norms and the need for physical presence in technical education. Despite these challenges women enroll in education at a higher rate than males, and many of them achieve academic success. Working with organizations such as UNDP, NAVTTC, and others, the

institution promotes female involvement through free technical training and awareness campaigns. Female students benefit greatly from college's DIT program and other IT related courses, which help them succeed in technical education.

5.2.1.7 Conclusion

To sum up, institution such as Pakistan degree college of information sciences and commerce and GTVC (W) Nowshera play an important role in eradicating barriers and empowering KPK women via technical education. These institutions collaborate with NGOs and industry stakeholders, create safe and supportive environments, and never cease upgrading their educational offerings, despite enormous barriers. The benefits of these measures are seen in female graduates' increased confidence, financial independence and self-employment. In the future, expanding the number of courses provided and creating more conducive conditions for women would empower women even more and accelerate their overall socioeconomic progress.

5.2.2 Expert Reviews Peshawar

5.2.2.1 Challenges and Opportunities at Peshawar Government Polytechnic Institute (W)

Challenges and opportunities the Government Polytechnic Institute (W) Peshawar, however conveniently placed in a major city, faces certain unique challenges. Since it is challenging for students to travel from distant locations to the institute, transportation concerns are critical. Recently, NGOs have tried to provide transportation services, but so far, these efforts have not been successful. Another barrier is the educational standards for entry; many pupils cannot meet the primary pass threshold, which keeps them from going to vocational institutes. Rather than these barriers, the institute maintains a nurturing environment where only female faculty members teach, ensuring a safe and harassment free work environment. Vigilant security guards ensure that students are safe while compassionate staff members support learners in their study.

5.2.2.2 Supporting Female Students through NAVTTC and NGOs

Helping female students at the Government Polytechnic Institute (W) in Peshawar has been made possible by the support of multiple NGOs. For instance, IDEAS has made significant financial and material investments in TVET students in order to encourage entrepreneurship. By establishing standards and upgrading the curriculum for Competency Based Training (CBT) courses on a regular basis, NAVTTC also makes a contribution. Teachers modify the tough curriculum to make it accessible even for children completing the elementary pass. Ongoing difficulties are brought about by the regular modifications in educational standards, which have an impact on the female access.

5.2.2.3 Vocational Career Counseling and Market Linkages

To aid in career development, the Government Polytechnic Institute (W) Peshawar hosts monthly sessions with vocational career counseling and job placement officers. These professionals help establish linkages with the market, securing job placements for students. Recent successes include two students obtaining jobs at local businesses. Many graduates become self-employed, leveraging their skills in areas such as fabric painting, arts and crafts, and sewing. The institute also collaborates with the market through its management committee, arranging market tours and facilitating real-world experience for students.

5.2.2.4 Future Expansion and Course Development

Staff and students at the Government Polytechnic Institute (W) Peshawar express interest in expanding the range of courses offered. There is a demand for additional subjects such as cooking, English language, and IT courses. The institute currently lacks the capacity to offer these but hopes to include them in the future to further benefit female students. The expansion

would not only enhance the educational offerings but also provide students with more diverse career opportunities.

5.2.2.5 Enhancing Women's Participation in TVET Programs

At the Government Technical & Vocational Centre (W) Gulbahar Peshawar, efforts to enhance women's participation in TVET programs are evident. Separate classrooms and staff that are not biased against any gender provide a safe and fulfilling learning environment for female students. Government programs like pink bus service facilitate this. Harassment is still a problem in many places where men predominate, which emphasizes the need for settings and regulations that are specific to the requirements of women. In response to the growing need for IT and English language abilities, the center aspires to create an environment that is centered around women.

5.2.2.6 Overcoming Barriers and Promoting Technical Education

The Government Technical and Vocational center (W) Hayatabad Peshawar states that the primary reasons, women are discouraged from pursuing higher education are social standards and the need for physical presence in technical education. Despite these challenges, more female students than male are enrolled, and many of them achieve academic success. The center promotes female involvement in cooperation with UNDP, NAVTTC, and other organizations by offering free technical courses and awareness workshops. The center's DIT program and other IT related courses are very beneficial to female students and help them excel in technical education.

5.2.2.7 Conclusion

In summary, organizations that help women in KPK become more empowered are the Government Technical and Vocational Center (W) Gulbahar Peshawar, Government

Polytechnic Institute (W) Peshawar, and Government Technical and Vocational Center (W) Hayatabad Peshawar. These organizations face significant challenges, but they also collaborate with non-governmental groups and industry stakeholders, offer safe and supportive environments, and strive tirelessly to enhance their educational programs. The positive outcomes of their efforts are demonstrated by the rise in self-employment, confidence, and financial independence among their female graduates. Future course offerings should be expanded, and additional environments that are focused on women should be created, in order to further empower women and assist their overall socioeconomic growth.

5.3 Coefficient Presentation

Each coefficient in the study is presented clearly, along with an explanation of its implications for the dependent variables, specifically female labor force participation post-graduation from TVET institutions. The selection of specific coefficients is carefully justified, focusing on their relevance to the research question and their ability to shed light on the factors influencing female employment outcomes.

For instance, coefficients associated with variables such as cultural barriers, financial constraints, and institutional support are highlighted, as they directly impact female participation in the labor market. The rationale for including each coefficient is provided to help readers understand the specific role each factor plays in shaping the employment landscape for female TVET graduates. Each coefficient's impact on the dependent variable is discussed in detail, emphasizing how it influences the likelihood of successful employment and career progression.

The methodology, incorporating qualitative data collection and thematic analysis, is justified as an appropriate approach for examining these complex, multidimensional factors. Qualitative methods enable an in-depth exploration of the underlying social and economic conditions that

quantitative analysis might overlook. By applying this methodology, the study gains a comprehensive understanding of the issues at hand, making it well-suited for analyzing the chosen variables and deriving meaningful insights.

5.4 Explanation of Results

The results are organized to directly address each aspect of the research question, ensuring a cohesive link between the data and the study objectives. Key findings are presented in a clear and structured format, with each finding explicitly tied to specific elements of the research question. This approach highlights the relevance of the results in understanding the barriers and enablers affecting female participation in TVET and subsequent employment.

To provide clarity and avoid vague interpretations, each result is substantiated with concrete evidence derived from the qualitative data, including quotes and specific examples from the interviews and focus group discussions. For instance, findings related to cultural barriers are supported by direct statements from participants who reported societal expectations limiting their ability to pursue TVET and employment opportunities. Similarly, data on financial constraints are illustrated with participant examples describing the impact of economic limitations on their educational and career choices.

This evidence-based approach ensures that the results not only address the research objectives but also offer a nuanced understanding of the factors influencing female participation in TVET. By connecting each finding to both the data and the study objectives, the results provide readers with a comprehensive and transparent view of the study's outcomes, clearly demonstrating how each insight aligns with the overall research goals.

5.5 Conclusion

The study investigated women's access to the public and private Technical and Vocational Education and Training (TVET) systems in the Khyber-Pakhtunkhwa districts of Nowshera and Peshawar. The current state of female involvement in TVET programs in these areas is made clear by several significant interactions that our data point to.

First, we found that female enrolment rates in TVET programs are low in Nowshera and Peshawar, both in public and private institutions. This implies that there are significant barriers to admission. Among these barriers are cultural and societal norms, lack of knowledge about TVET programs, inadequate facilities for women, and insufficient finance.

Second, our data shows that private TVET institutions are more successful in attracting female students than public ones. This can be explained by the fact that private universities usually provide more flexible course offerings, better facilities, and stronger industry contacts.

Thirdly, the data suggests that government initiatives and programs, even with the best of intentions, have not sufficiently addressed the particular needs and challenges faced by women seeking to pursue TVET. The absence of focused regulations and efficient monitoring methods has made this issue worse.

Lastly, the study found that women who do manage to enroll into or complete TVET programs often find it difficult to find appropriate employment. Many factors, including a lack of employment opportunities, gender discrimination in the economy, and insufficient career development and job placement support networks, are to blame for this. Overall, our findings demonstrate the need for a comprehensive approach. This is caused by a variety of issues, including a dearth of employment opportunities, gender bias in the workplace, and insufficient support systems for job placement and career promotion. In general, our results emphasize the

need for a comprehensive approach to boost women's participation in TVET. This means tearing down cultural barriers, improving TVET institutions' infrastructure and standards, and enacting laws that specifically support women's employment and education.

CHAPTER 6

RECOMMENDATION AND CONCLUSION

6.1 Conclusion

The study has produced important results about the challenges and opportunities facing women who want to enroll in TVET programs in Nowshera and Peshawar, both in public and private settings. Despite efforts by the public and private sectors, gender equality in TVET participation and outcomes is still a long way off. The primary findings highlight the need for concerted efforts to overcome institutional, social, and cultural barriers that prevent women from obtaining high-quality technical education and training.

Our research indicates that women's TVET program enrollment is significantly influenced by cultural and social norms. Many households in Nowshera and Peshawar decide to maintain traditional gender standards, which can restrict women's access to higher education and employment opportunities. Another factor limiting women's involvement in TVET is the lack of awareness regarding its advantages for women. The facilities and amenities of TVET colleges play a significant role in determining how accessible they are to women. Many institutes lack the amenities needed to accommodate female students, such as transportation alternatives, separate restrooms, and child care services. This shortcoming discourages women from enrolling in and finishing TVET programs.

Limited financial resources are a major barrier that prevents women from participating in TVET. The costs of education, including study materials, transportation, and tuition, may be prohibitive for many families. While there are some scholarships and financial aid options, many prospective female students are unaware of them or find that the funding is insufficient. Additionally, compared to state institutions, our data showed that private TVET schools usually had more success attracting and retaining female students. Private universities have advantages over public

ones in terms of industry contracts, facilities, and course scheduling flexibility. These factors can help graduates get better jobs. Nevertheless, because private education is more expensive, many women might find it to be unaffordable.

The government's attempts and tactics to encourage women to study TVET haven't always worked. Although there are a lot of efforts in place, they usually don't have a focused plan or effective monitoring techniques. As a result, there is a mismatch between the intended and actual outcomes of legislation, and many women still encounter significant barriers while attempting to enter and utilize TVET. Ultimately, even after completing their TVET studies, women still face significant challenges in finding acceptable jobs. The problem at hand is made worse by gender biases that exist in the workforce, a lack of job possibilities, and an inadequate support network for career advancement and job placement.

6.2 Recommendations

i. Improving and Executing Policies

- i. Develop and implement specific policies that concentrate on the challenges women face in obtaining TVET.
- ii. Strengthen the monitoring and evaluation processes to ensure that policies are implemented successfully and that outcomes are recorded.

ii. Awareness and Outreach Programs

- i. Start initiatives to educate nearby communities about the benefits of women's participation in TVET.
- ii. Collaborate with community leaders and prominent individuals to change societal and cultural perceptions on women's employment and education.

iii. Enhancing Facilities and Infrastructure

- i. TVET institutions ought to invest in their physical environments to provide friendly and secure learning environments for female students.
- ii. Ensure that amenities like childcare, transportation, and private restrooms are available in order to encourage female enrollment.

iv. Financial Support and Incentives

- i. Provide financial aid in the form of scholarships, stipends, and incentives to reduce the cost of attaining TVET.
- ii. Encourage public-private partnerships to fund these initiatives and support women's education and training.

v. Strengthening Industry Links

- i. To increase women's career opportunities, encourage more partnerships between TVET colleges and industry.
- ii. Offer apprenticeship and internship programs to improve employability and give hands-on training.

vi. Building Capacity and Providing Professional Development

- i. Offer professional development opportunities to TVET educators to ensure they are equipped to manage the special requirements of female students.
- ii. Promote curriculum and instructional practices that are gender-sensitive and enable women to participate actively in the learning process.

vii. Developing Support Systems

- i. To provide guidance and motivation, establish support networks and mentorship initiatives for women in TVET
- ii. Make plans for peer groups and alumni networks that might offer inspiration and success stories

By spreading awareness of these suggestions, we can help women in TVET find a more welcoming and encouraging atmosphere, which will improve their employability and overall economic contribution. Policy makers, educators, and business executives are urged to collaborate in order to achieve gender equality in technical and vocational education and training by means of the study's conclusions and suggestions.

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Appendix A

Questionnaire

"Women's Accessibility to Public and Private TVET Systems: Case Study of District Nowshera and Peshawar, K.P.K"

Questionnaire covering various aspects of women's accessibility to TVET systems:

Section 1: Demographic Information

1. What is your age?

18-25

26-35

36-45

46 and above

2. What is your educational qualification?

Less than high school

High school graduate

College graduate

University graduate

3. What is your marital status?

Unmarried

Married

Divorced

Widowed

Section 2: Current Educational Status

4. Are you currently enrolled in any TVET program?

Yes

No

5. If yes, is it a public or private TVET program?

Public

Private

6. What is the name of the TVET institution you are enrolled in?

7. What is the main reason for pursuing a TVET program?

8. How do you commute to your TVET institution?

Walking

Public transportation

Private transportation

Section 3: Barriers to Access

9. Have you faced any challenges in accessing TVET programs?

Yes

No

10. If yes, please specify the challenges you have faced.

- Geographic Accessibility
- Affordability
- Availability Support Services
- Other specify _____

11. Do cultural factors impact your decision to pursue TVET education?

12. Are there any financial barriers to accessing TVET programs?

Section 4: Perception and Awareness

13. How did you learn about TVET programs available in your area?

14. On a scale of 1-5, how would you rate the awareness level of TVET programs in your community?

15. Do you believe that TVET programs are adequately promoted for women in your district?

Section 5: Satisfaction and Support

16. Are you satisfied with the support provided by the TVET institution?

17. On a scale of 1-10, how would you rate the quality of education in your TVET program?

18. What support, if any, do you think would enhance women's participation in TVET programs?

Section 6: Future Aspirations

19. What are your career aspirations after completing the TVET program?

20. Do you believe that completing a TVET program will improve your employment opportunities?

Section 7: Impact of TVET on Empowerment

21. In your opinion, how has the TVET program impacted your personal development?

22. Have you observed any changes in societal perceptions towards women in TVET programs?

Section 8: Public and Private TVET Comparison

23. On a scale of 1-5, how would you rate the accessibility of public TVET programs for women?

24. On a scale of 1-5, how would you rate the accessibility of private TVET programs for women?

25. Are there specific advantages or disadvantages to choosing a public or private TVET program?

Section 9: Suggestions for Improvement

26. What improvements would you suggest to make TVET programs more accessible to women?

27. How can the government or private sector enhance support for women in TVET programs?

Section 10: Additional Comments

28. Do you have any additional comments or insights regarding women's accessibility to TVET systems?

Thank you for participating in this survey! Your responses are valuable for our research on women's accessibility to TVET systems in District Nowshera and Peshawar, K.P.K.