Impact of Vocational Training on Employment and Earning of Federally Administered Tribal Area's Youth in Pakistan

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Abstract: Federally Admininstered Tribal Areas Development Authority (FATA-DA) imparted vocational training to more than fifty two thousands individual in seventy different potential technologies/trades. This study was conducted with the aim to evaluate the socio-economic impact of those training in FATA. Survey was initiated in the year 2018 and primary data was collected from 400 respondents selected through a disproportionate stratified random sampling procedure. Both descriptive statistics and regression analysis were undertaken for the analysis of data. The findings revealed that FATA-DA training has made a substantial contribution to young people's socioeconomic development. After completing FATA-DA training, youth employment increased by 1.94 times and monthly earnings by 1.63 times. It was also shown that the respondents' age had a substantial positive link with their employment and wages. According to the study, respondents who had some work experience prior to Institute Based Training (IBT) were able to get jobs faster and earn more money than those who did not. The study also identified certain programme quality shortcomings, such as a lack of effective career counselling for trainees, a lack of proper linkage of IBT with the relevant sector, a lack of post-training financial support, and a lack of internship opportunities. This study was the first-ever evaluation study of the vocational training program of FATA- DA. The study suggests that policymakers should concentrate on the quality parameters of any vocational training programme during implementation in order to achieve the best possible results.

Keywords: Vocational training, Federally Administered Tribal Areas, Socio-Economic Development, Employment, Earnings, Youth.

1. Introduction

The importance of human capital development through education and vocational training, as well as its impact on labour market results, is a hot topic right now. In order to reduce unemployment and chronic poverty, youth must be trained in market-oriented vocational trades. Developing people's vocational abilities include educating and training them for better jobs. Vocational skills training includes the study of technologies, the learning of practical skills, and information about professions in various sectors of the economy. It increases human potential for paid employment while also encouraging self-employment and entrepreneurship (Finch & Crunkilton, 1999). Technical knowledge and abilities required for a certain firm, industry, or manufacturing unit are the subject of vocational skills training. It encompasses a wide range of occupations that are required by the businesses. Companies represent both the supply and demand sides of the skill market (Green, 2013). Courses in construction, engineering, agriculture, health, hotel and tourism management, information technology, and vocational trades, among others, are offered in response to market demand and public demand (TAFE Queensland, 2015). Vocational skill training is an important aspect of general education since it prepares students for successful involvement in the workforce (Schweri, Eymann, & Aepli, 2020). Vocational training, as part of lifelong learning, develops responsible individuals, aids in poverty alleviation, and serves as a tool for supporting environmentally friendly, long-term growth and development (King & Palmer, 2010). The impact of higher-order technical and vocational skills on global income inequality, poverty reduction, and social stability is a hot topic in current world policy (UNESCO, 2010, 2012). It is a true belief that vocational and technical skills can help to reduce unemployment in rural areas that eventually will tackle the issue of rural-urban drift (UNESCO, 2010). FATA is Pakistan's most backward and neglected region, with the lowest socioeconomic statistics when compared to the rest of the country. Females have a literacy rate of only 12.7 percent, whereas males have a rate of 33.3 percent. With a fertility rate of 5, FATA has a population growth rate of 2.41 percent. With a multi-dimensional poverty index of 0.337, 52.3 percent of the population lives below the poverty line ($1.25 per day). The job market is worse here than in other sections of the country. FATA has a crude activity rate of 24.2 percent, compared to 32.3 percent for the rest of the country, with a significant gender divide (male 38.6 percent and female 5.9 percent). About 07% of children in FATA are involved in child labor. 7.3% of people in FATA in the age bracket 10–64 are unemployed with 5.2% underemployed. This age group remained the main resource pool for militant recruitment in the near past (GOP, 2015; 2017).

This study contends that vocational training has a strong influence on the youth employability and monthly earnings. FATA-DA is engaged in imparting vocational training to youth across FATA since the year 2006-07. Since then, FATA-DA has trained more than 52 thousand individuals, including males and females. A huge chunk of the FATA-DA development budget (more than 2.8 billion Pak rupees) has been spent in the area of vocational skills development but still, the unemployment and

poverty situation is the worst of its nature in FATA. The area is socio-economically lagging as before. It was expedient to evaluate this program of vocational training for its potential of gainful employment and earnings for disadvantaged youth of FATA. The quantitative research methodology was adopted to evaluate the outcomes of the program. The study was conducted to evaluate the socio-economic impact of vocational training of FATA-DA

2. Literature Review

The concept of human capital was first proposed by classical economists, and it later evolved into an economic theory (Fitzsimons, 1999). Individual and economic growth are both dependent on the development of human capital (Schultz, 1961). The stock of skills possessed by a country's work force is known as human capital (Goldin, 2016). Over the life cycle, human capital development contributes greatly to socioeconomic development and labour market integration (Kriesi & Schweri, 2019). This viewpoint, on the other hand, ignores living experience. No nation can conceive about national progress and development without creating jobs and improving the lives of its population (Hanushek etal, 2017). The impact of human capital development through education and training can be divided into three categories, i.e. individual, organization, and society. Individual training, according to studies, boosts individual income through enhancing individual output. The school-to-work transition is influenced not only by the graduates' abilities, but also by the relationship between educational credentials and occupations/industries (Bol et al., 2019). For the sake of profit maximisation, businesses prioritise high- productive personnel. An individual with a high level of human capital can easily gain access to a job and have greater professional opportunities than others. Technical and vocational training makes it easier for people to transfer from school to work. It is very instrumental in addressing the rising youth unemployment (Leyaro & Joseph, 2019). In the case of SENAI's vocational training, it improved labor market outcome and regional mobility among the graduated youth (Barría & Klasen, 2016).

Several prior research have discovered a significant link between occupational training and socioeconomic development. The ability of vocational training to develop practical skills that have direct and indirect effects on productivity and economic growth has been revealed in many of these studies. (Korber, 2019, Kratz et al. 2019, Kriesi & Schweri, 2019). This effect on Botswana's economic growth produced the most startling results. Several qualitative studies have highlighted vocational training as a mechanism for raising production and reducing poverty in European countries, i.e. in their transformation (MoNE, 2018). The integration of the marginalized/disadvantaged community into the job market has been shown to be aided by vocational training (CEDEFOP, 2017). Immigrants, unemployed workers, and low-skilled workers, for example, can benefit from vocational education and training as a safety net. The social and economic benefits of vocational training are inextricably linked. Poorer vocational training economic advantages might lead to lower social benefits (CEDEFOP, 2017). When calculating the effects of occupational training, individual cognitive talents must be taken into account. Individual cognitive capacities may be overlooked, resulting in an

underestimation of the benefits of vocational training. When examining the effects of occupational training, cognitive ability disparities are frequently documented (Ozer & Perc, 2020). According to NCVER (2017), students who choose to pursue a certificate in vocational training are more likely to come from low-income homes. They believe they have a poor academic record and are eager to get a job as soon as possible after completing the training. They are less interested in fundamental education and learning that has no clear connection to the labour market. According to Hanushek et al., (2017), the impact of occupational training on employment diminishes with age. The effect tends to disappear around the age of 50. In terms of employment and income characteristics of general education and vocational training graduates, Golsteyn and Stenberg (2017), Dustmann et al. (2017), and Brunello and Rocco (2015) all found a converging pattern. It suggests that persons who receive job-specific training and skills are more likely to face future challenges. Choi (2015) hypothesised that different vocational training systems could have distinct effects on labour market outcomes, such as employment and incomes. She claims that graduates of work-based vocational training are more likely to find work sooner than graduates of institute- based training. Bibby et al. (2014) used matched administrative data to examine returns to vocational training and found that workplace-based training yields larger returns than classroom-based training. In a study conducted in Romania, Malamud and Pop-Eleches (2010) found that vocational education graduates are more likely to be employed than non-technical employees and craftspeople. However, they found no significant difference between vocational education and general education in terms of participation rates, unemployment rates, and family income.

A possible barrier to the success of vocational training and employment is skills mismatch (Mahmut & SUNA) (2020). Attanasio et al. (2015) in Colombia, Card et al. (2011) in the Dominican Republic, and Cho et al. (2013) in Malawi recently published three studies that revealed no substantial influence of vocational training on employment and uncertain improvements in income. Young women in Colombia had slightly more optimistic outcomes, with a 20 percent gain in earnings and a 7% increase in employment. Using a regression-discontinuity approach, Chakravarty et al. (2019) looked at youth training programmes in Nepal and found a 10% increase in non-farm employment. Hirshleifer et al. (2015) evaluated the effects of Turkey's vocational training programme using a randomised control approach and found a positive but statistically negligible effect. After a year, the impact was reported to have disappeared. During their research, Alzua, Cruces, and Lopez (2016) discovered a significant rise (8%) in informal employment in the short term, but the impacts faded in the medium and long term. They also discovered that participants made 40% more than non-participants. After three years of training programmes, Alfonsi et al. (2020) found that the beneficiaries had a considerable unstick in sector-specific abilities, as well as an improvement in employment rate and labour market outcome index. According to Maitra and Mani (2017), women who took part in the vocational training programme earned 150 percent more than a control group. In their study, Reichelt, Collischon, and Eberl (2019) found that education and training are the most important mediators of social inclusion. People in the therapy group who contributed more to social

security earned more money. A positive significant effect was observed on earnings as well as employment probability in another study conducted in Korea (Lee, Hong, and Song, 2019). Along with monetary benefits, vocational training encouraged trainee participation in social, political, and cultural activities (Ruhose, Thomsen & Weilage, 2019). A study in Pakistan found that vocational training has a positive and considerable socioeconomic impact (Ullah & Malik, 2020).

3. Materials and Methods

Theoretical Framework

Human Capital Theory is the foundation of this research. The concept of Human Capital was first established by political economists such as Adam Smith, John Stuart Mill, and Alfred Marshall, among others. Human Capital Theory evolved later, in the 1960s, as a neoclassical economic theory that postulated a causal relationship between education and training investment. Human capital development and economic growth were also proposed in the theory (Schultz, 1961). In the twentieth century, a neoclassical economist discovered that the rate of growth in the United States of America (USA) economy was outpacing the rate of physical capital investment. They claimed that it was due to their increased investment in human capital, which had increased the workforce's capacity and efficiency. Because of its non- homogeneous nature, they claimed that labour capacity can be expanded by investing in education and training. Individuals' productive qualities, including technical and soft skills, knowledge, and talent, can be enhanced through education and training to improve economic output and revenue (Thurow, 1970). Education, training, and experiences could help to increase these productive qualities (Mincer, November 1981). Human capital theorists believed that, like physical capital investment, human capital investment could be assessed using rational economic decision-making models. During the development of human capital theory, some assumptions were made. The following assumptions were made: (1) Efficient investment could be established for optimal educational resource allocation. (2) Investing in education leads to increased productivity, which leads to higher individual earnings. (3) Overall economic growth is linked to higher national investment in education, which leads to a more equitable distribution of income.

Program Design

FATA-DA launched a vocational skill training initiative for the region's youth. The young of FATA, both male and female, were targeted. Only male teenagers were studied in this study. Due to cultural constraints, no females were included. This is institute-based training that FATA-DA has outsourced to well-known institutions across the country. Around 70 market-oriented trades have been taught by trainees. These training programme lasted for six months. For around 5 hours each day, trainees attended both theoretical and practical lessons. The advertisement was made public, and FATA's youth were invited to apply. The decision was made solely on the basis of merit. Academic qualification and the district erstwhile agencies quota were observed. The survey was administered at least one year after the training completion.

Quality Parameters of the Training

During the survey quality parameters of the training was also investigated. The success and failure of any training program directly depend on its quality parameters. Summary of the quality parameters of the program concerned isas under,

Table 1 Quality parameters of vocational training of FATA-DA

Parameters	Responses of the Respondents					
	Strongly Disagree (%)	Disagre e (%)	Neutr al (%)	Agree (%)	Strongly Agree (%)	Total
The training was good and fruitful	3.5	13.5	6.5	57.5	19	100
The balance between theory and practical was appropriate	3.5	12.5	14	58	12	100
Instructors were well qualified and trained	1.5	13.5	10.5	56	18.5	100
Well-equipped laboratories available	8	13.5	10	53	15.5	100
Training linkages with relevant industries	14	34.5	15.5	28.5	7.5	100
The training was offered as per market demand	7	23.5	11	45	13.5	100
Career counseling and guidance sessions were conducted	7.5	38.5	10.5	32.5	11.0	100
Training duration was enough	6.5	37.5	4.5	40	11.5	100
Tool Kits were provided after training completion	44.5	34.5	4	13	4	100
Course completion certificates were provided on time	4.5	6.5	2.5	63	23.5	100
Financial support was provided to the trainees	41	43.5	4	9	2.5	100
Field Internship facility was provided to successful trainees	63	12.5	18.5	6	0	100

Source: Field Survey, 2018

The table above shows that the majority of candidates were of the view that training was good and fruitful; an appropriate balance of theory and practicals was maintained; training was provided in response to high market demand; instructors were well qualified; and well-equipped laboratories were available for training. The training was adequate, and course completion certificates were delivered on schedule. The table also shows that the majority of respondents disagreed or strongly disagreed that

they received career counselling sessions, tool packages, financial support, or field internship opportunities (Ullah & Malik, 2020).

Research Design and Sample Size

The study was conducted using a cross-sectional quantitative research design. Data was obtained from 400 respondents across FATA, with both treatment and control groups being included. Due to the unequal nature of the strata, disproportionate random sampling was utilised during sampling to avoid underrepresentation of one stratum against the other. The random sampling was used to ensure that both groups had an equal probability of being chosen. The data gathering method was retained both direct and indirect, with well-structured closed-ended questionnaires serving as the primary tool. The following Slovin's formula was used for sample size selection, which allows a researcher to sample the population with the desired degree of accuracy (Stephanie, 2003).

Slovin's formula;

Sample size (SS) = $N/1+(N)^2$

Descriptive Statistics and Regression Models

As a statistical analysis tool, SPSS version 17 was employed. To provide descriptive statistics, frequency tables were employed. The impact of participation in skills training and some other variables on dependent variables, such as probability of employment and log of monthly earnings, was assessed using a Binary Logistic Regression Model and a Multiple Linear Regression Model, respectively.

$$Y_i = \beta_0 + \beta_1 TP + \beta_2 Age + \beta_3 MSt + \beta_4 FSz + \beta_5 FR + \beta_6 Edu + \beta_7 FEdu + \beta_8 FP + \beta_9 FI + \beta_{10} HH + \beta_{11} SBT...+\varepsilon_i .... (2)$$

Where,
Y_i = Probability of relevant employment of the respondents
β_0 = Intercept term
TP = Participation in skill development program
Age = Respondent Age
MSt= Marital Status
FSz= Family Size
FR= Family Residence
Edu = Respondent Education
FEdu= Father Education
FP = Father Profession
FI= Family Income
HH= Household Head or Family Head
SBT= Employment status before training
ε= error tem

$$Log (W) = \beta_0 + \beta_1 TP + \beta_2 Age + \beta_3 MSt + \beta_4 FSz + \beta_5 FR + \beta_6 Edu + \beta_7 FEd + \beta_8 FP + \beta_9 FI + \beta_{10} HH + \beta_{11} SBT...+\varepsilon_i .... (2)$$

Where

Log (W) = denotes the logarithm of the monthly wage/earnings

β_O = Intercept term

TP = Participation in skill development program

Age = Respondent Age

MSt= Marital Status

FSz= Family Size

FR= Family Residence

Edu = Respondent Education

FEd= Father Education

FP = Father Profession

FI= Family Income

HH= Household Head or Family Head

SBT= Employment status before training

Ethical Consideration

Keeping in view the ethical consideration, the respondents were first informed about the scheme and purpose of the study.They were given full authority to decide whether they are willing to participate or not in this survey.The data have been collected on their consent.

Limitations

Because the study's sample respondents were all males between the ages of 16 and 35, the findings couldn't be applied to a larger population, but they can be indicated. For an accurate study, quantitative research methodology typically demands a large sample size; however, due to specific constraints, we keep the sample size small. Once again, data collecting was not regulated. Respondents' fear of providing accurate data might occasionally result in data that is deceptive. In addition, respondents in a closed-ended questionnaire used for data collection have limited possibilities based on the researcher's selection. The data collection for this study took a long time because it came from a variety of sources. Further a limited sample of 400 was chosen.

4. Results

Demographic Profile

Table 2 below shows the demographic profile of the treatment and control groups. The maximum number of respondents falls in the age group 16-20 years for both treatment (46.5%) and control groups (61.5%). In terms of marital status, maximum numbers of respondents were unmarried from both treatment (80%) and control groups (76%). In the treatment group, 2% were literate up to primary level, 21% Matric, 53% FA/FSc, 16.5% BA/BSc and 7.5% MA/MSc. In the control group, 30% were found to be matriculate, 20% have education up to FA/FSc level, 21% have education up to the BA/BSc level and 7.5% up to MA/MSc. In the treatment group, the fathers of most of the

respondents were either uneducated (45.5%) or having education up to the primary level (21%). The same is the case in the control group where again maximum fathers were either uneducated (23.5%) or having a low-level education up to primary (35%). A maximum number of fathers of respondents from both treatment (45.5%) and control groups (56%) were found self-employed. It was noted that most of the families were having a monthly income of more than 20000 i.e., the treatment group (47.5%) and 31%. 20% of families from the treatment group were having a monthly income of 11000–15000 while 19.5% were having a monthly income of 16000–20000. In the control group, 21% of families have fallen in the category of income 6000-10000 while 26.5 were having it 11000-15000. In FATA, most of the families live inside their agencies. 78% of respondents in the treatment group and 85% in the control group stated that their residence inside FATA. Big size families were reported. 5.5% and 9% of respondents from the treatment and control group reported, respectively, that their family size was ≤5 members. All others in both groups were having families of size 6 and above members. In both cases, it was noted that families were headed by persons other than the respondent himself. It was observed that most of the respondents were unemployed before training, i.e. in the treatment group, 81.5%,

Table 2 Demographic profile of the respondents

Respondent Information		Treatment Group		Control Group	
		Frequency	(%)	Frequency	(%)
Age of Respondent	16-20	93	46.5	123	61.5
	21-25	78	39.0	57	28.5
	26-30	25	12.5	14	7.0
	31-35	4	2.0	6	3.0
	Total	200	100.0	200	100.0
Marital Status	Unmarried	160	80.0	152	76.0
	Married	40	20.0	48	24.0
	Total	200	100.0	200	100.0
Respondents Education	Primary	4	2.0	3	1.5
	Matric	42	21.0	60	30.0
	FA/FSc	106	53.0	80	40.0
	BA/BSc	33	16.5	42	21.0
	MA/MSc	15	7.5	15	7.5
	Total	200	100.0	200	100.0
Father Education	Nil	91	45.5	47	23.5
	Primary	42	21.0	70	35.0
	Matric	29	14.5	26	13.0
	FA/FSc	20	10.0	12	6.0
	BS/BSc	13	6.5	33	16.5
	MA/MSc	5	2.5	12	6.0
	Total	200	100.0	200	100.0
	Unemployed	53	26.5	48	24.0
	Self	91	45.5	113	56.0

	Employed				
Father Profession	Government Job	51	25.5	29	14.5
	Private Job	5	2.5	10	5.0
	Total	200	100.0	200	100.0
	5000 and Below	4	2.0	18	9.0
	6000-10000	22	11	42	21.0
Family Income	11000-15000	40	20.0	53	26.5
	16000-20000	39	19.5	25	12.5
	Above 20000	95	47.5	62	31.0
	Total	200	100.0	200	100.0
Family Residence	Outside Agency	44	22.0	30	15.0
	Inside Agency	156	78.0	170	85.0
	Total	200	100.0	200	100.0
	5 or less	11	5.5	18	9.0
	6-8	57	28.5	104	52.0
Family Size	9-12	74	37.0	58	29.0
	Above 12	58	29.0	20	10.0
	Total	200	100.0	200	100.0
	Any other	194	97.0	194	97.0
Household Head	Self	6	3.0	6	3.0
	Total	200	100.0	200	100.0
Employment Status before training	Not Employed	163	81.5	118	59.0
	Employed	37	18.5	82	41.0
	Total	200	100.0	200	100

Source: Field Survey, 2018

Impact of Vocational Training on Employment of FATA's Youth

Table 3 shows the outcome of regression analysis of model 1. It was observed that training participation (TP), family size (FSiz), and employment status before training (SBT) were found to have a statistically significant relationship with the probability of employment "Yi". Training participation and family size are significant at a 10% significance level, while employment status before training was found significant at a 1%-level significance level. The result indicates that participation in vocational training of FATA-DA increases the odds of being employed by 1.6. The Exp (B) values show that respondents belonging to bigger families (9-12 members) have 1.89 times more chances of employment than respondents belonging to other families. The result also indicates that respondents

who were employed in any category before participating in training have 2.56 times more chances of employment than unemployed after successful completion of vocational training. The result is significant in all above-mentioned 3 cases. In the case of the remaining variables in the model, the relationship is not significant.

Table 3 Binary Logistic Regression Model

Variables	B	Sig.	Exp(B)
TP(1)	.468	.091	1.597*
Age		.715	
Age(1)	-.054	.955	.948
Age(2)	.156	.870	1.169
Age(3)	.406	.677	1.500
MSt(1)	.240	.471	1.272
FSz		.080	
FSz(1)	.130	.805	1.139
FSz(2)	-.033	.926	.967
FSz(3)	.636	.060	1.890*
FR(1)	.304	.302	1.355
Edu		.577	
Edu(1)	.122	.906	1.130
Edu(2)	.653	.263	1.922
Edu(3)	.698	.197	2.010
Edu(4)	.881	.120	2.413
FEd		.211	
FEd(1)	-.333	.612	.717
FEd(2)	-.934	.157	.393
FEd(3)	-.467	.494	.627
FEd(4)	1.104	.135	.332
FEd(5)	-.161	.822	.851
FPr		.953	
FPr(1)	.087	.906	1.091
FPr(2)	.228	.748	1.257
FPr(3)	.232	.750	1.261
FI		.665	
FI(1)	19.52	.999	.000
FI(2)	.861	.193	2.366
FI(3)	.460	.184	1.584

FI(4)	.403	.210	1.496
FI(5)	.218	.557	1.243
HH(1)	.405	.583	1.499
SBT(1)	.944	.000	2.569***
Constant	2.823	.054	.059

Dependent Variable: Probability of Employment (Y)

TP: Training participation, Age: Age of the respondents, MSt: Marital Status, FSiz: Family Size, FR: Family Residence, Edu: Education of the respondents, FEd: Father Education, FPr: Father Profession, FI: Family income, HH: Household head, SBT: Status before training

The Negelkerke R Square (NRS) value of 0.145 shows that the model's predictors predicted 14.5 percent of the variation in the result or dependent variable. In social sciences, an R2 value of 14.5 percent denotes a medium effect, which makes sense given the minimal value suggested (Cohen, 1988). The low NRS score is once again ascribed to the field of research. This value is often lower than 0.2, i.e. 20%, in social sciences such as economics, sociology, and political science, where human behaviours are investigated (Becker & Tomes, 1986). The significant coefficients for several variables, regardless of the NRS value, still represent the mean change in the dependent variable for one variable.

Table 4 Diagnostic Tests

Model Summary	-2 Log likelihood	Cox & Snell R2	Negelkerke R2
	300.646	.166	.229
Omnibus test (Model)	Chi-square	df	Sig.
	43.375	28	.032
Hosmer and Lemeshow test	Chi-square	df	Sig.
	7.930	8	.440

Source: Field Survey, 2018

The p-value of the omnibus test of model coefficients (0.032) is less than 0.05, indicating that the model is significant and a solid predictor in general. The null hypothesis cannot be rejected since the Hosmer and Lemeshow goodness of fit p-values (0.440) are larger than 0.05, indicating that the model is a good enough fit to the data. According to the classification table, the model accurately predicts 69 percent of the output.

Impact of Vocational Training on Monthly Earnings

The results of the regression analysis demonstrate that the intercept terms and certain explanatory factors, such as training participation (TP), respondents' age (Age), family residence (FR), and employment status prior to training, all have significant coefficients (SBT). The

dependent variable "Log (w)" was shown to have a positive association with training participation, age of the respondents, and work position prior to training, whereas the family residence was found to have a negative link with the dependent variable. Participation in FATA-DA vocational training raised monthly earnings by 1.63 percentage points, according to the findings. This relationship is highly significant (0.000) at the 1% significance level.

Similarly, the result indicates that the monthly earnings of the respondents increased with an increase in age. One unit increase in the age of the respondent increases the odd of monthly earnings by 0.37. The result also shows a significant, but negative relationship of a family residence with the monthly earnings of the respondents. Residence inside FATA decreases the odd of monthly earnings of the respondents by 0.43. The employment status of the individual before participation in vocational training of FATA-DA has a positive significant relationship with the response variable. The employment status of the respondents before participating in the training program of FATA-DA increased the odds of monthly earning by 0.963. It was also observed that among the explanatory variables, training participation "TP" with a B-value (1.627) has a higher impact on the response variable, which is highly desirable. All other variables were found insignificant.

Table 5 Model Coefficient

	Unstandardized Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error		Tolerance	VIF
(Constant)	.638	.320	.047		
Training Participation	1.627	.189	.000	.919	1.089
Age of the Respondents	.369	.120	.002	.974	1.027
Family Residence	-.430	.235	.068	.982	1.018
Status before training	.963	.204	.000	.938	1.067

Source: Field Survey, 2018

The adjusted R2 value (0.206) predicts that the explanatory factors in the model explain 21% of the variation in the dependent variable "log (W)." Given the advice of a minimum value of 0.15, the R2 value (0.206) is logical (Cohen, 1988). Also, every discipline that seeks to forecast human behaviour, such as sociology, psychology, political science, and economics, has R-squared values less than 20%, which is attributed to the field of study (Becker & Tomes, 1986). Humans are also more difficult to predict than physical processes. As a result, it's unsurprising that the R-squared values are low. There is no indication of first-order linear autocorrelation in the model, according to the Durbin Watson test statistic (1.86). We reject the null hypothesis of independence since the ANOVA (Analysis of Variance) test results demonstrate that the model is extremely significant. It is expected that the dependent and explanatory variables have a meaningful relationship. According to Tolerance and Variance Inflation Factor tests, there is no

indication of multicollinearity among explanatory variables (VIF). The model was further tested for homoscedasticity in SPSS using an eyeball test of a Q-Q plot of z*pred and z*presid and found to be homoscedastic.

5. Discussions and Conclusion

The purpose of this study was to look at the effects of FATA-DA vocational training on the employment and earnings of FATA youth. The data was analysed using Binary Logistic Regression Analysis and Multiple Linear Regression Analysis. The results of the Binary Logistic Regression Analysis demonstrate that participation in FATA-DA vocational training has boosted the odds of employment for FATA's youth significantly. The conclusions of this study are comparable to those of Fitzenberger and Prey's (1996), Richardson (1998), Wodon and Minowa (2001), Wambugu (2002), Stanwick (2005), Sherman (2006), Delajara et al. (2011), Ryan (2001), Kazilan (2009), Malamud and Pop-Eleches (2010), Hanushek et al. (2017), Blasco et al. (2012), Espinoza (2011), Ntallima (2014), Leyaro, and Joseph (2019) and Chakravarty et al. (2019). All of these studies have found that vocational education and training has a favourable impact on people's employment. Table 4 indicates an unstandardized value (0.46) indicating a positive link between involvement in vocational training and the likelihood of employment. Participants from larger families have the best prospects of finding work, according to this study. The impact of family size on the likelihood of employment has been neglected in previous research. This is a contribution to the current body of knowledge. Youth can readily spare time to participate in vocational training programmes in larger families and can easily transfer from FATA to outside FATA. Individuals who were working prior to participating in FATA-DA training obtained jobs earlier, according to this study. This resulted from their prior market exposure, experience, and mental maturity. Some were self-employed before to training and retained their former job after completing Institute Based Training (IBT).

Participation in FATA-DA vocational training has a considerable favourable impact on the monthly wages of FATA's youth, according to the results of Multiple Logistic Regression Analysis. Table 6 demonstrates a positive connection between the dependent variable (log of earnings) and training participation (unstandardized value of 1.6). (TP). The findings of this study are supported by the previous studies conducted by Becker (1993), Fitzenberger & Prey (1996), Wambugu (2002), Bishop & Mane (2004), Alam (2007), Bandiera et al. (2012), Uddin (2013), Andersson, Nabavi, & Wilhelmsson (2014), Almeida et al. (2015), Ahmed (2016), and Alzua, Cruces & Lopez (2016). Researchers have found a good return to vocational education and training in all of these studies in terms of increased incomes and poverty reduction. Vocational training promotes the accumulation of human capital and workers' productive capability, both of which are associated to higher incomes. In this study, there was also a favourable correlation between increased earnings and the respondents' age. The Max Planck

Institute for Social Law and Social Policy's Axel Borsch-Supan noted, "On balance, elder employees' productivity and reliability is higher than that of their younger counterpart." He believed that the elder workers' experience and mental maturity helped them perform well in terms of organising, writing, and problem-solving. When older workers are provided incentives and opportunities to participate in skill development efforts, they are more likely to gain new skills (Rivers & Barnett, 2016). The data also suggests that those who live inside FATA have lower earning potential than those who live outside FATA. The literature on the association between where you live and how much money you make is lacking. These findings will contribute to the body of knowledge about the association between where you live and how much money you make. In metropolitan regions, where larger markets exist and greater proximity to clients and suppliers is possible, firms that provide skill-intensive employment and higher incomes are congested. The concentration of businesses and people in cities makes it easier to promote and embrace new ideas. These advantages may boost business and worker productivity, resulting in higher urban salaries (Marre, 2017). Due to a lack of job prospects and widespread poverty in FATA, the demand for trained workers is low. Workers are typically paid less than the national average. The study also found that people who were employed prior to Institute-Based Training earned greater money. This is logical in the sense that individuals who were employed entered soon into the job market and due to more job experience were paid or were earning more. It can be seen that among explanatory variables, training participation "TP" with a B-value (1.627) has a higher impact on the response variable which is highly desirable.

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