Socio-Economic and Political Impacts of Vocational Trainings on Tribal Community of Pakistan

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ABSTRACT

This study was conducted to evaluate the role of vocational training imparted by the Federally Administered Tribal Area’s Development Authority (FATA-DA) in the socio-economic and political development of the tribal community in Pakistan. The survey was initiated in the year 2018 in FATA where 400 males in the age group (16-35 years) were selected for data collection through a disproportionate simple random sampling procedure. Cross Tabulation Analysis was conducted using SPSS. The result indicates that vocational training imparted by FATA-DA contributed very less to the socio-economic and political development of FATA’s youth. Among 13 indicators, the impact on only 02 indicators was found significant for the treatment group. This study concluded that vocational training does have a contribution to the socio-economic development of youth but in the case of FATA-DA sponsored training, the result was not desirable. This might be due to certain quality issues that must be taken into consideration during initiating a vocational training program for the socio-economic and political development of youth.

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1. Introduction

Investment in human capital is a highly focused phenomenon in the modern economy. Economists and human capital theorists believe that vocational training is an essential means for the socio-economic development of individuals and nations. Human capital development means to increase the earning potential of the human being. It focuses on obtaining knowledge, skills, competencies, and personality traits through education and training (Mincer, 1958; Becker, 1975). Vocational training is considered an indispensible way for the development of human capital. Vocational training means the attainment of knowledge and practical skills related to various occupations in different sectors of economic life. Vocational training increases the chances of employment and earnings which breed considerable economic and social benefits for human beings. It has an indirect effect on the decline in crime rate,
decrease in mental illness, improvement in health condition, better schooling of children, and social cohesion. In this regard, it has been observed that skilling youth with vocational training has a significant effect on the socialization of the youth community (Managing Vocational Training Systems: A Handbook for Senior Administrators, 2001). Excessive academic literature presents that vocational training has the potential of bringing positive changes in individual wellbeing (Maclean & Wilson, 2009).

From a social viewpoint, vocational training is a tool for fighting against individual poverty by promoting equal opportunities in terms of labor, social context, and citizenship (Patankar, 2019). Research conducted by the European Centre for the Development of Vocational Training (CEDEFOP) has shown that technical and vocational training can foster confidence and self-esteem in individuals, contributing to their engagement with families and society (Career Space Consortium, 2001). Technical and vocational skills development can play a significant role in the transformation of rural communities by making people empowered to make decisions and take action to improve their social, cultural, economic, and political lives in a way that result in a broad positive impact on society as a whole (Catherine & Jacob, 2014). It enhances a wide range of so-called ‘life skills’ such as communication, motivation, teamwork, responsibility, violence prevention, and training in reproductive health which shows that technical and vocational training is increasingly accepted as a way of enhancing youth capability sets (Debrah, 2013). In most countries of the world, technical and vocational training schemes have been started to make underprivileged citizens believe that they have a bright future. Prominently, these schemes have provided a means of reducing the psychological pressure of socio-political and economic trauma that is bedeviling most of the underdeveloped countries. It has been observed that if the youth of a country deprived of vocational and technical skills, there are the tendencies of becoming caught up in the web of depression, hopelessness, juvenile delinquency, social aggression, and economic dependency. These observations, as mentioned above, have been the greatest cause of prostitution, thuggery, and hooliganism for most of the youth community who remained deprived of such vocational training programs (Elebute & Mashood, 2016).

Federally Administered Tribal Areas (FATA) is the most lagging and underdeveloped community in Pakistan. It is spread over an area of 27,220 square km, with a total population of 5001676 (Pakistan Bureau of Statistics, 2017). 97.1% of people in FATA are living in rural areas. Two-third of the population (73%) is living under the poverty line with multidimensional Poverty Index (MPI) 0.337 and poverty incidence 73.7%. FATA consistently ranks lowest in the country in terms of human development indicators like literacy, healthcare access, potable water access, employment rates, average income, etc. The political system remained weak in FATA for ages. After the independence of the sub-continent, the Government of Pakistan also failed to devise a better policy for tribal Pashtuns and kept them deprived of representation and political rights till 1997. Due to the lack of education in FATA, most of its community is engaged in agriculture, livestock rearing, non-technical labor, and local businesses (Khan, 2017). The overall literacy rate is 33.3% which is far less than the national average (58%). Unemployment in FATA is higher than the national average and other provinces of the country. The highest rate of unemployment (10.8%) prevails in youth fall in the age bracket 15-24 years. This age group remained the main resource pool for militant recruitment in the near past. The majority of women (74.4%) are married by the age of 18 (BoS, 2015).

FATA-Development Authority was established in the year 2004 as a specialized body for prompt development in FATA. FATA-DA started imparting technical education and vocational training to both male and female youth to make them developed. From the year 2006 till 2018, FATA-DA imparted vocational training to more than 50 thousand youth in 70 different vocational trades. This study was, therefore, conducted as an evaluation study to investigate the socio-economic and political impacts of the vocational training of FATA-DA on FATA’s youth. This study is a first-ever evaluation study on the impacts of the said program. Results confirmed the limited impacts of the vocational training program of FATA-DA on the socialization and political development of FATA’s youth. However, the impacts were
significant on two parameters, i.e. “poverty reduction and life-long learning”. In a study from Portugal, it was reported that the impacts of vocational training on the social development of communities are not certain as community transformations generally take a longer time (CEDFOP, 2011).

This study adds valuable stuff to the existing literature in the sense that the vocational training program of FATA-DA has not been evaluated yet. Neither its economic contribution nor social contribution to the target group has been studied so far. Furthermore, limited literature exists on the contribution of vocational training to the social advancement of the target community. Social development indicators taken in this study are less studied in the past. A cross-tabulation analysis was conducted to compare the outcome for treatment and control groups that may not be used in previous studies on the same topic. This study also concluded that if quality issues exist in any vocational training program, the program will not deliver its objectives well like in the case of FATA-DA vocational training.

2. Literature Review

2.1 Human Capital Theory
Schultz (1961) introduced the concept of human capital for the first time. He mentioned that human capital development is an important factor for the nation’s growth. He further stated that human capital is entrenched in individuals in the form of knowledge and skills. Human capital is closely linked with training, practical skills attainment, knowledge, and abilities that facilitate the formation of personal, economic, and social wellbeing (Garavan et al., 2001). Vocational training and attainment of vocational skills are considered essential means of human capital development. It has both direct and indirect economic and social effects on individuals and society. Technical and vocational training is considered by experts a specific instrument for human capital development that can play a significant role in promoting socio-economic progress (Wallenborn, 2010). Vocational training result in economic gain with the impression of an increase in earnings that lead to a decline in the incidence of crimes in youth, change in fertility behavior, hinder population growth, reduce poverty and environmental pollution, etc. (Sweetland, 1996; McMahon, 1998). Vocational training and skills development have both formal and informal effects on an individual’s personal growth and development and income (Mincer, 1958).

Human capital development not only took into consideration the rate of monitory return but also consider social values and quality of life created due to investment in education and training (Bensen, 1978). Vocational training develops specific human capital by creating job-specific skills that make the workers more suitable and productive (Becker, 1975). Vocational skill training increases productivity, innovation and growth, and bridge poverty reduction among vulnerable communities. In a study, it was found that vocational skills development improves the quality and diversity of output and improves the lives and health of marginalized rural communities by increasing their earnings (Atchoarena & Gasperini, 2003).

2.2 New Growth Theory
According to the New Growth Theory, the economy can grow well by increasing the intellectual abilities and skills of human beings rather than increasing physical capital (Cortright, 2001). New Growth Theory advocates increasing return on investment rather than decreasing return as advocated by traditional growth theories. It claims that human capital allows the economy to grow at a constant rate as it has no diminishing marginal utility (Romer, 1994). This theory postulate that increased skills and knowledge of producing more with limited resources will impact the standard of living of people positively (Grossman & Helpman, 1994).

2.3 Socio-Economic Impacts of Vocational Training
The measurement of social benefits of vocational training is much difficult than the economic benefits as social benefits tend to be more diffuse. Both social and economic benefits are strongly interconnected. For example, participation in vocational training can generate high employment which leads to a reduction in income inequality, an increase in life satisfaction, and then a stable society. Less social
benefits have been reported so far, owing to the fact of lesser research in this area (Career Space Consortium, 2001). Furthermore, vocational and general education to a large extent substituted for each other in literature which makes it difficult to measure the unique social benefits of vocational training.

The association between human capital development and social awareness is based on a close inter-relationship that results in socio-economic and political development (Grubb & Lazerson, 2005). Investment in vocational training and skills development is beneficial for individuals, society, and a nation. The return on investment for an individual is a better career path and earnings and is global competitiveness and economic development for nations and societies (Alam, 2008). Effective utilization of vocational skills training inculcates essential skills and capabilities in youth that would help them become self-confident. In a study on technical and vocational training, Akyeampong pointed out that these trainings are not important only for their economic contribution but also for their positive role in social, cultural, and political development (Akyempong, 2002).

Vocational skills development reduces the economic dependency of family members on each other. In a study, it was concluded that adult learning caused improved earnings, decreased poverty, provided health benefits and brought considerable returns for one’s children, etc. (Sabates, 2008). The association between adult learning and community welfare contents from a social capital perspective which argues that adult learning promotes an active lifestyle that helps preserve community resources (Merriam & Kee, 2014). Unemployment among youth is a major economic and social problem with consequences of skill shortages in the economy, underutilization of human capital, poverty among youth, a potential increase in drug use, and criminal behavior (Dettmann & Günther, 2013; Meager, 2009). In a study on data taken from the National Child Development Study (NCDS), it was revealed that adult learning (Vocational and Leisure Courses) has a significant positive effect on the socialization of adults. The effect was observed in social and health outcomes, i.e. reduction in the use of alcohol and smoking, increase in physical exercise, and other related measures of life satisfaction (Feinstein & Hammond, 2004).

In another study by Feinstein, the effects of higher and vocational education were found less robust on depression and obesity (Feinstein, 2002). Self-esteem, gaining self-competencies, social integration, gaining a sense of hope and purpose are direct outcomes of education that result in better health conditions and wellbeing (Hammond, 2002). Self-esteem and confidence associated with vocational courses had also been reported by Dawe (2004). In another study, Hammond mentioned that failure to succeed in learning could have long-lasting negative effects on learners (Hammond, 2004). National Centre for Vocational Education Research (NCVER) surveyed the indigenous Australians’ community and reported that 90% of the respondents had gained self-confidence and communicated better to people as a result of undertaking vocational courses (Butler et al. forthcoming).

The demands of employment for vocational training and increased skills put pressure on the individual to delay marriage and avoid parenthood at the earlier stages (Blackwell & Baynner, 2002). Durkheim (1956) wrote that developing a “sense of belonging to a larger society” should be the fundamental aim of formal (Institute based) and non-formal (Vocational) education regardless of the setting in which it emerges. Vocational education and training have immeasurable gains to a community as a whole. For instance, after controlling for one’s income, the amount of money and time devoted to charity and civic engagements respectively is directly associated with employment and earning and indirectly with job skills and training (Wolfe & Haveman, 1997).

Goel, (2010) stated that vocational skills and knowledge have a considerable effect on the social development of any nation thus plays an essential role in the economic development of a country. It was concluded in a study that more skilled workers volunteered twice as many hours as low skilled personnel and donated 50% more to charities. This good feature of human capital development through vocational training may lead to social cohesion and integrity (Hodgkinson & Weitzman, 1998). More skilled and educated people contribute to the formation of a good society in many ways. They make conversant
choices during voting, add positively to political stability and democratization, care more for human rights, and are more trusted by others (Wolfe & Haveman, 2002).

Van de Werfhorst (2016) concluded that vocational education graduates had a lower level of political interest and engagement as compared to general education graduates. He further suggested that this type of rigid differentiation of educational institutions may form a threat to democratic equality. Vocational training raises job skills and earning potential of the individual, which results in a decline in the crime rate. Crime becomes less attractive for the highly skilled and employed workforce. In a study conducted in England, it was found that the ultimate benefit from vocational education and skills training are growth in lifelong learning, increase in self-confidence, social cohesion, and active citizenship of individuals. It also results in the extension of friendship and social networks (Schuller, Brassett-Gandy, Green, Hammond & Preston, 2002). The effect of skills development on individual workers and organizations ends in an increase in social awareness that eventually leads to social development (Beach, 2009).

Vocational education and technical skills training are the most important factors for economic growth and social inclusion in a country (Nilsson, 2010). The findings of a study in Southern Punjab revealed that foreign funds play a significant role in boosting vocational training which is then a cause to alleviate individual poverty. It was also concluded that vocational training generates viable human capital for socio-economic development (Hayyat & Chughtai, 2016). In a study in Nigeria, it was supposed that the acquisition of technical and vocational skills improve the socio-economic condition of people and helps to transform men into a self-reliant and economically stable person. It helps to reduce the incidence of militancy, restlessness, kidnapping, and other social immoralities among youth (Isaac & Ph, 2014). Typical short term vocational training programs have significant effects on individual performance levels and self-confidence. However, no absolute evidence is available to determine its impacts on most social behavior, delinquency, employment, and lifestyles (Knox & Chicago, 1981).

The existing literature has shown an indirect relationship between vocational education and socio-economic wellbeing through intermediary variables, i.e. income and earnings, etc. Variation in this relationship also depends on the socio-cultural context of rural/indigenous communities as well as on the learning environment (Stanwick, Ong & Karmel, 2006). More importantly, social contact, friendship, solidarity, family concepts, sense of belonging and supportive environment, etc. are factors affecting the socialization of individuals during the training process.

2.4 Vocational Training Program of FATA-DA
FATA-DA being a specialized agency for prompt development in infrastructure and human capital, started interventions in FATA in the year 2006. Human capital development is the priority sector of FATA-DA was focused, and a huge amount of development budget (Approx. Rs. 2.8 billion) was allocated to vocational training. More than 52000 males and females in age 16-35 were trained in more than 70 different market-oriented trades. 90% of training was of six months duration each. 10% were of either three months or twelve months duration. The program focused on more than 70 different vocational trades listed in Table 1 below.
Table 1 List of Trades

| Trades                                                                 | Trades                                                                 |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| • Auto Electrician                                                    | • Mobile Phone Repairing                                               |
| • Auto Mechanics                                                      | • Plumbing                                                             |
| • Basic Electrician                                                  | • Quantity surveyor                                                    |
| • Building Painter                                                   | • Refrigeration/Air-conditioning Repairing Sheet                       |
| • Carpet Weaving                                                      | • Metal Works                                                          |
| • Office Automation & Management                                      | • Steel Fixer                                                          |
| • Computer (Hardware)                                                | • Surveyor Civil                                                      |
| • Cutting, carving, polishing of precious and semi-precious stones    | • Turner Machinist                                                     |
| • Domestic Electrician                                               | • TV/ Radio Repairing                                                  |
| • Dress making and tailoring techniques                              | • Wood Technology                                                      |
| • Electrician                                                         | • X-Ray Machine Operator                                              |
| • Fabric and Garments Productions                                    | • Call Centre Operator                                                |
| • Gemology & Carving                                                 | • Stitching Machine Operator Training                                  |
| • Gemology & Faceting                                                | • Fan Development & Parts Manufacturing                                |
| • General Electrician                                                | • Conventional Machinery Operator Course                               |
| • Heavy Machinery Operator                                           | • Electrical equipment and electric fan testing course                 |
| • Industrial Electrician                                             | • Fan Assembly Course                                                 |
| • Laboratory Assistant                                               | • Auto CAD 2D, 3D                                                      |
| • Land Surveying (With Auto CAD)                                     | • CAD/CAM course                                                      |
| • Marble and Granite mining, cutting, polishing                      | • Computerized Numerical Control (CNC)                                 |
| • Light Engineering                                                  | • Mechanic-II (Engine)                                                |
| • Leather Goods                                                      | • Mechanic-II (Chasis)                                                |
| • Masonry                                                            | • Optical Fiber Cable Jointing                                         |
| • Material Testing                                                   | • Motor Winding Stitching Machine Operator Training                    |
| • Computer Networking Technician                                      | • Fan Development & Parts Manufacturing                                |
| • Telecom Technician                                                 | • Conventional Machinery Operator Course                               |
| • Control Room Operator                                              | • Electrical equipment and electric fan testing course                 |
| • Advanced Auto Mechanic (EFI/CNG)                                   | • Fan Assembly Course                                                 |
| • Construction Safety                                                | • Auto CAD 2D, 3D                                                      |
| • ACUDUCT Insulator                                                  | • CAD/CAM course                                                      |
| • Tile Mason                                                         | • Machinery Course                                                     |
| • Plaster Mason                                                      | • Mechanic-II (Engine)                                                |
| • Block Mason                                                        | • Mechanic-II (Chasis)                                                |
| • Fall Ceiling                                                       | • Lasting Computerized Numerical Control                               |
| • Scarf Folder                                                       | • Optical Fiber Cable Jointing                                         |
| • Football Stitching                                                 | • Call Centre Operator                                                |
| • Leather Upper Cutting Stitching                                    | • Turned Machinery Operator                                           |
| • Advanced Auto Mechanic (EFI/CNG)                                   | • Fan Assembly Course                                                 |
| • Construction Safety                                                | • Auto CAD 2D, 3D                                                      |
| • ACUDUCT Insulator                                                  | • CAD/CAM course                                                      |
| • Tile Mason                                                         | • Machinery Course                                                     |
| • Plaster Mason                                                      | • Mechanic-II (Engine)                                                |
| • Block Mason                                                        | • Mechanic-II (Chasis)                                                |
| • Fall Ceiling                                                       | • Lasting Computerized Numerical Control                               |
| • Scarf Folder                                                       | • Optical Fiber Cable Jointing                                         |

Source: FATA-DA, 2019

Students were recruited through open competition within agency quota and were invited through an advertisement in daily news as well as through the official website of FATA-DA. Basic eligibility criteria were candidates having FATA Domicile and fall in the age group of 16-35 years. Education requirements varied from the middle to matric in different categories. According to a report of FATA-DA Skill section, 95-96% of trainees completed their training. After 1-2 years of training completion, it was observed that 36% of trainees were engaged in any category of job, while 24% were found employed in the category of training (Relevant employment) (Ullah & Malik, 2020). An unpublished study conducted by the M&E Section of FATA-DA also showed 25-27% relevant employment for male youth of FATA after training completion.

3. Research Methodology
3.1 Study Area
The study was conducted in an extremely backward area of the country (FATA) where most of the people (73%) living under the poverty line. It is a general perception that people of FATA are socially underdeveloped that can easily be seen from their involvement in anti-state and anti-social activities. People lack vocational skills hence restricted to subsistent farming for their livelihood.
3.2 Study Population & Sample Size
The population for the treatment group was 23296 males who completed at least one course from FATA-DA from 2006 till June 2016. The population for the control group was male group age 16-35 years from FATA who didn’t participate in the training program. The sample size of 200 each was taken from both population groups through disproportionate stratified random sampling. This type of sampling was done to avoid underrepresentation of one stratum; as both groups were of uneven nature. The sample size was selected by using the following Slovin’s formula. The use of Slovin's formula allows the researcher to sample the population with the desired degree of accuracy (Ellen, 2013).
Sample size (SS) =
Where N= Target population from which sample to be drawn
a = Margin of error at 95% confidence level i.e. 100%-95% = 5%

3.3 Questioner Development and Survey Administration
A well-structured questioner was developed by incorporating information on personal and family parameters and questions on social development indicators. The questioner was developed by taking help from other questioners administered in similar studies conducted earlier. The survey was given to respondents at least 02 years after the training completion. The questioners were administered directly by face to face interaction to gather information from respondents.

4. Research Design
A cross-sectional research design was used for this study. This type of research data is collected at a single point in time. The quantitative research methodology was adopted. The respondents were asked questions on social changes brought about by vocational training. Likert scale was used for data analysis in order to ensure the entire data sample is analyzed fairly. In order to compare the outcome for treatment and control groups, data were analyzed through cross-tabulation in SPSS.

5. Results and Discussion
5.1 Descriptive Statistics (Demographic Information of the Respondents)
Table 2 below summarizes the demographic differences of the treatment and the control group. Most of the respondents from both groups fall in the age group 16-20 years. Most of the respondents are unmarried. Maximum numbers of the respondents have education up to FA/FSc level. Fathers of most of the respondents in the treatment group are illiterate while in the control group, they were having primary level education. Fathers of most of the respondents were self-employed having their own businesses. Most of the respondents in both groups were belonging to families having monthly income above Pak Rs. 20,000. It was also noted that most of the families were living inside FATA. Most of the respondents from the treatment group showed their family size of 9-12 members each, while in the case of the control group, it was 6-8 members each. In both cases, maximum numbers of families were reported to have a household head other than the respondent himself. When asked about the previous job position, a maximum number of the respondents were having no job before starting the training with FATA-DA.

| Respondent Information | Treatment Group | Control Group |
|------------------------|-----------------|---------------|
| Age of Respondent      | Frequency (%)   | Frequency (%) |
| 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         |
### Table 3 Participation in vocational training*My poverty level has reduced (Cross tabulation)

| Participation in vocational training | My poverty level has reduced | Total |
|-------------------------------------|-------------------------------|-------|
| Yes                                 | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| 39(19.5%)                           | 36(18%)         | 55(27.5%)  | 47(23.5%) | 23(11.5%) | 200(100%)     |
| No                                  | 28(14%)         | 56(28%)    | 79(39.5%)  | 33(16.5%) | 04(2%)        | 200(100%)     |

Source: Field Survey, 2018

6. Analysis of Socio-Economic and Political Impacts of Vocational Training of FATA-DA

6.1 Poverty Reduction

The result in table 3 below shows that vocational training has significantly contributed to poverty reduction in FATA. Overall, 35% of respondents from the treatment group were found to either agree or strongly agree with the statement as compared to 18.5% from the control group. These findings are supported by Rothwell and Kazanas (2014), who stated that effective skills training leads to an increase in the performance of craftsmen, hence their wages. On the micro-level, investments in human capital formation through education and training were regarded as a means to create employment and increase earning, thereby reducing individual poverty (Tilak, 2002)
### 6.2 Life-Long Learning
Lifelong learning is defined as “all learning activity is undertaken throughout life”. Life-long learning improves health condition, increase earning and reduce poverty (Sabates, 2008). Respondents were inquired about an increase in life-long learning as a result of vocational training. The result shows a significant improvement in the life-learning of respondents. 62% of the respondents from the treatment group were found to either agree or strongly agree with the statement as compared to 45% from the control group. These findings are supported by Schuler et al. (2002) who in his study concluded that the ultimate benefit from vocational education and skills training are growth in lifelong learning, increase in self-confidence, social cohesion, and active citizenship of individuals. These findings also supported by Wößmann (2008), who stated that TVET could improve the non-cognitive skills of low-skilled adults, which further enhance their lifetime skill acquisition and learning.

| Participation in vocational training | My life-long learning has increased | Total |
|-------------------------------------|-----------------------------------|-------|
| Yes                                 | Strongly Disagree                 | 13(6.5%) |
|                                     | Disagree                          | 21(10.5%) |
|                                     | Neutral                           | 42(21%)  |
|                                     | Agree                             | 85(42.5%) |
|                                     | Strongly Agree                     | 39(19.5%) |
| No                                  | 10 (5%)                           |
|                                     | 37(18.5%)                         |
|                                     | 63(31.5%)                         |
|                                     | 75(37.5%)                         |
|                                     | 15 (7.5%)                         |
| Total                               | 23(5.8%)                          |
|                                     | 58(14.5%)                         |
|                                     | 105(26.2%)                        |
|                                     | 160(40%)                          |
|                                     | 54(13.5%)                         |

Source: Field Survey, 2018

### 6.3 Voluntary Communal Activities and Social Engagements
The respondents were asked if they were actively participating in voluntary communal activities after training completion. The result shows no significant effect of participation in vocational training in that respect. 52.5% of respondents from the treatment group were found either strongly disagree or disagree with the statement as compared to only 10.5% from the control group. 56.5% of respondents from the control group were found either agree or strongly agree as compared to 32.5% from the treatment group. These findings are inconsistent with the findings of Schuler et al. (2002) and (Wolfe & Haveman, 1997). The relationship of vocational training with social change also depends on the socio-cultural context of the indigenous communities as well as on the learning environment (Stanwick, Ong & Karmel, 2006). In the case of vocational training of FATA-DA, the non-significant effect may also be due to not suitable learning environment or due to socio-cultural issues.

| Participation in vocational training | Participation in voluntary communal and social activities |
|-------------------------------------|---------------------------------------------------------|
| Yes                                 | Strongly Disagree | 28(14%) |
|                                     | Disagree          | 77(38.5%) |
|                                     | Neutral           | 30(15%)  |
|                                     | Agree             | 52(26%)  |
|                                     | Strongly Agree    | 13(6.5%) |
| No                                  | 08(4%)            |
|                                     | 13(6.5%)          |
|                                     | 79(39.5%)         |
|                                     | 67(33.5%)         |
|                                     | 46 (23%)          |
| Total                               | 36(9%)            |
|                                     | 90(22.5%)         |
|                                     | 109(27.2%)        |
|                                     | 119(30%)          |
|                                     | 59(14.8%)         |

Source: Field survey, 2018

### 6.4 Avoiding Risky Health Behaviors
Respondents were investigated for the subject effect after completion of their training. The result showed no significant effect of vocational training of FATA-DA on building a sense of avoiding risky health behavior. 42% of the respondents from the treatment group were found either agree or strongly agree with the statement as compared to 87% from the control group. These findings are in line with the findings of Stanwick (2006), who concluded that higher level qualifications were closely associated with better health outcomes and healthy life behavior, while lower-level vocational qualifications were not. In another study by Feinstein, the effects of higher and vocational education were found less robust on depression and obesity (Feinstein, 2002).

| Participation in vocational training | Caring more about risky health behaviors | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------------------------------|----------------------------------------|------------------|---------|---------|-------|---------------|-------|
| Yes                                 |                                        | 13(6.5%)         | 13(6.5%)| 90(45%) | 58(29%)| 26(13%)       | 200(100%)|
| No                                  |                                        | 04(2%)           | 09(4.5%)| 13(6.5%)| 89(44.5%)| 85(42.5%)     | 200(100%)|
| Total                               |                                        | 17(4.2%)         | 22(5.5%)| 103(25.8%)| 147(36.8%)| 111(28%)      | 400(100%)|

Pearson Chi-Square Value = 1.01 (0.000)

Source: Field survey, 2017

### 6.5 Perception of Male Youth towards Female Education

FATA’s women had been deprived of their educational rights for ages. The male being a dominant group in FATA does not allow their female counterpart to get an education. It is evident from the existing female literacy rate in FATA, which is 3%, and drops out ratio, which is 70.6%. Positive change in perception of male toward female education was the expected outcome of the vocational training program. The result shows no significant effect of participation in vocational training. 62.5% of the respondents from the treatment group were found either agree or strongly agree with the statement as compared to 82% from the control group. On the other side, 23% of the respondents from the treatment group were found either strongly disagree or disagree as compared to 10.5% from the control group. According to Bennett (2018), general education is more effective than technical and vocational in bringing social change and awareness among the masses. Furthermore, it can be stated that the learning environment and short duration of the training would not have been enough for bringing positive change in the perception of male youth towards female education.

| Participation in vocational training | Favor higher education for female of FATA | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------------------------------|------------------------------------------|------------------|---------|---------|-------|---------------|-------|
| Yes                                 |                                          | 20(10%)          | 26(13%) | 31(15.5%)| 77(38.5%)| 46(23%)       | 200(100%)|
| No                                  |                                          | 18(9%)           | 03(1.5%) | 14(7%)  | 87(43.5%)| 78(39%)       | 200(100%)|
| Total                               |                                          | 38(9.5%)         | 29(7.2%) | 45(11.2%)| 164(41%)| 124(31%)      | 400(100%)|

Pearson Chi-Square Value = 33.63 (0.000)

Source: Field survey, 2018

### 6.6 Appreciating FATA’s Women for Doing a Job

In the FATA context, in a male-dominated society, women are rarely allowed to work outside their homes. The respondents were inquired for the same reason and found that participation in vocational training of FATA has no significant effect on changing the mentality of males towards working women. 33.5% of the respondents from the treatment group were found either disagree or strongly disagree with the statement as compared to 22% from the control group. These findings are supported by Bennett (2018), who stated that vocational education is less effective in bringing social changes and awareness
among the masses. Furthermore, quality training and learning environments also matter.

### Table 8 Participation in vocational training* Appreciate women of FATA for doing job outside homes

| Participation in vocational training | Appreciate women of FATA for doing job outside homes | Total |
|-------------------------------------|------------------------------------------------------|-------|
| Yes                                 | Strongly Disagree 49(24.5%)  Disagree 18(9%)  Neutral 63(31.5%)  Agree 41(20.5%)  Strongly Agree 29(14.5%) | 200(100%) |
| No                                  | Strongly Disagree 26(13%)  Disagree 18(9%)  Neutral 45(22.5%)  Agree 66(33%)  Strongly Agree 45(22.5%) | 200(100%) |
| Total                               | Strongly Disagree 75(18.8%)  Disagree 36(9%)  Neutral 108(27%)  Agree 107(27.8)  Strongly Agree 74(18.5%) | 400(100%) |

Pearson Chi-Square Value = 19.35 (0.000)

Source: Field survey, 2018

### 6.7 Preference for an Educated Life Partner

As per the findings of Anderberg & Zhu (2010), the educated and skilled individual prefers a life partner of the same qualification and background. The respondents were asked if they desire educated and skilled life partners and observed no significant difference between treatment and control groups. A maximum number of the respondents from both groups were found interested in having an educated and skilled life partner. These findings show social change among the youth of FATA, but again no significant role of vocational training of FATA-DA was found.

### Table 9 Participation in vocational training* Preferences for educated life partner

| Participant in vocational training | Preferences for educated life partner | Total |
|-----------------------------------|--------------------------------------|-------|
| Yes                               | Strongly Disagree 28(14%)  Disagree 35(17.5%)  Neutral 35(17.5%)  Agree 64(32%)  Strongly Agree 38(19%) | 200(100%) |
| No                                | Strongly Disagree 20(10%)  Disagree 29(14.5%)  Neutral 44(22.0%)  Agree 61(30.5%)  Strongly Agree 46(23%) | 200(100%) |
| Total                             | Strongly Disagree 48(12%)  Disagree 64(16%)  Neutral 79(19.8%)  Agree 125(31.2%)  Strongly Agree 84(21%) | 400(100%) |

Pearson Chi-Square Value = 3.755 (0.440)

Source: Field Survey, 2018

### 6.8 Perceptions of Family Planning

According to the economic theory of fertility II, parents desire to have less number of children with higher human capital investment. Increasing return to human capital development results in fertility decline (Pradhan, 2016). Family Planning is a vague concept in the context of FATA. Respondents were asked for any positive change if occurred due to vocational training. The result shows no significant difference between treatment and control groups. These findings are inconsistent with the findings of Baird, Chirwa, McIntosh, & Özler, (2010); Baird, McIntosh, & Özler, (2011) and Blackwell & Baynner, (2002) but supported by Bennett (2018) who stated that vocational education is less effective in bringing social changes and awareness among masses. In the FATA context, due to the stronger influence of culture and religion; six months short duration vocational training courses may not be enough alone to change the perception of FATA’s youth towards family planning.

### Table 10 Participation in vocational training* Perceptions towards bringing more children

| Participant in vocational training | Perceptions towards bringing more children | Total |
|-----------------------------------|------------------------------------------|-------|
| Yes                               | Strongly Disagree 21(10.5%)  Disagree 35(17.5%)  Neutral 30(15%)  Agree 77(38.5%)  Strongly Agree 37(18.5%) | 200(100%) |
| No                                | Strongly Disagree 11 (5.5%)  Disagree 36(18%)  Neutral 43(21.5%)  Agree 77(38.5%)  Strongly Agree 33(16.5%) | 200(100%) |
| Total                             | Strongly Disagree 32(8%)  Disagree 71(17.8%)  Neutral 73(18.2%)  Agree 154(38.5)  Strongly Agree 70(17.5%) | 400(100%) |
6.9 Self-confidence and Sense of Responsibility
As employees undergo skill training, their confidence level increases, and their value can also be confirmed (Noe, Hollenbeck, Gerhart & Wright, 2014). The respondents were asked if they had built self-confidence and a sense of responsibility after participation in the vocational training of FATA-DA. The result shows no significant effect of the said training on the treatment group. 85% of the respondents from the control group were found either agree or strongly agree with the statement as compared to 73% from the treatment group. Typical short term vocational training courses have significant effects on individual performance levels and self-confidence (Knox & Chicago, 1981). In the case of FATA’s youth, respondents from the control group didn’t participate in vocational training, but they might have continued their general education that may have resulted in building more confidence and a sense of responsibility as compared to vocational training graduates.

Table 11 Participation in vocational training* Feeling self-confidence and sense of responsibility

| Participation in vocational training | Feeling self-confidence and sense of responsibility | Total |
|------------------------------------|-----------------------------------------------|-------|
| Yes                                | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|                                   | 9(4.5%)           | 07(3.5%) | 38(19%) | 101(50.5%) | 45(22.5%) |
| No                                 | 05(2.5%)          | 04(2%)   | 21(10.5%) | 91(45.5%) | 79(39.5%) |
| Total                              | 32(8%)            | 11(2.8%) | 59(14.8%) | 192(48.0%) | 124(31%) |

Source: Field survey, 2018

6.10 Financial Support of the Needy People
Alms and charitable giving is an indirect beneficial effect of vocational training (McMahon, 1998). The respondents were inquired if they have developed such type of kind behavior after participation in the vocational training of FATA-DA. The result shows no significant effect. Less number of the respondents from the treatment group, i.e. 45.5% were found either agree or strongly agree with the statement as compared to respondents from the control group (87%). These findings are in contrast to the findings of Wolfe & Haveman, (1997). 64% of graduates of the training program were still unemployed (Ullah & Malik, 2019). An unpublished report of the M&E Section of FATA-DA showed 73-75% unemployment among graduates of the vocational training program of FATA-DA.

Table 11 Participation in vocational training* Financial support of needy people in the community

| Participation in vocational training | Financial support of needy people in the community | Total |
|------------------------------------|-----------------------------------------------|-------|
| Yes                                | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|                                   | 13(6.5%)          | 19(9.5%) | 79(39.5%) | 67(39.4%) | 22(11%) |
| No                                 | 03(1.5%)          | 01(0.5%) | 22(11%) | 103(51.5%) | 71(35.5%) |
| Total                              | 16(4%)            | 20(5.0%) | 101(25.2%) | 170(42.5%) | 93(23.2%) |

Source: Field survey, 2018

6.11 Participation in Politics
People of FATA due to certain discriminatory policies of government remained deprived and unaware of their political rights in the past. The respondents were asked about their political participation after training completion. The result shows no significant contribution in this area. 62.5% of respondents from the treatment group were found either agree or strongly agree as compared to 79.5% from the control group.
group. These findings are supported by the study of Van de Werfhorst (2016), where he concluded that vocational education graduates had a lower level of political interest and engagement as compared to general education graduates.

Table 12 Participation in vocational training* Participation in political engagements

| Participation in vocational training | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------------------------------|------------------|---------|---------|-------|----------------|-------|
| Yes                                 | 16(8%)           | 24(12%) | 35(17.5%) | 88(44%) | 37(18.5%)      | 200(100%) |
| No                                  | 10(5%)           | 06(3%)  | 25(12.5%) | 100(50%) | 59(29.5%)      | 200(100%) |
| Total                               | 26(6.5%)         | 30(7.5%) | 60(15%)   | 188(47)  | 96(24%)        | 400(100%) |

Pearson Chi-Square Value = 19.659 (0.001)

Source: Field survey, 2018

6.12 Favor of Participation of FATA's Women in Politics
FATA’s society remained male-dominated; therefore, women are not allowed to participate in activities other than agricultural activities and household chores. The respondents were asked for a change in their perception of women's participation in political activities. No positive impact was observed. Less number of individuals (41%) from the treatment group was found either agree or strongly agree with the statement as compared to the control group (70.5%). Vocational skills development has a significant effect on the socialization of the youth community (Managing Vocational Training Systems: A Handbook for Senior Administrators, 2001) but here may be due to quality issues the training didn’t show its effect.

Table 13 Participation in vocational training* Participation of FATA's women in political activities

| Participation in vocational training | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------------------------------|------------------|---------|---------|-------|----------------|-------|
| Yes                                 | 28(14%)          | 40(20%) | 50(25%) | 50(25%) | 32(16%)        | 200(100%) |
| No                                  | 08(4%)           | 21(10.5%) | 30(15%) | 93(46.5%) | 48(24%)        | 200(100%) |
| Total                               | 36(9%)           | 61(15.2%) | 80(20%) | 143(35.8) | 80(20%)        | 400(100%) |

Pearson Chi-Square Value = 38.159 (0.000)

Source: Field survey, 2018

6.13 Perception towards FATA’s Merger with Khyber Pakhtunkhwa (KP) Province
For the last few years, FATA’s merger with Khyber Pakhtunkhwa province was the government's first priority. With the merger, it was expected that a change would occur in the tradition, economy, politics, and socio-economic development of FATA. A significant number of well-known elders and associations have strongly rejected the idea of merging FATA with KP with the view that it will replace one corrupt system in the shape of a political agent with a more corrupt system in the form of police and judiciary (Qazi, Qazi & Bashir, 2018). Respondents were asked about their concern about FATA’s merger with KP province. The result shows 65% of the respondents from the treatment group were found either agree or strongly agree as compared to 75% from the control group. No significant effect of the vocational training of FATA-DA was observed. Taking the merger, a political issue, these findings are again supported by the study of Van de Werfhorst (2016).

Table 14 Participation in vocational training* Favor of FATA merger with KP

| Favor of FATA merger with KP | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-----------------------------|------------------|---------|---------|-------|----------------|-------|
| Yes                         | 28(14%)          | 40(20%) | 50(25%) | 50(25%) | 32(16%)        | 200(100%) |
| No                          | 08(4%)           | 21(10.5%) | 30(15%) | 93(46.5%) | 48(24%)        | 200(100%) |
| Total                       | 36(9%)           | 61(15.2%) | 80(20%) | 143(35.8) | 80(20%)        | 400(100%) |
Participation in vocational training

|   | Yes | No  | Total |
|---|-----|-----|-------|
| Yes| 20(10%) | 25(12.5%) | 45(11.2%) |
| No | 17(8.5%) | 15(7.5%) | 32(8%) |
| Total| 33(16.5%) | 10(5%) | 43(10.8%) |
| Yes| 81(40.5%) | 76(38%) | 157(39.2%) |
| No | 49(24.5%) | 74(37%) | 123(30.8%) |
| Total| 200(100%) | 200(100%) | 400(100%) |

Pearson Chi-Square Value = 18.223 (0.001)

Source: Field survey, 2018

7. Conclusion

This study concluded with the findings that vocational training of FATA-DA has limited impact on the social development of FATA’s youth. Among 13 indicators of social change and development that were focused on in this study, the positive impact was observed only on 02 indicators, i.e. reduction in poverty level and an increase in lifelong learning. Same responses were observed for both the treatment and control group on 02 indicators, i.e. preference for an educated life partner and family planning. On 09 indicators of social change, i.e. participation in voluntary communal activities, avoiding healthy risky behavior, perception towards the education of female, appreciating women for doing jobs, self-confidence and sense of responsibility, financial support of poor people, political participation, the favor of the participation of women in politics and perception regarding FATA’s merger in KP province, the impact of vocational training of FATA-DA recorded were recorded not significant.

Literature is deficient in studies focusing on the social impacts of vocational training. Most of the studies have focused on the social impacts of general and higher education. Few studies showed, i.e. studies conducted by Knox & Chicago (1981) and Van de Werfhorst (2016) etc. reported limited social impacts of short-term vocational training. As far as the FATA-DA vocational training is concerned; the researcher in another study on vocational training of FATA-DA recorded that only 24% of training graduates got relevant employment after training completion. As evident from the literature that the social impacts of vocational training up to a maximum extent are indirect and depend on intermediary variables, i.e. income and employment, etc. Less employment and minimum earning may have the leading causes of limited social impacts in this case. It is recommended that quality parameters should be focused for maximum outcome. A course on ethics, social and behavioral studies may also be included in the vocational training curriculum. It is also recommended that the same study may be replicated again with bigger sample size.

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**Competing Interest**

The authors declare no competing interest.

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