

A Case Study: The Objective of the National Skills Strategy to Encourage Entrepreneurship and Technical Education and Vocational Training Authority-Punjab

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Abstract

National Skills Strategy (NSS) has set objective to encourage entrepreneurship among the students of technical vocational education and training in Pakistan. After 18th amendment the Punjab Skill Development Plan (2013) translates the NSS (2009-013) objectives in the province of Punjab through Technical Education and Vocational Training Authority – Punjab. This research aims to study the efforts of the TEVTA- Punjab for promoting the entrepreneurship education among the students of TVET. The study also aims to study the impact of the entrepreneurship education on students mind set. This study is based upon the theoretical framework of the Theory of Planned Behaviour by Ajzen (1990). It is basically quantitative research for which a survey was conducted from the students those has participated in entrepreneurship education module and those have not participated in entrepreneurship education course. It was revealed that entrepreneurship education has an impact on students mind set to become an entrepreneur. The study has practical implications for TVET institutes and technology education programs to produce entrepreneurship education and TVET policy makers, administrators and curriculum developers to enhance entrepreneurial mind set of the students. Future research can be conducted on the adaptation of the entrepreneurial curriculum for effective delivery of the entrepreneurship education.

1. Introduction

“Technical Vocational Education and Training (TVET) of the Punjab is facing the problem of the unemployment of its graduates. According to the Technical Education and Vocational Training Authority reports (2013) the total number of 30,987 TVET students were passed out from TEVTA- Punjab institutes in the year of 2012, out of which 7,961 has selected self employment as their career, 915 were found not interested in jobs, 5,812 TVET graduates moved for higher education, 9,189 found employment while 6,133 remained unemployed. The given figure-1 shows that a one fifth of the total TVET passed out were unable to employ their skills in market while more than one fifth students utilised their skills in self employment. Entrepreneurship education can resolve the problem of the unemployment of the TVET students by developing their entrepreneurial mind set and imparting the entrepreneurial skills.

“Entrepreneurship is a state of mind that initiates the process of innovation through investment, risk taking and return. Business schools are working on the development of curricula for the discipline of technology education to incorporate entrepreneurship in TVET. However, if educational process is a function of knowledge, skills and values then business schools have concentrated only on knowledge neglecting the skills and values both of which are either ignored or their existence is recognized (Cunningham, 1991). On the contrary, engineering and TVET institutes are producing graduates with problem solving mind set which is needed to provide a comprehensive solution for any problem. Engineers, technicians and crafts men already possess the qualities required to succeed in business. By enhancing those qualities with entrepreneurial knowledge and strong communication skills TVET graduates can return optimal benefits to their companies and to themselves by creating opportunities with innovation.” (Cunningham, 1991) In this context question rise “*is there any impact of the entrepreneurship education to develop entrepreneurial mindset of the TVET students? and What efforts have been initiated by the TVET organizations to introduce entrepreneurship education to the TVET student?*”

2. Aim and Objectives of the Study

The research aims to study the impact of the entrepreneurship education students mind set to run own business. It is also aim of the study to give an over view of the initiative to encourage entrepreneurship through National Skills Strategy (2009); Punjab skills Development Plan (2013); Punjab Youth policy (2012); and the practical efforts by the TEVTA- Punjab. In this context the research study has the following objectives; 1) to study the efforts by the TEVTA- Punjab in order to introduce entrepreneurship education in TVET Punjab; 2) to study the impact of the entrepreneurship education on students mind set to promote self employment.

3. Introducing the Entrepreneurship Education in TVET Punjab

Keeping in view the importance of the entrepreneurship education National Skills Strategy (2009) has felt the need to encourage entrepreneurship with following words;

“A large part of our workforce, especially that in the informal economy and within that, many women, are self employed. Self owned enterprises are an important source of earnings for families. It is important they are well managed in order to be successful. Many trainees have technical, trade specific skills, and would like to run their own businesses, but lack the supplementary skills needed to establish and sustain them.”

This is the reason an objective; to encourage entrepreneurship was included in NSS (2009). Further an action plan was developed for the implementation of the objective to encourage entrepreneurship. It was decided to develop modules in the area of entrepreneurship education for example; quality assurance, finance, marketing, HR management and business plan; to provide education with career, guiding and counselling for developing entrepreneurial mind set of the students as well develop entrepreneurial skills among the students and assist them to develop links with micro finance organizations.

National Technical Training and Vocational Council is responsible for coordination and communication with experts, TVET organization to develop modules for the students. It is also now in the provision of the Punjab Skills Development Plan (2013) to translate the objectives of the NSS (2009-013) in the province of Punjab after 18th amendment through TEVTA- Punjab and its constituted institutes.

3.1 The Punjab a Province of Pakistan

“Punjab is known as the land of five rivers as five major rivers of the country i.e. Sind, Sutlej, Ravi, Chenab, and Jhelum are flowing through it. These rivers starts from Himalayas pass through the different of parts of the Punjab. Agriculture is the backbone of the Punjab economy, the role of industry is also important for providing goods and employments in the economy of Punjab. Good irrigation system made the Punjab an agricultural province as 51 % acres are cultivated while 9.05 million remained uncultivated due to lack of water. The main crops of the Punjab are cotton and wheat, while other crops include the vegetables, sugarcane, corn, rice, millet, pulses, and vegetables. Mango and citrus is a popular fruit of the Punjab. 76% of the country food is produced by Punjab. Poultry as well live stock produce wool, meat, eggs and milk requirement of the country. The manufacturing industry of the Punjab include sports goods, surgical instruments, cement industry, textile, electrical appliances and food processing units. During the year of 2003, Punjab produced 40% of the cement, 90% of the paper, 69% of the sugar and 71% of the fertilizers of Pakistan. Food processing plants and industry include 7,355 units. 6,778 units of ginning industry, 14,820 units of the textile industry and 39,033 small industry and house units exist in Punjab. Punjab is also rich in mineral resources with the minerals of; silica sand, dolomite, salt (second largest salt mine of the world), gas, gypsum, petrol and coal resources.” (Punjab Govt, 2013)

Punjab Government is also focusing on self employment especially TVET graduates to run their own business. In this regard Punjab youth policy has especial focus on the development of the entrepreneurial skills among TVET student as given in the **box no.2**;

Box 2: Salient features of PYP, (2012) about entrepreneurship education in TVET

- *The government intends to assign high priority to promoting technical education in the province. A crash programme would be launched to impart technical education to unemployed educated youth and then provide micro-credit to them so that they can become self-employed;*
- *Specialized institutions for providing training in area specific needs will be opened e.g. training of agriculture, labor, and business on the pattern of Punjab Skills Development Fund. Similarly training to support tanneries, fans, cutlery, garments industries in relevant industrial areas etc.*
- *Sectoral initiatives in livestock and dairy development i.e. Rehabilitation of Mustahqeen-i-Zakat (eligible to receive alms money) by promotion of livestock keeping, training of unemployed youth as veterinary workers, replication of Idarae- Kissan model, provision of milk cooling tanks and promotion of livestock under the Barani Village Development Project.*

3.2 Technical Education Vocational Training Authority (TEVTA)

Punjab is a premier public sector body with a large institutional infrastructure in the Punjab for steady supply of trained manpower at the associate engineer, technician and craftsman levels. It undertakes to respond to the market demand through a flexible but dynamic approach to make the entire effort a great success. TEVTA was established in 1999 through an Ordinance and its legislation enacted in 2010. It is a Special Institution of Industries Department under the Rules of Business. By the virtue of these it is an autonomous body/ body

corporate formed by consolidating the TVET institutions working under different departments TEVTA has enrolled to train about 88633 youth in a multitude of training programs ranging from 3 months certificate to 3 years diplomas and bachelor of technology level. TEVTA is offering courses in technical stream Diploma of associate Engineer (DAE) after X- grade and Bachelor of Technology (pass/ hons.) after DAE in Government College of Technology.” Vocational Training Institutes/ centers are offering vocational certificate/ short courses ranging from 3-24 months as following;

| | | |
|------------------------|--------------------------|--------------|
| Highly Skilled Workers | Vocational Certificate | (3-Years) |
| Skilled Workers | Vocational Certificate | (2-Years) |
| Semi-skilled Workers | Vocational Certificate | (1-Year) |
| | Vocational Short Courses | (3-6 Months) |

TEVTA has 05 staff training colleges for staff training, 17 service centres, 141 Technical training centres, 117 vocational training centres for women, 47 technical training institutes and 29 college of technology. Technical and Vocational Education and Training has also become under the domain of the provinces after 18th amendment. TEVTA- Punjab is on cutting edge to implement the NSS, PSDP as well Punjab youth policy for the improvement of TVET in Punjab as well to encourage entrepreneurship. It is also working with national NGO's to promote entrepreneurship among TVET graduates for example a MoU has been signed with Akhuwat for the promotion of entrepreneurship in TVET as following;

Box: 3 TEVTA MoU with Akhuwat for the promotion of Entrepreneurship in TVET: TEVTA has signed MoU with Akhuwat and Center for Women Co-operative Development (CWCD) for providing small loans to the Graduates/Pass-outs of TEVTA irrespective of the duration and nature of course they have done from TEVTA. The Akhuwat will provide Loans up to Rs.25,000/- without interest to the Graduates of TEVTA living in the area which comes in the radius of 6 KMs of the branches of Akhuwat located (List enclosed). Similarly CWCD will provide Loan up to Rs.100,000/- to the TEVTA Graduates / Pass-outs living in the area of 20 KMs radius of the branches of CWCD (List enclosed) on the terms of Islamic Financing. The Principals and Teachers must motivate and guide the TEVTA Graduates (Pass-outs) and present students to make use of this facility for creating self employment opportunities for themselves by starting their own small businesses. The graduates (Pass-outs) of TEVTA or present students may contact the focal person in institutions or Akhuwat / CWCD branches directly with reference to TEVTA for details / processing of applications.

3.3 Know About Business (KAB)

TEVTA is also working in collaboration with ILO to introduce KAB modules in TVET institutes. International Labor Organization (ILO) has developed an education program with the name Know about Business (KAB). ILO works with governments, employers and their employees with aims to develop policies and programs to promote employability of the youth and labor rights as a specialized agency of UN. KAB program aims to deliver entrepreneurship education at TVET, secondary and tertiary levels of education. KAB was introduced in TVET Punjab in collaboration with ILO during the year 2011.

The KAB program was aimed to prepare the TVET students with basic know-how about entrepreneurship. It was an endeavour to develop the mindset of the youth to start own business in future. Although it is not expectation of the KAB training to become most of the youth a high profile entrepreneurs based on these modules however it is aimed to develop their mindset for an initiative which may also leads to become some of them as high profile entrepreneur. It taught them about the available option of the self employment.

ILO is offering KAB program in more than 30 developing countries. The contents of the KAB are standardised and unified. The basic criterion for schools, institutes or colleges is to send at least two trainees in KAB seminar than these institutes must offer the course of KAB for the students as an elective or optional course. The recommended numbers of the student in KAB class is 35. It is also recommended that the trainees for the KAB seminar must be from administrative domain of the institutes instead of instructors or faculty. Preferably they may be school or institute counsellor because it is purpose of the KAB to address the problem of unemployment in Punjab by developing entrepreneurial mind set of the students. It is also pertinent to say that KAB does not require basic qualification for the business discipline for the training of its facilitators.

4. Research Task

The research task was performed to achieve the first objective of the question of the study to explore the impact of the entrepreneurship education on the entrepreneurial mind set of the TVET students of the Punjab. ILO, NAVTTC and TEVTA Punjab was working for the training of the teachers to full fill the objective of the National Skills Strategy (NSS) 2009-013 to encourage entrepreneurship among TVET students. In this regard researcher developed entrepreneurial pedagogical skill development modules for the TVET teacher training. Teacher trainings were organized in collaboration with TVETA-Punjab. A tentative entrepreneurial curriculum of Know About Business (KAB) was given to the teachers for pilot testing. The trained teachers delivered the

entrepreneurship education modules to the Diploma of Associate Engineer (DAE) students. A quantitative study was conducted from the students those have participated in entrepreneurship education and those have not participated in entrepreneurship education.”

“A questionnaire was adapted from the Entrepreneurial Intentions Questionnaire (EIQ) to conduct quantitative survey from the DAE students those has participated in entrepreneurship education and those has not participated in entrepreneurship education. The hypothesis were developed those were based upon the conceptual framework of the theory of Planned behavior (TPB).”

“According to Ajzen (1991) entrepreneurial intentions are formed with personal attitudes, subjective norms and perceived behavioral controls. All three factors are backed up with the demographical and other human capital factors which strengthen an individual’s behavior towards entrepreneurial venture.”

“In the modern global economy, entrepreneurship has become a central issue for business studies as well as in other disciplines like sciences and engineering. Many scholars ask, either implicitly or explicitly, why anyone should study entrepreneurship (Shane and Venkataraman, 2000). It is thought most researchers are attracted to this area of study due to the perceived ability to make a constructive difference to individual, social and national development (e.g., Fayolle and Degeorge 2006). There are significant differences between students who have taken entrepreneurship courses and those who have not participated in entrepreneurship education (Fayolle *et al*, 2006; 2007). According to Noel (2001) Entrepreneurship graduates were more likely to launch businesses and had greater intentions to become entrepreneurs. Participation in entrepreneurship education has an impact on students’ behavior. 147 programme participants reported that 34 percent of the graduates started a business after taking an entrepreneurship course and 52 percent planned to go into business within six months of the survey (Mescon, 1987). Attendance of entrepreneurship courses has increased the number of business start-ups as various responses had been given pertaining to the intention to launch a venture upon graduation (Galloway & Brown, 2002). According to Lee et al., (2005) the results of the study showed that Korean students who had taken entrepreneurship education had significant higher intention to start up ventures compared to their American counterparts. Charney & Libecap (2003) research shows entrepreneurship graduates were found to be three times more likely to initiate a new venture and become self-employed compared to no entrepreneurship graduates. By observing the impact of entrepreneurship education on students’ intentions to decide entrepreneurship as their career selection, entrepreneurship education variable has been added for developing conceptual frame work of the study Figure. 1.

5. Significance of the Study

“It is also the aim of this research to contribute to the extent theoretical framework by identifying the variable of entrepreneurship education that could influence students’ inclination towards entrepreneurship, especially in Pakistani context. Furthermore, the relationship between entrepreneurship education and entrepreneurial inclination, which may be moderated by personal and family business background, will also be investigated in this study. Knowledge about the variable associated with entrepreneurship education that impacts the Punjab’s TVET students’ entrepreneurial inclination is still sketchy.

This research study will examine TVET students’ inclination towards entrepreneurship; it may provide useful practical information to educational policy makers in making more informed decisions on entrepreneurship programmes in order to increase students’ participation in business in the future. The TVET stakeholders of the province Punjab such as NAVTTC, TEVTA, PVTC, Skill Development Council, NGO’s and industry will also have a better understanding of the factors those may influence students’ propensity towards starting up entrepreneurial ventures. The outcomes of this research are expected to have policy implications for the future development of entrepreneurship programmes for young people, especially students in technical and vocational institutes.”

6. Research Methodology

“Quantitative research approach was used by conducting a questionnaire survey that was based upon Entrepreneurial Intentions Questionnaire. The questionnaire was adapted with the permission of the authors from previously existing Entrepreneurial Intentions Questionnaires (EIQ). Reliability will be measured by pilot testing. Population of the study comprises of DAE students in Punjab from Technology Institutes. In this study, DAE students are 2nd year academic students studying in technology colleges of the Punjab.”

“Random sampling technique was used in the study for selecting the sample that was comprise of 250 students of DAE those has participated in entrepreneurship education and 250 DAE students was selected those had not participated in entrepreneurship education. A comparison was made between those students who participated in entrepreneurship education and the non participants.”

“t-test was used to analyze the data, Structural Equation Model was also considered for quantitative data analysis. SPSS, AMOS software was used for quantitative data analysis.”

7. Structural Equation Model for Theory of Planned Behaviour

Structural Equation Model was run to observe the relationship between the variables of the proposed models of the Theory of Planned Behaviour as it is shown in the figure 2.

The table: 7 shows the relationship between the given variable in first row and path analysis diagram. The entire conceptualised hypothesis has been accepted with significance level .01 or .05.

7.1 t-test for Participation in Entrepreneurship Education

H0: There is significance difference between the entrepreneurial intentions of the students those has participated in entrepreneurship education and those not participated

This **table: 8** show summary statistics for the two samples of data. Other tabular options within this analysis can be used to test whether differences between the statistics from the two samples are statistically significant. Of particular interest here are the standardized skewness and standardized kurtosis, which can be used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both standardized skewness values are within the range expected.

Comparison of Means for EINT

95.0% confidence interval for mean of Entrepreneurship education Participation =1: 2.89 +/- 0.073 [2.82, 2.97]

95.0% confidence interval for mean of Entrepreneurship edu. Non participation =2: 2.60 +/- 0.11 [2.49, 2.72]

95.0% confidence interval for the difference between the means

assuming equal variances: 0.288 +/- 0.13 [0.15, 0.41]

t test to compare means

Null hypothesis: mean1 = mean2

Alt. hypothesis: mean1 NE mean2

assuming equal variances: t = 4.30704 P-value = 0.000

Reject the null hypothesis for alpha = 0.05.

A t-test was run to compare the means of the two samples. It also constructs confidence intervals or bounds for each mean and for the difference between the means. Of particular interest is the confidence interval for the difference between the means, which extends from 0.156731 to 0.419671. Since the interval does not contain the value 0, there is a statistically significant difference between the means of the two samples at the 95.0% confidence level.

A t-test may also be used to test a specific hypothesis about the difference between the means of the populations from which the two samples come. In this case, the test has been constructed to determine whether the difference between the two means equals 0.0 versus the alternative hypothesis that the difference does not equal 0.0. Since the computed P-value is less than 0.05, we can reject the null hypothesis in favor of the alternative.

7.2 Two-Sample Comparison – Entrepreneurial Intentions and Gender

H0: There is no significant difference between entrepreneurial intentions of the male and female students

Comparison of Means for Ent. Int.

95.0% confidence interval for mean of Gender=1: 3.58065 +/- 0.152803 [3.42784, 3.73345]

95.0% confidence interval for mean of Gender=2: 3.32331 +/- 0.0932515 [3.23006, 3.41656]

95.0% confidence interval for the difference between the means

assuming equal variances: 0.257337 +/- 0.206432 [0.05, 0.46]

t test to compare means

Null hypothesis: mean1 = mean2

Alt. hypothesis: mean1 NE mean2

assuming equal variances: t = 2.44933 P-value = 0.014

Reject the null hypothesis for alpha = 0.05.

A t-test was run to compare the means of the two samples. It also constructs confidence intervals or bounds for each mean and for the difference between the means. Of particular interest is the confidence interval for the difference between the means, which extends from 0.05 to 0.46. Since the interval does not contain the value 0, there is a statistically significant difference between the means of the two samples at the 95.0% confidence level.

A t-test may also be used to test a specific hypothesis about the difference between the means of the populations from which the two samples come. In this case, the test has been constructed to determine whether the difference between the two means equals 0.0 versus the alternative hypothesis that the difference does not equal 0.0. Since the computed P-value is less than 0.05, we can reject the null hypothesis in favor of the alternative.

8. Conclusion and Discussion

Literature review showed that National Skills Strategy has an objective to encourage entrepreneurship at national level. Entrepreneurship education is on its initial level of introduction to TVET system in Punjab as Punjab Skills Development Plan also has given an emphasis to encourage entrepreneurship by developing modules, training of the trainers. TEVTA, Punjab has shown its interest in the implementation of the NSS (2009) and PSDP (2013). TEVTA- Punjab has adapted the KAB modules from ILO. Initial levels of trainings have been organized for teachers to train them in field of entrepreneurial pedagogical skills. These teachers have also delivered entrepreneurship education modules as volunteer to the students.

It is concluded from the structural equation model (SEM) that there is an impact of the entrepreneurship education on student's intentions towards self employment as a career. Entrepreneurship education has also influence on student's perceived behavioural control to give them a confidence to run own business as well to understand their subjective norm in order to run own business. It also increases the likeliness of the student's intentions towards own business due to participation in entrepreneurship education. Entrepreneurship education model based on theory of planned behaviour shows that subjective norms (friends and relatives) have an influence on student's attitude; perceived behavioural control; intentions towards self employment as career. It was also depicted from the model that perceived behavioural control and attitude towards entrepreneurship have a positive influence on the student's intentions towards their decision to become an entrepreneur. t-test provides an evidence that male students have higher level of intentions towards their decision to start own business as compared to their female counterpart. It was also shown by the results of the t-test that student's participation in entrepreneurship education increases their intentions to become an entrepreneur. It is needed that TEVTA-P should show more serious concern towards the entrepreneurship education by including it into regular curriculum stream, assessment system and as a part of the scheme of studies.

9. Future Research

The future research may be carried out on the topic to adapt entrepreneurial curriculum for the effective delivery of the entrepreneurship education in order to enhance the entrepreneurial mind set of the students.

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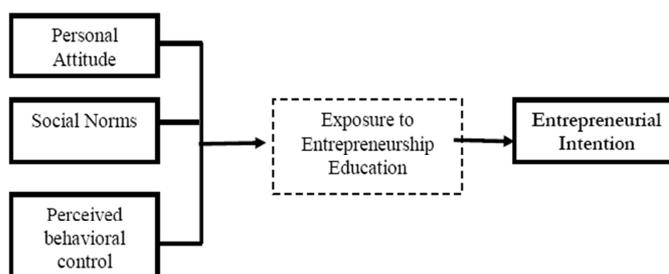
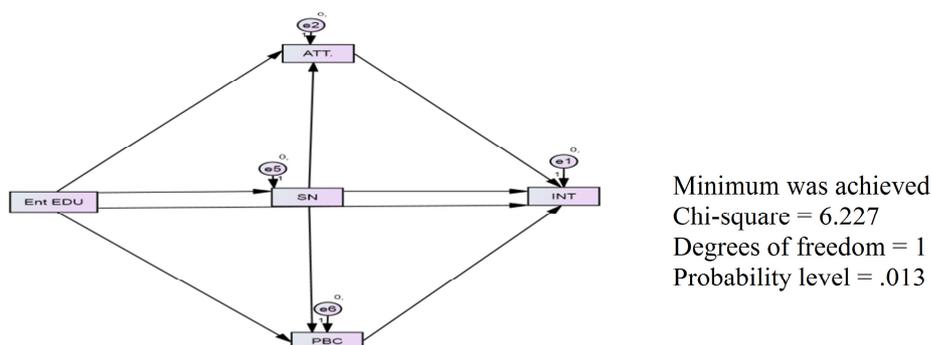


Figure 1: A Conceptual framework of the study



Minimum was achieved
 Chi-square = 6.227
 Degrees of freedom = 1
 Probability level = .013

Figure:2 SEM model of Theory of Planned Behaviour with Ent. Education variable

Tabl:1 CMIN

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|--------------------|------|---------|----|------|---------|
| Default model | 19 | 6.227 | 1 | .013 | 6.227 |
| Saturated model | 20 | .000 | 0 | | |
| Independence model | 5 | 214.695 | 15 | .000 | 14.313 |

The Minimum was achieved with Chi-square = 6.227, degrees of freedom = 1 and probability level = .013. RMSEA= .102, NFI= .971, TLI=.607, and CFI= .974 shows good fit model of entrepreneurship education.

Table: 2 Baseline Comparisons

| Model | NFI Delta1 | RMSEA | IFI Delta2 | TLI rho2 | ECVI | MECVI | CFI |
|--------------------|------------|-------|------------|----------|------|-------|-------|
| Default model | .971 | .102 | .976 | .607 | .089 | .090 | .974 |
| Saturated model | 1.000 | .163 | 1.000 | | .080 | .081 | 1.000 |
| Independence model | .000 | | .000 | .000 | .450 | .451 | .000 |

Table:3 Regression Weights

| | | | Estimate | S.E. | C.R. | P |
|-----------|------|---------|----------|------|-------|------|
| SN | <--- | ENT EDU | .169 | .112 | 1.504 | .012 |
| ATT | <--- | SN | .342 | .044 | 7.766 | *** |
| PBC | <--- | SN | .201 | .035 | 5.680 | *** |
| ATT | <--- | ENT EDU | .462 | .093 | 4.963 | *** |
| PBC | <--- | ENT EDU | .456 | .071 | 6.413 | *** |
| Ent. Int. | <--- | ENT EDU | .019 | .084 | .229 | .029 |
| Ent. Int. | <--- | ATT | .084 | .036 | 2.339 | .019 |
| Ent. Int. | <--- | PBC | .171 | .049 | 3.492 | *** |
| Ent. Int. | <--- | SN | .048 | .034 | 1.399 | .013 |

Table:4 Summary Statistics for EINT

| | Ent. Edu Participants=1 | Ent. Edu. Non Participants=2 |
|---------------------|--------------------------------|-------------------------------------|
| Count | 326 | 172 |
| Average | 2.89 | 2.60 |
| Standard deviation | 0.67 | 0.76 |
| Coeff. of variation | of 23.36% | 29.49% |
| Minimum | 1.0 | 1.0 |
| Maximum | 4.0 | 4.0 |
| Range | 3.0 | 3.0 |
| Std. skewness | -0.68 | -0.60 |
| Std. kurtosis | -1.023 | -1.68 |

Table5: Summary Statistics for Ent. Int.

| | Ent Education=1 | Ent Education=2 |
|---------------------|------------------------|------------------------|
| Count | 203 | 295 |
| Average | 3.433 | 3.328 |
| Standard deviation | 0.889 | 0.938 |
| Coeff. of variation | 25.908% | 28.201% |

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