# SHAPING ENTREPRENEURIAL INTENTIONS WITH EFFECTIVE STUDENT ENGAGEMENT

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## ABSTRACT

*Governments across the world have always shown keen interest in promoting entrepreneurship education in order to promote entrepreneurial intentions among university students. The current study aims to help identify the factor that stimulates student engagement in the entrepreneurship related activities, which in turn develops favorable entrepreneurial intentions. Using a student sample of 1500 student from Indian university and colleges, this study identifies four antecedents of effective student engagement namely: professional efficacy, career attitude, environment/support factors and personality. It was observed that effective student engagement positively affects the entrepreneurial intentions. This study would help policy makers design effective entrepreneurship curriculum and other related interventions to maximize the student engagement and finally leading to favorable entrepreneurial intentions.*

**Keywords**: Attitude, Big Five Model, Entrepreneurship, Entrepreneurial Intention, Student Entrepreneurship.

## INTRODUCTION

Recently, as a part of National Strategic Agenda, Universities are promoting incubation and start-up activities on campus to foster entrepreneurship through entrepreneurship education programs in order to develop the professional capabilities of students and lead them towards specializing in an entrepreneurship related courses. Posits that supportive environment clubbed with entrepreneurship curriculum can facilitate startup activities and imbue entrepreneurial intentions among university students. There are evidence that suggest a positive association between entrepreneurship education and entrepreneurial intentions. The academic research agrees that, the objective of entrepreneurship education is to induce entrepreneurial intentions among students and hence, an important parameter to evaluate outcomes of entrepreneurship education is to measure the entrepreneurial intentions.

The interest in intention-based models to understand how entrepreneurship education programs foster entrepreneurial behavior has been renewed due to several reasons. The initial reason to explore and predict the entrepreneurial behavior through intention-based models is due to its ability to offer a more appropriate theoretical-framework for exploring & predicting the entrepreneurial behavior. Secondly, it gives insightful results to feed the increasing urge of policy makers who are in search for answers on what are the drivers that influence an individual to become an entrepreneur in order to impart training among graduates from higher education institutions to develop their interest in entrepreneurship. Third, with the increasing level of unemployment due to multiple reasons such as, industrial restructuring and downsizing in public sector firms, policy makers are seeking a fresh supply of entrepreneurs to save the economy from global crisis and economic slowdown arising out of unemployment. Therefore, institutions engaged in offering higher education are expected to include orientation towards entrepreneurship career options among graduates (Henry et al., 2005). However, an important



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parameter of any educational curriculum is student engagement. It is argued that student engagement is critical to learning outcomes. The existing intention based studies ignore student engagement and treat engagement as internal attribute of individual students.

Hence, the proposed research aims at exploring the relationship between engagement of students in various entrepreneurship development activities undertaken by universities and the development of interest and intention among students in pursuing an entrepreneurial career. The current study collected data from Students of Universities across the country who are registered for various entrepreneurship related activities. The study attempts to measure the influence of entrepreneurial activities, professional support, personality traits and career attitude on student's engagement in entrepreneurial career. Further, the study examines the mediating role student engagement between the antecedents and entrepreneurial intentions. The study also compares the differences in entrepreneurial intentions among different student groups participating in various entrepreneurial promotion activities of Universities. Finally, the study has provides policy implications and suggestions to devise various pedagogical tools for inculcating entrepreneurial aspirations among University students.

## THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Entrepreneurship education is defined as "*the process of knowledge transfer, regarding how, by whom and with what effects, opportunities to create future goods and services are discovered, evaluated and exploited*". The objective of entrepreneurship curriculum is to shape entrepreneurial attitudes, impart desired skillset and groom personality traits required to start a new venture. The entrepreneurship education literature proposes a number of theoretical constructs that can help organize the set of variables that influence entrepreneurial intentions (Liñán et al., 2011; Moore, 1986). The current models offer explanation to the internal and external factors that influence entrepreneurial intentions in the context of university students. The literature pertaining to internal factors shaping career choices among individuals are dominated by personality trait models and attitude related models. Tracing back to McClelland's work in 1950s, the personality approach has a long tradition in explaining entrepreneurial tendencies (McClelland, 1967). Since then, a number of personality traits have been argued to influence aspirations of individuals to opt for and entrepreneurial career such as: "*risk-taking propensity*" (Hisrich & Peters, 1995), the need for achievement (Johnson, 1990), and 'locus of control' (Bonnett & Fuhrmann, 1991). Contradictory to the findings, empirical research reveals that personal characteristics (Brockhaus & Horwitz, 1986; Robinson et al., 1991a) of individuals influence how people act in the light of their contextual environment (Herron & Sapienza, 1992; Naffziger et al., 1994). For instance, the risk-taking propensity varies according to the unique environment in which entrepreneurs have to operate. However, considering the cross-situational differences, literature suggests that personality has a significant role in people's career choice decisions. Similarly, Attitude, as a construct has been included in the recent models concentrating on personality traits. Considering the wider aspect, attitude instruments have been proven to vary largely (Ajzen & Madden, 1986; Ajzen & Fishbein, 2000).

Consequently, to predict entrepreneurial careers, Robinson et al. (1991b) have proposed a more definite theory based on attitude. To understand future business founders, the importance of domain-specific attitudes has been accepted and validated in the existing literature (Autio et al., 1997; Kolvereid, 1996). Krueger & Brazeal (1994) indicated that "*There must be the*



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*potential for entrepreneurs before there can be entrepreneurship*". Similarly, in pursuit of understanding determinants of potential entrepreneurs, many motivation & social cognition theories and academic researches like Theory of Planned Behavior (TPB) (Ajzen, 1991; Fini et al., 2009) and Social Cognitive Career Theory (SCCT) (Lent et al., 2002) is constantly evolving through related fields of research. Entrepreneurial intentions, as suggested by the intention-based models emerged around the TPB, are a function of perceived desirability and perceived feasibility of the act being classified as entrepreneurial in nature (Krueger et al., 2000). The SCCT also provides an overarching conceptual framework suggesting that the development of entrepreneurial aspirations and the career-choice is an outcome of dynamic interaction between self-efficacy, personal goals and expected outcomes (Lent et al., 2002). These constructs have been reported as significant mediators that influence the relations between '*personal factors*'/'*external factors'* and the following: (1) development career-interest, (2) career choices, (3) stability of the performance. The literature argues that, the likelihood of formation of entrepreneurial intentions is more if a person: (1) feels confident about his/her abilities to accomplish the given entrepreneurial tasks or activities; (2) anticipates favorable consequences from entrepreneurial activities; (3) highly aspires to become an entrepreneur. The odds of nascent entrepreneurial behavior and willingness for new venture creation increases with the development of entrepreneurial intentions among individuals. Changes in nascent entrepreneurial behavior, directly or indirectly, are due to personal/external factors such as demographics, attitudes, experience, aptitude, previous learnings, socio-cultural norms and barriers. For personal or environmental influences, the actual behavior or performance serves as a feedback.

However, the existing literature is fragmented and disjointed with reference to the underlying dimensions impacting entrepreneurial intentions. There is a need to develop a unified understanding of all the above factors and measure the collective impact internal as well as external factors on entrepreneurial intentions. Therefore, we adopt an integrated view of theory of planned behavior as well as SCCT to examine the collective impact of internal factors '*professional efficacy'*, '*career attitude'*, '*personality*' and external factor 'environment/support factor' on entrepreneurial intentions. While external factors are often thought to explain why the connection between career aspiration on one hand and personality traits & attitude on the other is not deterministic in nature. A very prominent external factor, in this context, is found in the universities and their didactic activities that influence the students' decision process is student engagement (Bechard & Toulouse 1998). With effective student engagement, the entrepreneurship related activities may lead to strong entrepreneurial intentions and therefore, understanding the antecedents of an immersive student engagement becomes important. Therefore, we further extend the research framework used in the literature by adding student engagement as the mediating variable. The proposed model of the study is shown in the Figures 1 & 2.



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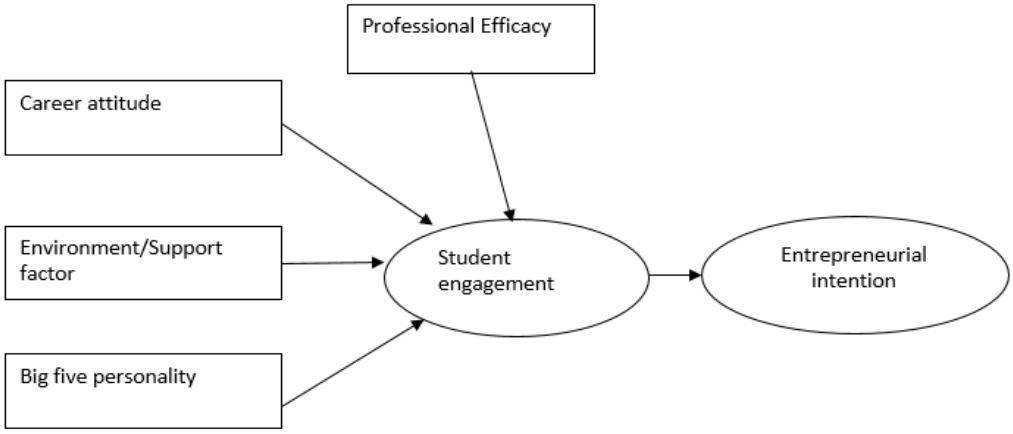


**FIGURE 1**
**PROPOSED MODEL**

## RESEARCH CONSTRUCTS AND HYPOTHESES

### Professional Efficacy

According to the Social Cognitive Theory (SCT), self-efficacy significantly influences the individual's attention required to attain a certain task. Defines self-efficacy as the "*beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments*". Self-efficacy is shaped through past learning's, successful experiences, and sustained efforts. The existing literature in self-efficacy argues that individuals with high self-efficacy tend to have optimistic thoughts which results into higher persistence and engagement while undertaking task. Therefore, self-efficacy is a significant predictor of engagement. Based on the above argument, the following hypothesis is proposed.

***$H_1$:*** *Professional Efficacy positively influences student engagement*

### Career attitude

Reviewing the existing literature two types of career attitudes were identified namely 'protean career attitude' and "*boundaryless career attitude*". The protean career as espoused by Hall (1976); Hall (2004) "*focuses on achieving subjective career success through self- directed vocational behavior*". Similarly, the boundaryless career (Arthur, 1994) "*focuses on crossing both objective and subjective dimensions of career at multiple levels of analysis, including organizational position, mobility, flexibility, the work environment, and the opportunity structure while at the same time de-emphasizing reliance on organizational promotions and career paths*". According the existing literature protean career attitude reflects self-directness and individuals with protean career attitude pursue continuous learning and exhibit higher engagement in learning process. Based on the above literature the following hypothesis is advanced:

***$H_2$:*** *Career Attitude has a positive relationship with student engagement*



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## Environment support factor

The environmental support has been recognized as a significant predictor of entrepreneurial intentions among college going students. Literature identifies three elements within the overall environmental support system i.e., Perceived educational support', 'Perceived relational support', and 'Perceived structural support'. The past literature recognizes perceived educational support as the key influencer in promoting entrepreneurship by offering necessary exposure to the students through both theory and practice. The perceived relational support on the other hand refers to approval of entrepreneurial intentions from the family, friends and peers. It is argued that friends, family and peers play an important role shaping entrepreneurial intentions through necessary guidance, information and motivation. Finally, the perceived structural support refers to direct assistance such as seed money, incubation, funding, tax incentives and business assistance. The existing literature argues that structural assistance is positively associated with inclination towards taking up entrepreneurial path. The students with all the three types of environmental support factors are likely to exhibit strong engagement in entrepreneurship develop programs which in turn will result into higher entrepreneurial intentions. Hence the following hypothesis is advanced:

***$H_3$:*** *Environmental Support Factors positively influences student engagement*

## Big Five Personality

The association between personality traits and educational performance is well established, the majority of studies have focused on performance rather than student engagement. The existing literature suggests that the "*big five traits*" significantly influence individual's behavior (Costa & McCrae, 1992). Livengood argued that students with higher scores on big five personality scales preferred learning as compared to performance and showed higher engagement in the learning process. The work of Costa & McCrae (1992) has provided what is perhaps the most developed operationalization of the Five Factor Personality Model to date. Neuroticism represents individual differences in adjustment and emotional stability. Extraversion describes the extent to which people are assertive dominant, energetic, active, talkative and enthusiastic. Openness to Experience is a personality dimension that characterizes someone who is intellectually curious and tends to seek. Agreeableness assesses one's interpersonal orientation. Conscientiousness indicates an individual's degree of organization, persistence, hard work, and motivation in the pursuit of goal accomplishment. The academic literature observed that when the learning environment is matched to the personality traits of the learners, the students tends to be more active and motivated to participate in the learning process. Therefore, these studies propose:

***$H_4$:*** *Big Five Personality Factors have positive relationship with student engagement*

## Student Engagement

Engagements refer to a positive, fulfilling, and work related state of mind that is characterized by vigor, dedication, and absorption. The literature has found that engagement represents affective commitment i.e., a voluntary desire and willingness to accomplish certain goals. Kang found that engagement is positively associated with behavioral intentions. Therefore, in the context of entrepreneurial intentions this study postulates as follows:



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***$H_5$:*** *Student Engagement positively and significantly influences Entrepreneurial Intention*

## Measurement Items

Scales were adopted from the literature and were modified to fit the context of entrepreneurial intentions. Hall (2004) a scale consisting 4 items were selected to measure protean career attitude was adopted from Hall (2004), nine items were used to measure environmental support and were adopted from Turker & Sonmez Selçuk (2009). Similarly, the big five personality was adopted form Benet-Martinez & John (1998). Original scale had 44 items to measure the big five personality traits. This study used the summated items for scale reduction. Five items were adopted from Schaufeli et al. (2002) to measure professional efficacy.

## Research Design

Quantitative design: A cross sectional survey was conducted for collecting the data. This design is considered suitable for examining the relationship of dependence among a set of four variables of the education-entrepreneurial intention model. In this model the 'entrepreneurial intention' is assumed to be the dependent variable, student engagement is tested for its mediating effect and the four exogenous independent variables are professional efficacy, career attitude, environment support factor and big five personality.

1500 students from various universities and colleges across the country were the participants in the study. Participants were the students who have participated in various entrepreneurial interventions such as Entrepreneurship Awareness Camps (EAC), Business Plan Competitions, Business Idea Competitions or those who are the members of Entrepreneurship Cells (e-cell). There was a fair mix of engineering and non-engineering students.

Prior to data collection a pilot survey of 50 respondents has been done in order to further validate the survey instrument. For the pilot survey Principal investigator has travelled to different locations. The outcome of pilot study was used to further refine the questionnaire.

For the final sample, the selection of participants was done and a total of 2500 respondents were selected keeping in mind that there will significant non-response rates. Therefore, by targeting 2500 respondents a final sample of 1500 was achieved. The sample profile is presented in table 1.

**Table 1**
**CHARACTERISTICS OF THE RESPONDENTS**

| **Characteristics** | | **n** | **%** |
|---|---|---|---|
| Gender | Female | 400 | 26% |
| | Male | 1100 | 74% |
| Age | Less than 18 | 101 | 7% |
| | 19-20 | 298 | 20% |
| | 21-22 | 673 | 45% |
| | 23-24 | 349 | 23% |
| | 25 and above | 79 | 5% |
| Year of study | First | 116 | 8% |
| | Second | 765 | 51% |
| | Third | 368 | 25% |
| | Fourth | 251 | 17% |



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| | | | |
|---|---|---|---|
| Course | B.Tech | 400 | 27% |
| | UG | 332 | 22% |
| | MBA | 768 | 51% |

## Data Analysis

Based on the career aspirations, it was decided to divide the respondents into two groups. The first group included 315 respondents who had reported their career choice to become entrepreneurs immediately after completing their graduation or after few years. The second group included 1185 students those who wanted to take up jobs after completing their graduation. For the first group of students the average values of the variables measuring the six constructs '*professional efficacy'*, '*career attitude'*, '*environment/support factor'*, '*personality*', '*student engagement'*, and '*entrepreneurial intention'* were observed to be above four on a seven point scale, hence, indicating that group identified as pro-entrepreneurship had a favorable per-disposition towards the entrepreneurial attitudes, intention and learning.

On the contrary, in the second group, the average ratings recording on the above four entrepreneurial variables were below the neutral value of 4.0. These scores were significantly lower than the first group but were slightly above the average score of 3.5 indicating a non-neutral response on all the observed variables.

The simple correlations among the variables are presented in table 2, as hypothesized Entrepreneurial intentions were strongly and significantly correlated with student engagement. Also, the variables were observed to be associated with each other as the correlation coefficients were significant at 0.01 levels, suggesting that subsequent analyses could be used to examine the hypothesized relationships among these variables.

**Table 2**
**CORRELATION BETWEEN VARIABLES**

| Variable | PE | CA | ESF | Per | SE | EI |
|---|---|---|---|---|---|---|
| **PE** | 1 | 0.558** | 0.59** 1 | 0.425** | 0.448** | 0.387** |
| **CA** | 0.558** | 1 | 0.582** | 0.477** | 0.421** | 0.437** |
| **ESF** | 0.591** | 0.582** | 1 | 0.580** | 0.685** | 0.687** |
| **Per** | 0.425** | 0.477** | 0.580** | 1 | 0.583** | 0.712** |
| **SE** | 0.448** | 0.421** | 0.685** | 0.583** | 1 | 0.701** |
| **EI** | 0.387** | 0.437** | 0.687** | 0.712** | 0.701** | 1 |

Note: PE=Professional Efficacy, CA=Career Attitude, ESF=Environment/support factor, Per=Personality, SE=Student engagement, EI=Entrepreneurial intentions. **Correlations are significant at the 0.01 level (2-tailed).

Table 3 presents a comparison of entrepreneurial attitudes and intentions of the two groups based on their demographic variables including: age, year of study, course and gender. The analysis was carried out using analysis of variance. The results indicate insignificant impact of age, year of study and course type on the entrepreneurial intentions and other variables.



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| Table 3<br>EFFECT OF AGE, YEAR OF STUDY, AND COURSE (ANOVA) | | | | | | |
|---|---|---|---|---|---|---|
| | Age | | Year of Study | | Course | |
| | F | Sig | F | Sig | F | Sig |
| **PE** | 1.14 | 0.33 | 0.76 | 0.51 | 0.79 | 0.37 |
| **CA** | 0.68 | 0.57 | 0.48 | 0.27 | 1.76 | 0.17 |
| **ESF** | 1.82 | 0.51 | 1.27 | 0.13 | 2.13 | 0.28 |
| **Per** | 0.77 | 0.43 | 1.37 | 0.61 | 1.61 | 0.33 |
| **SE** | 0.92 | 0.58 | 2.07 | 0.12 | 1.34 | 0.25 |
| **EI** | 0.16 | 0.15 | 1.42 | 0.73 | 1.26 | 0.31 |

Table 4 shows the association between entrepreneurial variables and gender of the respondents. The results indicate that male students had higher mean scores towards career attitude, student engagement and entrepreneurial intentions. Whereas, there was no significant difference due to gender on professional efficacy, environment support factor and personality.

| Table 4<br>EFFECT OF GENDER (T-TEST) | | | | | |
|---|---|---|---|---|---|
| | | **Overall (n=1500)** | | **Group 1 (n= 315)** | |
| | | ***Mean*** | ***Sig*** | ***Mean*** | ***Sig*** |
| PE | Male | 4.07 | 0.178 | 4.21 | 0.219 |
| | Female | 3.83 | | 3.80 | |
| CA | Male | 4.26 | 0.033** | 4.19 | 0.315 |
| | Female | 4.08 | | 4.15 | |
| ESF | Male | 3.81 | 0.188 | 4.31 | 0.177 |
| | Female | 3.53 | | 3.94 | |
| Per | Male | 3.98 | 0.171 | 3.99 | 0.221 |
| | Female | 3.51 | | 4.10 | |
| SE | Male | 3.74 | 0.061* | 4.19 | 0.713 |
| | Female | 3.97 | | 3.97 | |
| EI | Male | 4.02 | 0.018** | 4.09 | 0.277 |
| | Female | 3.31 | | 4.02 | |

** Significant at 0.05, * Significant at 0.1

It was decided to further probe deeper into the differences between gender of students and the differences were compared for the first group of 315 respondents who reported their career aspirations to become entrepreneurs. The results suggest that irrespective of the student gender, two groups were similar on their mean scores on all the variables of the study. This indicates that entrepreneurship courses reduced the gap between entrepreneurial intentions among the female and male students.



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## Model testing

Sample size was decided according to the recommendations given by Bentler (1990). Correlations between the scale items were examined, it was observed that all items correlate at least 0.3 with at least one other item, suggesting reasonable factorability. The KMO measure of sampling adequacy was 0.785, above the commonly recommended value of 0.6. Barlett‟s test of sphericity was significant ($N^2$ (465)=8088.173, p<.01). The correlation coefficient values in the anti-image correlation matrix were all above 0.5. Finally, the values in the communality table were above the recommended value of 0.03, therefore, it was assumed that each item shared adequate common variance with other items and hence, confirmatory factor analysis was deemed to be suitable with all items. The research model was tested using the structural equation modelling with the help of AMOSS 18.0 as a statistical package for testing.

## Measurement Model

The confirmatory factor analysis was carried out to test the measurement model and the fit indices were well within the recommended cutoff values indicating a good fit. $\chi^2$ to-degrees-of-freedom ratio (2.169) was within the limit of 3.00 (McIver & Carmines, 1981) and hence, it can be concluded that model fit is not sensitive to large sample size. Additionally, the Goodness-Of-Fit (GFI) value was 0.902, the Adjusted Goodness-of-Fit (AGFI) value was 0.891, the Normalized Fit Index (NFI) was 0.941, Non-Normalized Fit Index (NNFI) was 0.878, and Comparative Fit Index (CFI) was 0.967 hence, indicating a good model fit. Finally, the '*Root Mean Square Error of Approximation*' (RMSEA) value was observed as 0.061 which was within the recommended values as per Steiger (1990) hence indicated a good fit.

Additionally, the instrument was also evaluated for reliability and validity (convergent as well as discriminant validity). The Cronbach's alpha and Average Variance Extracted (AVE) are presented in the table 5. It was observed that all values for cronbach's alpha were above 0.80 similarly, the minimum average extracted variance was 0.654 therefore, all AVE values were greater than the recommended 0.50 level (Hair et al. 1998), Hence, it can be conclude that the explained variance was greater than 65% across all hypothesized constructs. The factor loadings presented in table 5 can reflect on the convergent validity by following the Hair et al. (1998) recommendation, wherein all factor loadings greater than 0.50 are considered significant. Table 5 proves that the factor loadings are greater than 0.50, with majority of them above 0.70. Also, the squared values of correlation coefficients were above 0.40 between the individual items and their a priori factors. Therefore, it can be comfortably assumed that reliability and convergent validity measures is established for the scales used in the framework (Hoelter, 1983).

**Table 5**
**RESULTS OF PERFORMING CONFIRMATORY FACTOR ANALYSIS**

| Construct | Items | Loadings | Cronbach's α | Composite Reliability (CR) | AVE |
|---|---|---|---|---|---|
| Professional efficacy | PE2 | 0.878* | 0.909 | 0.918 | 0.694 |
| | PE3 | 0.836* | | | |
| | PE4 | 0.845* | | | |
| | PE5 | 0.872* | | | |
| | PE1 | 0.724* | | | |



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| | | | | | |
|---|---|---|---|---|---|
| Career Attitude | CA3 | 0.963* | 0.908 | 0.947 | 0.857 |
| | CA4 | 0.959* | | | |
| | CA2 | 0.945* | | | |
| | CA1 | 0.871* | | | |
| Personality | Personality2 | 0.940* | 0.892 | 0.611 | 0.654 |
| | Personality1 | 0.909* | | | |
| | Personality3 | 0.685* | | | |
| | Personality4 | 0.655* | | | |
| | Personality5 | 0.503* | | | |
| Student Engagement | SE1 | 0.859* | 0.873 | 0.951 | 0.905 |
| | SE2 | 0.854* | | | |
| | SE6 | 0.841* | | | |
| | SE9 | 0.794* | | | |
| | SE5 | 0.769* | | | |
| | SE3 | 0.665* | | | |
| | SE7 | 0.615* | | | |
| | SE4 | 0.513* | | | |
| Environment/Support factor | ES1 | 0.923* | 0.967 | 0.971 | 0.889 |
| | ES3 | 0.860* | | | |
| | ES4 | 0.825* | | | |
| | ES2 | 0.793* | | | |
| | ES8 | 0.782* | | | |
| | ES9 | 0.761* | | | |
| | ES6 | 0.625* | | | |
| Entrepreneurial Intention | EI8 | 0.826* | 0.873 | 0.634 | 0.712 |
| | EI7 | 0.729* | | | |
| | EI2 | 0.631* | | | |
| | EI5 | 0.623* | | | |
| | EI6 | 0.615* | | | |
| | EI1 | 0.557* | | | |
| | EI4 | 0.534* | | | |

Finally, it is important to establish discriminant validity i.e., the constructs are mutually exclusive and are not related theoretically with each other. Looking at the table 2, the highest value of correlation coefficient, is 0.712, between entrepreneurial intentions and personality, the squared value of 0.712 yields a squared coefficient value of 0.506 and it was observed that all AVE are above this value, hence, establishes discriminant validity.

## Structural model



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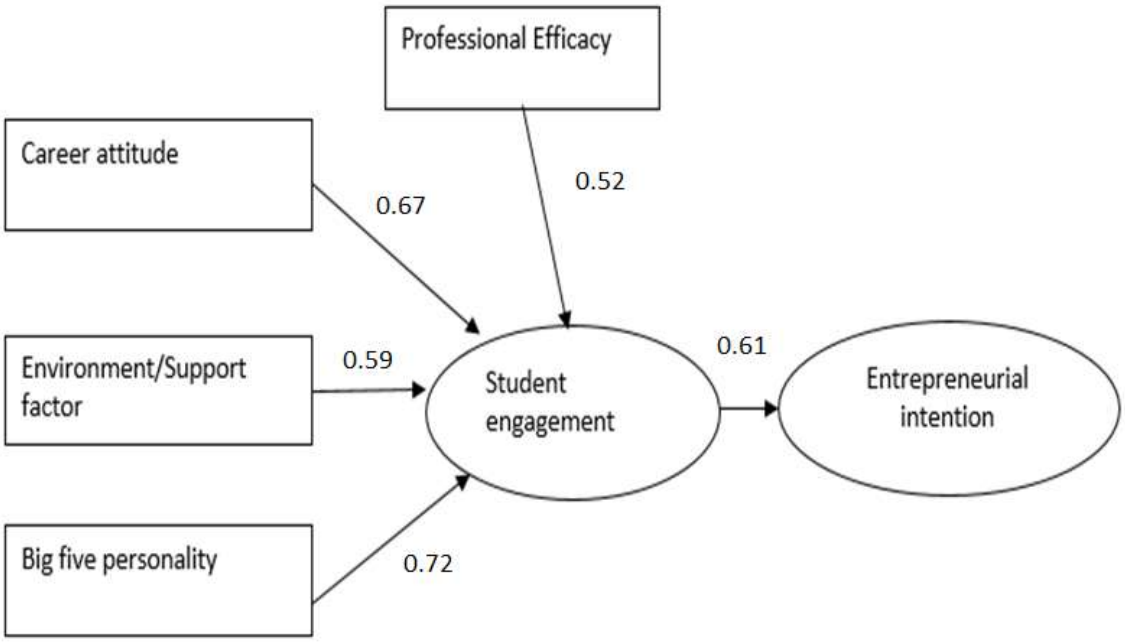


**FIGURE 2**
**STRUCTURAL MODEL**

The structural model was estimated using AMOS 18.0 applying Maximum Likelihood Estimate (MLE). The chi-square ($\chi 2$)/d.f=2.38 was obtained which is below the value of 3.00 as suggested by Carmines and McIver. Additionally, all other indices were as per the specified limits. GFI=0.919 was greater than 0.90 (Hair et al., 2011), AGFI=0.881 was also above recommended cut-off level of 0.80 (Chau & Hu, 2001), CFI=0.959 (Anderson & Gerbing, 1992) and NFI=0.933 were both within the acceptable limit of 0.9-1.00 (Hair et al., 2011) and can be considered satisfactory. Finally, the RMSEA=0.066 was below 0.08 (Hair et al., 2011) also indicates a good model fit (Briscoe et al., 2006)

**Table 6**
**HYPOTHESIS RELATIONSHIPS SUMMARIZED**

| Hypo. | Relational Conjectures | Estimate | SE | *p* |
|---|---|---|---|---|
| $H_1$ | Professionalefficacy → Student engagement | .52 | .052 | *** |
| $H_2$ | Career attitude → Student engagement | .67 | .047 | *** |
| $H_3$ | Environmental support factor → Student engagement | .59 | .043 | *** |
| $H_4$ | Big five personality factor → Student engagement | .72 | .055 | *** |
| $H_5$ | Student engagement → Entrepreneurial intentions | .61 | .052 | *** |

*, **, *** indicates significance at ‘0.01, 0.05, and 0.001, respectively



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The results reveal that the first group measures significantly high as compared to the second group on entrepreneurial intentions. Essentially first group had majority of students with family business background. However, exposure to entrepreneurial awareness has resulted in higher level of entrepreneurial intentions among the group 2 which was higher than the average score. Moreover, the impact of demographic characteristics on the dependent variable entrepreneurial intentions and other variables were also compared and it was observed that demographic variables were not significant differentiators on the variables of study except for the gender. It was observed that in general males had higher scores of variables related to entrepreneurship.

Prior to testing the model correlation matrix was examined and EFA was carried out to check the factorability of the variables. The conceptual model was supported and all hypotheses were significant at 0.05 levels with a squared correlation of 0.50.

## DISCUSSION

For the purpose of examining the impact of demographic characteristics on the antecedents of student engagement and entrepreneurial intentions, four factors namely: age, year of study, course and gender were considered. From the comparison presented in table 6 of previous chapter, it was found that there was no significant impact or effect of the 3 demographic characteristics (age, year of study & course) on entrepreneurial intentions and other antecedent variables. Similarly, to measure the impact of gender, the results of male & female students for the first group of 315 respondents who reported their career aspirations to become entrepreneurs were compared as it was decided to look deeper into the differences between them. From the results it was observed that male students had higher mean scores towards career attitude, student engagement and entrepreneurial intentions whereas, no significant difference was found on professional efficacy, environment support factor and personality due to gender.

The empirical evidence provided from the findings of the study states that the entrepreneurial intentions have positive impact due to the awareness activities intended to engage and motivate students towards entrepreneurial career. Consequently, investigating further how these variables are influenced by the specific antecedents of student engagement and their ultimate impact on entrepreneurial intentions was meaningful. For the purpose of testing the impact, path analysis was used (Thompson, 2009).

Once it was proven that student engagement has a significant impact on entrepreneurial intentions, a conceptual model was developed and tested using SEM analysis to answer the research question so as to know what the antecedents of student engagement are.

The analysis can be used to conclude that the conceptual framework proposed in the study had an adequate model fit with significant path relations between the proposed antecedents and the outcome variable. Further, it was proved that professional efficacy, career attitude, personality and environment support factor influence student engagement and in turn, effective engagement influences the entrepreneurial intentions positively.

Student engagement has been defined as a psychological construct and according to Kuh et al. (2008) student engagement is "*The devotion of time & energy by students for the purpose of learning, and the efforts made by institutions in using effective educational practices*". In context of entrepreneurship education program, as argued, student engagement can be accomplished by implementing and reinforcing the common proposition of "*learning objectives*", "*student motivation*" and "*student autonomy*". Adding to the discussions, it was said that student



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engagement also includes interaction between co-participants and with teachers (Biggs, 2003). And in order to in force deep-learning in students, entrepreneurship education must be linked to hands-on training with real life projects to motivate them in investing time & effort to acquire needed skills and become a successful entrepreneur (Arvanites et al., 2006). If the particular objective or desired outcome of educational program is to foster a set of entrepreneurial behavior among students, applying instruction pedagogy that is based on practice is considered important for student engagement (Gibb, 2002); (Kolb, 1984); (Luczkiw, 2008); (Sherman et al,. 2013); (Solomon, 2008); (San Tan & Ng, 2006).

## CONCLUSION

Based on certain assumptions that, entrepreneurs have imperfect knowledge, they take calculated risk based upon individual judgment and selectively choose factors for business plan, it is argued that entrepreneurship students must be given adequate exposure to the macro environmental factors to keep them engaged in this intricate process.

To attain desired student engagement and favorable learning outcomes, past studies in this domain have pursued "*Kolb's learning model*" whereas some studies have modified it in particular the control variables of the experimentation aspects such as "*Intotalo's framework*" by adapting it for imparting entrepreneurship education. For example, argued that students will be better engaged by adopting pedagogy that includes the use of experiential tools such as "*interviewing an entrepreneur*", crafting a detailed project report or a business plan and participating in various entrepreneurship events and forums. Whereas, suggested that training the students using computer simulations, field trips, making business presentations and other in-class activities such as role-plays etc., are equally important. In many universities & colleges that offer entrepreneurship courses, business plan is considered the most common tool for hands-on learning.

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