Entrepreneurship: A boost to economy
An empirical study on entrepreneurial self-efficacy and career intention at an early age
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ABSTRACT

Purpose
1. Measure perceptions of young adults towards their capability and interest in Entrepreneurship
2. Impact of gender and type of education on entrepreneurial career intentions (ECI) and entrepreneurial self-efficacy (ESE) of students
3. Identify the factors of ESE and CI and build a statistical model
4. Recommendations for policy makers and future research studies

Design/Methodology
Exploratory study on primary data, Random sampling, standardized questionnaire (adapted). KMO and Barlett’s measure of sphericity are used to check sampling adequacy. Factors Analysis (EFA followed by CFA), T-test and MANOVA. Four hypotheses tested.

Findings
Surprisingly, self-efficacy and intention to be an entrepreneur are found independent of gender. Also, the curriculum in Progressive mode of Education had significant impact on ECI as against the curriculum of Traditional ones.

Value
This paper fulfils an identified need to develop entrepreneurial skills at early-age in order to generate more entrepreneurs, thus boost the economy. It highlights how progressive way of education inculcates interest towards entrepreneurship and can affect career intentions. This will be of value to policy makers in developing economies like India. Further research can be undertaken to understand how progressive education can inculcate career intentions of becoming a social entrepreneur.

Keywords: Entrepreneurial career intentions, entrepreneurial education, gender, India, self-efficacy, traditional and progressive education.
1. Introduction

Entrepreneurship is increasingly gaining importance and has started getting recognition as a driver for economic growth and societal well-being (GEM 2012). To capitalize on the contribution of entrepreneurs, a lot can be done throughout the world to build local environment in which they can thrive better.

Schumpeter, an Austrian American economist and political scientist, associates innovations with economic development. Further he emphasizes that Entrepreneur makes innovations by incorporating various factors of production in different ways. (http://www.economicsconcepts.com/schumpeter_model_of_economic_growth.htm, 2015)

Literature shows that in the past, entrepreneurs have always contributed to the growth of economy in any country (Zoltan Acs (2006)) and will continue doing so. Also, more and more men and women have started thinking about entrepreneurship as a career, though the progress is very slow. We still lack in having a pipeline of qualified entrepreneurs. With the spotlight on women growth and inclusion globally, entrepreneurship is definitely a major area to extend acceptance to them. Fortunately number of women entrepreneurs is growing day by day all over the world. If women are not actively engaged as entrepreneurs, the job creation capacity of half the world’s population is lost. (The Global Entrepreneurship Monitor 2012 Report).

If we look at the statistics (given by United Nations, Department of Economic and Social Affairs, Population Division 2013. World Population Prospects: The 2012 Revision), sex ratio of the total population (males per 100 females) is: Global – 101.6 and India – 107.2

This clearly implies that the expectation of having equal number of men and women entrepreneurs is justified. In India also there is a rise in the number of entrepreneurs but again the progress is very slow. Mazumdar-Shaw was India’s first biotech entrepreneur in 1978 when she founded Biocon. (www.forbes.com, May 28, 2014). Now there is a big list. More and more women are getting into the shoes of entrepreneurship and this paper aims to explore if there is any difference in intentions of young boys and girls to become entrepreneurs.

2011 Census quotes the men to women ratio as imbalanced. In the state of Haryana, where Gurgaon is situated, the schools surveyed, also had this skewed ratio. Sex Ratio in Gurgaon stood at 854 per 1000 male. (http://www.census2011.co.in/census/district/225-gurgaon.html)

A detailed review of literature reveals that there are certain factors which affect the creation and growth of an entrepreneur. Global Entrepreneurship Monitor has identified the Entrepreneurial Framework Conditions (EFCs) that facilitate entrepreneurship, as:

1. Financing
2. Governmental policies
3. Education and training
4. Research and development
5. Commercial infrastructure
6. Internal market openness
7. Physical infrastructure
8. Cultural and social norms

Source: (GEM 2013 Global Report)

All these factors have to be favorable if a country wants to see a rise in entrepreneurship. This study will focus on the factor - Education and Training. Effort would be to recommend and suggest ways that would help our society generate more entrepreneurs.

2. Review of literature

Before we discuss this in detail, an understanding of the following terms is necessary:

![Diagram of Aspects of Entrepreneurship studied in this paper](image)

**Figure 1:** Aspects of entrepreneurship studied in this paper

2.1 Entrepreneurship

The whole idea of Entrepreneurship emerges from ‘creative destruction’, a term used by Schumpeter. He calls entrepreneurs as change agents because they bring a new product by new ways of production and at times go in an unconventional way to address challenging situations.

Basically entrepreneurship means starting a business from zero, which starts from conception of idea and turns into managing the company for a prolonged period. According to Ohyama and Braguinsky (2009) “popular theories of entrepreneurship focus on the role of risk taking (Kihlstrom and Laffont,(1979)), managerial ability (Lucas (1978)), wealth (Evans and Jovanovic (1989)), and preferences for the control, flexibility and other job attributes that come with being one’s own boss (Hamilton (2000)) as the primary motivations for entrepreneurship”. There is no rocket science in becoming an entrepreneur. There are many people who have brilliant ideas for starting a business but very few give it a shape.
Peter Drucker, known as The Father of Modern Management, said “entrepreneurship centers on innovation. And one needs to know and apply the principles of successful innovation”. One of the articles in, Business News Daily by Chad Brooks (2012) highlights that there are certain skills that can be attributed to an entrepreneur. Also, the University of Illinois Center for Economic and Financial Education believes there are certain characteristics that most successful entrepreneurs possess, like:

Ability to Plan, Communication Skills, Marketing Skills, Interpersonal Skills, Basic Management Skills and Leadership Skills.

Sarasvathy and Venkataraman (2011) argue that “entrepreneurship should not be considered a subset of Economics, rather one should reformulate entrepreneurship as a method of human action, a powerful way of tackling large and abiding problems at the heart of advancing our species.” They further propose that entrepreneurial method can be strengthened by “effectuation”, a concept developed by Sarasvathy (2001) by observing how expert entrepreneurs think and act. Effectuation is a way of thinking/decision making that serves entrepreneurs in the processes of opportunity identification and new venture creation/creation of new value. Sarasvathy and Dew (2005).

Though Schumpeterian entrepreneurship considers it more to be a part of Economics, (Ohyamaaand Braguinsky (2009)), the human aspect cannot be ruled out.

### 2.2 Entrepreneurial Self-Efficacy (ESE)

Fiona et al (2007) consider Self-efficacy, or self-confidence in a given domain, as something based on how individuals perceive their skills and abilities. They argue that a person can have high self-efficacy in one area, but low self-efficacy in another. Self-efficacy can be developed by exposure to develop business plans, and participate in running simulated or real business through entrepreneurship education.

McGee et al. (2009), define ESE as “a person's belief in their ability to successfully launch an entrepreneurial venture”. This varies with the assignment that entrepreneur is undertaking. (Wasdani and Mathew, 2014). People who have low self-efficacy will not be able to benefit out of an opportunity. (Bandura 1986). So it is very important in Entrepreneurship.

### 2.3 Antecedents to career decision/choice

Career theory literature clearly establishes the relationship between self-efficacy and career choice though not much has been talked about entrepreneurship as career specifically. Logically the same effects of self-efficacy should be seen in entrepreneurial careers. (Fiona et al 2007). At times it might happen that the risks and uncertainties attached to starting one’s own business, mask a person’s self – efficacy. Fiona et al’s research indicates “a high positive correlation between entrepreneurial self-efficacy (ESE) and entrepreneurial intentions”; Krueger, Reilly, and Carsrud, 2000; Segal, Borgia, and Schoenfeld, 2002; Wang, Wong, and Lu, 2002). In India the career choice of a child is also influenced by the gender, family background, parents’ occupation (Agarwala, 2008) and also the type of school.
2.4 Entrepreneurial Career Intentions (ECI)

Studies indicate that if entrepreneurship education is provided at pre college level then it increases the interest in entrepreneurial careers (Fiona et al, 2007; Dyer, 1994; Kourilsky, 1995). In India people do want to take up entrepreneurship as their career (61.4%), they have doubts about their capabilities (55.7%) and fear failure (38.9%). (GEM 2013).

Thus young adults (Newman, 2011) are the right choice to understand career intentions. In this study, ECI is interchangeably used with CI5 which is the fifth item (starting/having own business).

2.5 Entrepreneurship Education (EE)

The key drivers behind entrepreneurship are found to be “motivation, will to cooperate, and capability to lead” says Bijaoui (2012). Now this motivation can be generated by McClelland's ideology (1965) who believes that all students have the caliber/potential to become entrepreneurs as they have ‘need for achievement’, ‘need for affiliation’ and ‘need for power’.

In lieu of having more such motivated and young entrepreneurs, entrepreneurship education is widely incorporated in college level studies. Although, whether to incorporate it in school curriculum, is still an under researched area in India. This paper intends to see if EE at early age can play a role in building the mindset and skills for entrepreneurship.

Previous research indicates that self-efficacy is NOT a static trait. (Fiona et al, 2007) rather it can be changed (Hollenbeck and Hall, 2004). We can surely enhance it by training and education thereby, improving the decision-making processes and then predict the performance also (McGee et al. 2009, Shane et al. 2003).

This highlights the importance of entrepreneurial education in schools. Through entrepreneurship education, opportunities can be provided for conducting feasibility studies, developing business plans, simulation of real business which in turn will result in an increased self - efficacy (Fiona et al, 2007). If we look at different schools in India, the education pattern is both traditional and progressive, as established by literature. Scholars have started believing that if we want to have people with entrepreneurship potential, then a preferred entrepreneurial pedagogy would be focused around the learner, interdisciplinary, experiential and socially situated (Mwasalwiba, 2010; Gibb, 2011; Kyrö, 2008; Ollila and Williams-Middleton, 2011) as suggested by Martin Lackéus(2013). There is however considerable gap between what is desired and what is actually applied owing to the conventional system. (Mwasalwiba, 2010, Ardalan, 2008). This leads to a dispute between traditional and progressive mode of education in schools (Lackéus, 2013). In developed nations the progressive mode is well rooted. In countries like India, it is gaining momentum gradually. Gurgaon is a city in Haryana state of India which has nearly equal number of traditional and progressive schools.

2.6 Traditional Vs. progressive education

Education in Traditional schools, emphasize academic standards which is more authoritarian thus following a curriculum that is content-based and formed around the core disciplines mainly. Such schools are inclined towards structure and discipline and typically rely on grading, tracking, and grouping students by ability. They tend to employ objective tests for
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Evaluating student achievement. Chandler (2000). In India, most of the schools following above ideology and CBSE curriculum are considered traditional and their number is more.

Progressive schools’ ideology is not new to the world. Way back, Dewey (leading educational reformist in early 20th century) propagated this concept. In India progressive schools are also referred to as international schools concept wise. They prefer IB Diploma (International Baccalaureate- Diploma of Geneva) in class XI and XII and IGCSE (International General Certificate of Secondary Education- from Cambridge, England) in IX and X. (TOI, Times School, 24 Nov 2014). Although some of the CBSE schools also adopt progressive way of teaching. Since International schools are not regulated by Indian Government, term ‘Progressive schools’ is preferred. So these hybrids are governed by Indian Government, follow boards like CBSE and pedagogy is progressive type. Another fact is that these progressive schools are mainly confined to ‘A’ class cities and Metros (TOI, 24 Nov, 2014). This trend is at a nascent stage and gradually gaining momentum thereby spreading its roots to other cities.

Table 1: Comparison of two educational models

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Traditional Schools</th>
<th>Progressive Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>Direct instruction by the teacher; homogeneous grouping</td>
<td>Self-directed learning, discovery learning, working cooperatively with others; heterogeneous groupings</td>
</tr>
<tr>
<td>Reading</td>
<td>Reliance on phonics approach</td>
<td>Reliance on whole language approach</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Direct instruction; drill, computation skills</td>
<td>Reliance on discovery and student initiated learning</td>
</tr>
<tr>
<td>Assessment</td>
<td>Periodic testing with norm-referenced, objective tests</td>
<td>Through portfolio's which feature individual and collaborative projects</td>
</tr>
<tr>
<td>Grades</td>
<td>Assigned by comparing performance with age/grade of peers</td>
<td>Are downplayed in favor of teacher narratives on progress</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Emphasize academic skills as demonstrated in the traditional core areas</td>
<td>Whole-child approach; psychological, social and cultural aspects of child development</td>
</tr>
<tr>
<td>Curriculum</td>
<td>Narrow, focused on academic area</td>
<td>Encompasses a range of issues; balance between academic and social concerns</td>
</tr>
<tr>
<td>Standards</td>
<td>Are set so that all children seek the same level of minimal competency</td>
<td>Adjusted recognizing the differences among individual learners</td>
</tr>
<tr>
<td>Teacher's role</td>
<td>Academic instructor, authority figure</td>
<td>Facilitator, Counselor, Mentor</td>
</tr>
</tbody>
</table>


3. Methodology

3.1 Objectives

Studies show that entrepreneurs boost the economy of a nation. In India there is a dearth of entrepreneurs as compared to developed nations. The reasons could be numerous like - the potential/skills not being tapped at early (school) stage, lack of encouragement by the government or non-conducive environment for the growth of entrepreneurship. As a result there is no available pipeline of budding entrepreneurs.
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This paper intends to identify the level of capability and interest of high school students towards entrepreneurship and to explore if there is any difference in intentions of young boys and girls to become entrepreneurs.

The objectives can be specified as:

1. Identify the factors of ESE and CI and build a statistical model
2. To investigate gender effect on entrepreneurial self-efficacy of high school students
3. To assess if gender has any relation with the career choice of young adults
4. Measure the impact of school type on entrepreneurial career intentions and entrepreneurial self-efficacy of students, that remains under researched in India
5. Recommendations for policy makers and schools for fostering a greater level of change
6. Recommendations for future research studies in other developing economies

3.2 Sample

The data was randomly taken from the universe of Traditional and progressive schools in Gurgaon (Haryana). It was a challenge to convince schools to allow such kind of a survey. The students were contacted in school buses and also coaching institutes. As the objective was to understand the perception about entrepreneurship career in future, the sample comprised of High school students who are about to take up professional courses and were aware of the term ‘Entrepreneur’. Total 600 questionnaires were distributed and 350 were returned. After eliminating the non-eligible ones, we were left with the final sample size of 205. Out of which 118 were boys and 87 were girls. 112 students were from Traditional schools and 93 students from progressive schools. The schools were classified on the criterion given by Chandler and Dewey and also on the curriculum/board as also mentioned in TOI, 24 Nov 2014.

This sample size was optimum as the total number of variables in the instrument was 22 so minimum sample size should be 110 in line with required sample size (Fritz, 2007; Green, 1991).

3.3 Questionnaire

This quantitative study was conducted through a questionnaire survey. A standard questionnaire was used which was adapted from a similar study by Wilson, F., Kickul, J. and Marlino, D. (2007). The scale was validated by Kickul and D’Intino (2003).

The questionnaire had 22 items under three constructs, adapted to suit the understanding of Indian students.

1. Background Information - three statements
2. Entrepreneurial Self Efficacy (ESE) - six statements
3. Career Intentions (CI) - thirteen statements

They were asked questions on their gender, school, and parent’s occupation in the first section.
Next, the responses on six items of ESE were rated using a five point Likert Scale where the respondents in all samples rated their Self-Efficacy level (compared to their peers) as ‘much worse’ to ‘much better’. It had questions on ‘Being Creative’, ‘Managing Money’, ‘Being able to solve problems’, ‘Getting people to agree with you’, ‘Being a leader’, ‘Making decisions’. Self-ratings in each area were summed and the overall mean score was used to create a composite entrepreneurship self-efficacy (CSE) measure for analyses. Similarly, responses to CI were obtained on-becoming Doctor, Lawyer, Artist, Manager, Own Business, Engineer, Army etc rated on four-point Likert Scale as 1=‘definitely not interested’ to 4=‘extremely interested’.

### 3.4 Tools and Techniques

The survey data was aggregated and averaged across the respondents. Scale validity was initially tested by exploratory factor analysis followed by CFA. Further, on the basis of assumption of normal distribution of data, T-test and Factor Analysis have been done using SPSS 20. EFA was followed by CFA using AMOS 20. MANOVA was also used though it was not a part of main analysis.

### 3.5 Hypotheses

The hypotheses tested in this study, evolved after detailed literature review and also in lieu of tremendous changes happening in the Indian Education system. Thus it is built around four aspects –

Hypothesis 1: There will be significant gender difference on Entrepreneurial Self-Efficacy
Hypothesis 2: There will be significant gender differences on Entrepreneurial Career Intentions
Hypothesis 3: There will be significant impact of school type on Entrepreneurial self-efficacy
Hypothesis 4: There will be significant impact of school type on Entrepreneurial Career Intention.

### 4. Analysis and findings

Scale validity has been tested initially by exploratory factor analysis followed by confirmatory factor analysis. Prior to factor analysis, Kaiser-Mayo-Olkin (KMO) and Bartlett’s measure of sphericity was carried out to check the sampling adequacy (Table 2).

#### 4.1 KMO

Values greater than 0.5 are acceptable. For the data of this study, the value is 0.833, so, patterns of correlation are relatively compact hence factor analysis would yield distinct and reliable factors.

**Bartlett’s Test of Sphericity**

Bartlett’s Test is another indication of the strength of the relationship among variables. For these data, Bartlett's test is highly significant (p< 0.005), and therefore factor analysis is appropriate. (Jain and Mukherji, 2010).
Table 2: KMO and Bartlett's Test

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | 0.833 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1203.071 |
| | Df | 171 |
| | Sig. | 0.000 |

Table 3: Exploratory factor analysis model of entrepreneurial skills and intentions

<table>
<thead>
<tr>
<th>Factors</th>
<th>Variable Symbol</th>
<th>Items</th>
<th>Factor Loading</th>
<th>Cronbach's Alpha</th>
<th>Eigen Values</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1. Traditional Orientation</td>
<td>CI 12</td>
<td>Teacher</td>
<td>0.763</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 1</td>
<td>Doctor or other medical professional</td>
<td>0.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 3</td>
<td>Lawyer</td>
<td>0.708</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 9</td>
<td>Artist</td>
<td>0.655</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 2</td>
<td>Military / Police</td>
<td>0.645</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 13</td>
<td>Nonprofit / government</td>
<td>0.628</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 7</td>
<td>Journalist / writer</td>
<td>0.602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESE 3</td>
<td>Being Creative</td>
<td>-0.547</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 11</td>
<td>Finance / Accounts</td>
<td>0.529</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2. Self-Efficacy</td>
<td>ESE 5</td>
<td>Being a leader</td>
<td>0.806</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESE 4</td>
<td>Getting people to agree with you</td>
<td>0.719</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESE 1</td>
<td>Being able to solve problems</td>
<td>0.668</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESE 6</td>
<td>Making decisions</td>
<td>0.652</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESE 2</td>
<td>Managing money</td>
<td>0.514</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3. Business Orientation</td>
<td>CI 5</td>
<td>Starting / owning your business</td>
<td>0.774</td>
<td>0.701</td>
<td>1.453</td>
<td>7.649</td>
</tr>
<tr>
<td></td>
<td>CI 4</td>
<td>Manager</td>
<td>0.766</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 10</td>
<td>Sales / Marketing</td>
<td>0.673</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 4. Technical Orientation</td>
<td>CI 6</td>
<td>Engineer</td>
<td>0.874</td>
<td>0.609</td>
<td>1.316</td>
<td>6.927</td>
</tr>
<tr>
<td></td>
<td>CI 8</td>
<td>IT Professional</td>
<td>0.772</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Rotation converged in 5 iterations.
4.2 Reliability test

4 factors have been extracted in the pattern matrix through principal component analysis. Each factor contained certain number of related variables, given specific names. Variables of each factor were tested, reliability test of all the 4 factors have been done. (Table 3). Test of reliability confirms the internal consistency of the variables. Reliability refers to the questionnaire’s ability to provide consistent results in repeated uses. (Gatewood et al, 1990, Jain and Mukherji, 2010). Coefficient (Cronbach’s) alpha is the basic measure for reliability (Green et al, 2000). The nine items in Factor1 (traditional orientation) had an acceptable coefficient alpha (0.856). Since ‘Being Creative’ (ESE 3) showed negative co-relation with this (Factor 1), it was dropped. Although it positively co-related with Self Efficacy (Factor 2) and Business Orientation (Factor 3) with a value of 0.287 and 0.079 respectively. Hence it has some role in factor 3 and 4 though it is not meeting significance level. Negative correlation further emphasizes the fact that ‘Being Creative’ is not considered as an important pre-requisite for traditional jobs by students who have inclination towards traditional professions like doctor, lawyer etc. It can also be inferred that schools in Gurgaon seem to be lacking in giving exposure to ‘Being Creative’ thereby resulting in a negative value.

The five items in Factor 2 (Self-efficacy) also have acceptable reliability score of 0.722. The three items in Factor 3 (Business Orientation ) have acceptable score of 0.701 but Factor 4 (Technical Orientation) has value of Cronbach’s Alpha as 0.609 which is below the acceptable limit 0.7 (Andy Field, 2009). Hence it is dropped from CFA. This low score can be attributed to modern mindset of the present generation which wants to explore options other than engineering and IT.

4.3 Percent of variance

The “% of variance” row tells how much of the total variability (in all of the variables together) can be accounted for by each of these summary scales or factors. Factor 1 account for 27.67% of the variability in all 19 variables, and so on. The total variance chart showed that 54.405% perception of students was explained by four factors (Table 2) which had Eigen values greater than one. Further a scree plot was obtained to reconfirm whether four factors would be appropriate. The plot of eigenvalues against the number of factors (Figure 2, scree plot) was proposed by Cattell (1966) as an aid in deciding on the optimum number of factors to extract. From the plot it was clear that four factors would be appropriate to explain the construct.

Figure 2:
4.4 Model fit by AMOS

After doing EFA the factors were put to CFA against the variables and a model fit was obtained. Co-variance between 3 factors was also seen. Goodness of fit model was obtained.

<table>
<thead>
<tr>
<th>Element</th>
<th>Obtained Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMSEA</td>
<td>0.037</td>
</tr>
<tr>
<td>CFI</td>
<td>0.971</td>
</tr>
<tr>
<td>GFI</td>
<td>0.938</td>
</tr>
<tr>
<td>Chi Square</td>
<td>94.548</td>
</tr>
<tr>
<td></td>
<td>p=0.054</td>
</tr>
</tbody>
</table>

GFI=1 indicates perfect model fit, (Joreskog and Sorbom, 1981) GFI >0.90 indicates good fit. Here value of GFI=0.938 so it is a good fit.

CFI is normed so that values range between 0 to 1, higher values indicates better fit. Here CFI = 0.971 indicating great fit of the model which is very close to 1. RMSEA value is 0.037 which is less than recommended limit of 0.05. This can be interpreted as meaning that the model explains the correlation to within an average error. Hence the model shows an overall acceptable fit.

The Chi-Square value is the traditional measure for evaluating overall model fit and, ‘assesses the magnitude of discrepancy between the sample and fitted covariance’s matrices’ (Hu and Bentler, 1999). A good model fit would provide an insignificant result at a 0.05 threshold (Barrett, 2007), thus the Chi-Square statistic is often referred to as either a ‘badness of fit’ (Kline, 2005) or a ‘lack of fit’ (Mulaik et al, 1989) measure.

Here latent factors are Dependent variables (Traditional Orientation, Self Efficacy, and Business Orientation) while ESE and CI are independent variables. The impact of various independent demographic variables (Gender, School Type) is seen on ESE and ECI which are acting as Dependent Variables.
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Figure 3: Confirmatory factor Analysis Model of ESE and CI

4.5 Hypotheses Testing

H1: There will be significant gender difference on Entrepreneurial Self Efficacy

In order to test the first hypothesis that whether gender has any effect on ESE, t-test was conducted with gender as the dependent variable and CSE as independent variable.

<table>
<thead>
<tr>
<th>Table 5: Group Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>CSE</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
Independent samples test

<table>
<thead>
<tr>
<th></th>
<th>t-test for Equality of Means</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
<td>Mean Difference</td>
<td>Std. Error Difference</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>ESE</td>
<td>Equal variances assumed</td>
<td>-0.303</td>
<td>203</td>
<td>0.762</td>
<td>-0.029</td>
<td>0.096</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-0.306</td>
<td>190.548</td>
<td>0.76</td>
<td>-0.029</td>
<td>0.096</td>
</tr>
</tbody>
</table>

Results revealed that ESE score of girls (M= 3.58, ESE= .071) was greater than that of boys (M= 3.56, ESE = 0.064). This difference is not significant as t (203) = - 0.303 at p = 0.762/2(as one-tailed) = 0.381 (p< 0.05 is significant). Thus our H 1 is rejected.

ESE is irrespective of gender. Both boys and girls consider themselves to be having the same level of self-confidence about the entrepreneurial skills they possess, compared to their peers.

H 2: There will be significant gender differences on Entrepreneurial Career Intentions.

<p>| | | | | | | |</p>
<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group Statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gen</td>
<td>N</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td></td>
</tr>
<tr>
<td>CI5</td>
<td>Male</td>
<td>118</td>
<td>2.86</td>
<td>1.032</td>
<td>.095</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>87</td>
<td>2.94</td>
<td>1.016</td>
<td>.109</td>
<td></td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>t-test for Equality of Means</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
<td>Mean Difference</td>
<td>Std. Error Difference</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>CI5</td>
<td>Equal variances assumed</td>
<td>-.598</td>
<td>203</td>
<td>.551</td>
<td>-.087</td>
<td>.145</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-.599</td>
<td>187.058</td>
<td>.550</td>
<td>-.087</td>
<td>.144</td>
</tr>
</tbody>
</table>

Results revealed that CI5 score of girls (M= 2.94, CI5= .109) was greater than that of boys (M= 2.86, CI5 = 0.095). This difference is not significant as t (203) = - 0.598 at p = 0.551/2(as one-tailed) = 0.275 (p< 0.05 is significant). Therefore H 2 is rejected. Hence gender has no significant relationship with the career intention of starting/ having own business. H 3: There will be significant impact of school type on ESE.
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Shikha Chandra, Srilatha.S

Table 7: Group Statistics

<table>
<thead>
<tr>
<th>School</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>112</td>
<td>3.54</td>
<td>.705</td>
<td>.067</td>
</tr>
<tr>
<td>Progressive</td>
<td>93</td>
<td>3.60</td>
<td>.652</td>
<td>.068</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>CSE</td>
<td>Equal variances assumed</td>
<td>.060</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-</td>
</tr>
</tbody>
</table>

Results revealed that CSE score of Traditional schools (M= 3.54, CSE= .067) was less than that of progressive schools (M= 3.60, ESE = 0.068). This difference is not significant as t (203) = - 0.698 at p = 0.486/2(as one-tailed) = 0.243 (p< 0.05 is significant). Therefore H 3 is rejected. Hence there is no significant impact of school type on ESE score.

H 4: There will be significant impact of school type on Entrepreneurial Career Intention.

Table 8: Group Statistics

<table>
<thead>
<tr>
<th>School</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>112</td>
<td>2.67</td>
<td>1.026</td>
<td>.097</td>
</tr>
<tr>
<td>Progressive</td>
<td>93</td>
<td>3.16</td>
<td>.959</td>
<td>.099</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>CIS</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
</tr>
</tbody>
</table>
Results revealed that CI5 score of students in Progressive schools (M= 3.16, CI5= .099) was greater than that of students in Traditional schools (M= 2.67, CI5 = 0.097). This difference is significant as t (203) = - 3.519 at p = 0.001/2 (as one-tailed) = 0.0005 (p< 0.05 is significant).

Hence **H 4 is accepted**. It can be said that Progressive schools have significant impact on the intention to take up entrepreneurship as a career.

**5. Interpretation/ Discussion**

During the course of Factor Analysis it clearly came out that in India people are still inclined towards traditional jobs. The factor, ‘Traditional Orientation’ has highest Cronbach’s alpha (0.856). Even the % of variance is highest (27.68%) in ‘Traditional Orientation’. This clearly indicates that responses are more concentrated towards this orientation. The item ‘Being Creative’ was thought to be clubbing with ‘self-efficacy’ but it grouped with ‘traditional orientation’ though negatively. After dropping it the value improved from 0.65 to 0.856. The present education system does not give much importance to ‘Being Creative’ so it does not seem to be considered important in traditional jobs. This item shows positive correlation with factor 2(self-efficacy) and factor 3(business orientation) depicting its importance here.

In EFA the factor 4 (technical orientation) had Cronbach’s alpha 0.609, which is < 0.7 so it was dropped in CFA. This low score can be attributed to modern mindset of the present generation which is willing to explore more options and have at least started thinking of careers beyond engineering and IT. Thus a model is made and first objective fulfilled.

The cross tabulation shows that more than 50% of respondents (136 out of 205 respondents) wish to have their own work/business though their orientation (factor 1) is more towards traditional jobs as of now. Further, the hypotheses were tested.

Hypothesis 1 and 2: Unlike previous research on gender affecting entrepreneurial self-efficacy and entrepreneurial career intentions (Fiona etal, 2007), our results indicate that it is irrespective of gender. The statistical results of this paper show the self-perception of women to be at par with their male counterpart. However, if we look at the current status, there are still fewer women entrepreneurs than men. Is it that their actual skill levels are lows or is it the result of gender stereotype? Has ‘Glass Ceiling’ spread its roots in this domain too? Further research is required on this.

Hypothesis 3: Surprisingly the results indicated that ESE score of students was independent of the type of school they go to. It seems, presently the progressive schools in India, are not able to contribute much towards the growth of ESE. Though the pedagogy of progressive schools facilitates the development of skills which are a must for an entrepreneur, why is it not visible here? They are not equipped properly and are still at a developing stage hence results are not clearly visible. Here the teacher plays a major role who fundamentally transforms our classrooms and schools. Indian schools always have a dearth of trained teachers. As mentioned in Table 2, teachers in progressive schools are more of facilitators than pure instructor so onus is more on them. Research has established that entrepreneurship education heightens the self-efficacy level of students (Fiona etal, 2007). “It is worthwhile for schools to consider this theory and practice as pedagogical cognitive tools in general education” Lackéuse etal (2013).

Hypothesis 4: It substantiates the findings of previous research where school type plays a role in shaping the career intentions of students. Progressive schools create an atmosphere where
children think of entrepreneurship as a career. It has been found by Lazear (2005); Wagner, (2006) that school experiences (cited in Ohyamaand Braguinsky, 2009) increases the probability of becoming an entrepreneur. Analysis has also proved that school will definitely contribute in building a mindset to start own business.

During the course of analysis, one interesting finding emerged. Though it was not a part of hypotheses but it is worthwhile to discuss here. Gender was found to be moderating the relationship between ESE and Career Intention, as $F (2, 202) = 7.96$ at $p < .05$, is significant.

There are four different multivariate tests reported in SPSS Output,

-Using Pillai’s trace, there was a significant effect of Gender on the ESE and CI, $V = 0.73$, $F (2, 202) = 7.96$, $p < .05$.

-Using Wilks’s statistic, there was a significant effect of Gender on the ESE and CI, $V = 0.93$, $F (2, 202) = 7.96$, $p < .05$.

-Using Hotelling’s trace statistic, there was not a significant effect of Gender on the ESE and CI, $T = 0.079$, $F (2, 202) = 7.96$, $p < .05$.

-Using Roy’s largest root, there was a significant effect of Gender on the ESE and CI, $\Theta = 0.079$, $F (2, 202) = 7.96$, $p < .05$.

<table>
<thead>
<tr>
<th>Table 9: Between – Subjects Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gen</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multivariate Tests(^a)</th>
<th>Effect</th>
<th>Value</th>
<th>$F$</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Pillai’s Trace</td>
<td>.974</td>
<td>3818.495(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.026</td>
<td>3818.495(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>37.807</td>
<td>3818.495(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Roy’s Largest Root</td>
<td>37.807</td>
<td>3818.495(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td>Gen</td>
<td>Pillai’s Trace</td>
<td>.073</td>
<td>7.958(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.927</td>
<td>7.958(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>.079</td>
<td>7.958(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Roy’s Largest Root</td>
<td>.079</td>
<td>7.958(^b)</td>
<td>2.000</td>
<td>202.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Design: Intercept + Gen
b. Exact statistic

Results from the MANOVA were statistically significant according to Wilks’ $\Lambda$, $V = .93$ $F (2, 202) = 7.96$, $p < .05$. The strength of association between ESE and CI was significant (Wilks’ Lambda $= 0.000$). It is the most popular multivariate statistic (Tabachnik and Fidell, 2006). It is based on overlapping variances, where values near 0 indicate large omnibus effects (Grice and Iwasaki, 2007).

Gender is providing strength and direction to the relationship between ESE and CI. The ESE skills are not specific to entrepreneurship only; other careers are also significantly related with ESE for both boys and girls.
5.1 Conclusion

We began this study motivated by the fact that entrepreneurs aid the economy of a nation. Now the desire was to better understand the ways and means to encourage it. Thereby, have a vibrant pipeline of entrepreneurs irrespective of gender.

Our findings have suggested that:

1. More than 50% of respondents (136 out of 205 respondents) wish to have their own work/business though their orientation is more towards traditional jobs as of now.

2. ESE is independent of gender and type of education

3. ECI is independent of gender though it depends on the type of education.

If gender is not affecting the self-efficacy score and intention to become entrepreneur, then definitely we can have equal number of boys and girls who have these skills and interest. Hence there is equal probability of having men and women as entrepreneurs. Now entrepreneurship education has to play the major role to support this mission. Sooner the better so the onus is on school education. As has been seen earlier in this paper, progressive schools are more likely to develop entrepreneurial career intentions though currently they are unable to do much towards building self-efficacy.

The battle between traditional and progressive education (Lackéuse et al, 2013) will continue and should be understood by the role each plays in developing the ECI. According to Egan (1996), “the battle between traditional and progressive education cannot be understood without taking into account the three main goals of education; achieving social cohesion, diffusing inherently valuable knowledge and facilitating growth of the individual mind”. Now there are two sides of the coin, the policymakers and school management, who have control over administrative and curriculum, want a standardized curriculum (Egan, 2008; Tynjälä, 1999). On the other side are people like some teachers, parents, reformers who believe in a learner focused and process-based curriculum which emphasizes practical experiences. “This has resulted in a widespread ‘increasing score, declining interest’ among learners” says Labaree (2005) so more pressure on standardization and testing. In India the acceptance of progressive mode is picking momentum. As of now it is clearly seen in ‘A’ class cities like Gurgaon, its core values are getting acceptance at government level too. The Haryana’s education department has taken an initiative to make students learn different things in a more practical way through a class readiness program (CRP).

“The intention should be to consider entrepreneurship theory and practice as pedagogical cognitive tools in general education”. Lackéuse etal (2013). This kind of dualistic problem in learning and education has previously been addressed by Hager (2005), who instead suggests “a holistic integrative to avoid dualisms such as theory/practice, thought/action, pure/applied, education/training and so on”. Dr John Dewey, an Educational Reformist, promoted Progressive Education. He believed that neither of these set of values is sufficient in itself. Both are essential.

According to the opinions of the researchers, effective teaching should go beyond the listing of the facts as well as the dates. In social studies for example, which is usually a great subject, there exists no right answers as well as wrong answers. The subject deals with making arguments and at the same time providing a back-up for the proposed arguments. It is
therefore the responsibilities of the teachers to become objective guides for the students through the provision of the desired materials as well as the information as the basis of the arguments. This is the type of teaching that is miles ahead of the application of the text books. Despite the acknowledgements of the merits of progressive curriculum, majority of the school system have been slow in its implementation. Majority of the parents have been documented to be unwilling in allowing the teachers as well as the students to disengage themselves from the previous academic work in an attempt of avoiding the discussion of the social as well as personal concerns. (http://www.essay.uk.com/coursework/traditional-and-progressive-curriculum.php#ixzz3DMFHUTNI).

Progressive curriculum is turning out to be better than traditional curriculum for preparing students for life especially entrepreneurship. They work on the ideology of ‘learning by doing’ which is basic in determining self-confidence (Cox, Mueller and Moss, 2002). Though with our current education system, where schools work within chains and are strictly bound by guidelines, it is very challenging to provide a free environment for development of such skills. Entrepreneurship education, which is in line with pedagogy of progressive schools, will definitely limit the effects of low ESE scores, if at all, thereby increasing the chances of entrepreneurship creation in India.

If few institutions can do it, why not all?

5.2 Recommendations for policy makers

They should target a multi-faceted education. Hence, it is imperative on their part to work on continuous improvement thereby incorporating the changing needs of the modern society. Rote learning is being challenged now. Today’s curriculum needs to move away from the traditional type. As mentioned earlier, Haryana government has initiated CRP which is step forward in this direction. Further this can be achieved by:

1. In the curriculum include subject on Skill Development
2. Allot credits for project work
3. Give flexibility to schools for choice of subject combination
4. Entrepreneurship be included as a separate subject
5. Promote vocational courses at school level which otherwise occupy a low status
6. Expert counseling be made compulsory in all schools
7. Form a committee that has representation from all type of schools and boards. Ensure that there is real inclusion of their view points.

5.3 Recommendations for institutions

The sole focus should be to produce students who are developed holistically with necessary life skills. Dewey’s principles should be kept in mind while deciding the pedagogy. Here teachers play a crucial role in implementing the school ideology hence their hiring process should be very stringent. Along with the basic qualification people who are passionate and have some corporate experience, be given priority.

Some suggestions are given below which may be sparingly visible in few schools but the intention here is to make them more widespread. They are like:
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1. 360 degree feedback of teacher with quarterly reviews for Continuous Improvement (CI)
2. Frequent teachers exchange programs say once a year for every high school teacher. This can be within the country or overseas. Such type of exposure will enrich the teaching style.
3. Training and development programs for teachers to acquaint them to the corporate world.
4. Frequent business fairs (e.g. setting up a restaurant) where students learn money transaction. The amount collected can be donated to some NGO
5. Business studies be made compulsory and taught in an interactive way.
6. Encourage student elections in all classes whereby the candidate sell their candidature
7. Mock stock market be created
8. Talks by parents who are entrepreneurs. Such parents can be made mentors and some like-minded students can be attached to each mentor. During holidays these children can accompany their mentors to work place and get hands-on training.
9. Split curriculum into projects to teach subjects (modules) and facilitate learning by using kits thereby infusing practicality.
10. Collaborative research projects will build vision
11. Role play: assign different roles (government official, money lenders, contractor etc) to few people and remaining students become entrepreneurs selling their ideas.
12. Case studies: allocate limited resources (Men Machine Money etc.) and ask them to develop a business plan to start a business.
13. Out bound expedition programs where students learn to manage risk.

5.4 Limitations of our study and directions for future research

The limitation of this research is the small sample size and the impossibility to implement it in government schools too. Though, further research can be done by changing the language of the questionnaire to Hindi and then collecting sample from all schools in the state. Secondly, we found very few studies focused on the high school students, especially in India.

This study was conducted in Gurgaon city which is one of the most developed cities of India. If it is replicated in smaller cities also, than quite possible that we see an effect of gender on ESE and ECI scores, unlike our study.

Our study opens the door to wider, deeper, and more specialized future studies on the effect of

Entrepreneurial Education in developing self-efficacy of students may be from elementary level. Off late attention is also paid to the phenomenon of “social entrepreneurship”, which talks about people starting and developing new initiatives by putting the value of the (local, regional) society largely, before the value of the individuals. Hence the idea is that entrepreneurs come up with the solutions to societal challenges too. This supports the idea of developing ESE among people as young as possible. Thus research can be conducted on how
the self-efficacy development can influence the career intention of becoming social entrepreneurs.

In India three things work for an entrepreneur-

Jugad, Junoon, Jubaan

By Rashmi Bansal, in her book ‘Connect the Dots’ (2010)

Can we together be the catalysts of this change?

6. References


17. Lans, T., Oganisjana, K., Täks, M., and Popov, V., (2013), Learning for entrepreneurship in heterogeneous groups: Experiences from an international, Interdisciplinary higher education student programme. Trames: A journal of the humanities and social sciences, 17(4), pp 383-399. doi:10.3176/tr.2013.4.05


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