

## **Analysis of factors affecting the development of an entrepreneurial student**

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### **ABSTRACT**

The purpose of this paper is to explore the influential factors on entrepreneurial spirit of wood and paper industries students in two universities, namely Agriculture and natural resources faculty of Tehran University and Shahid Rajaiee teacher training University. A sample of 100 students were selected from a target population of 572 students using the Cochran formula. The respondents were asked to provide their answers to a standardized questionnaire. Results indicated that from the students' perspective such factors as motivation, providence and achievement propensity had the greatest impact on entrepreneurial spirit of the respondents whilst factors like internal control, exception ability and having systematic attitude had the least influence. Moreover concerning the effect of educational and academic factors on entrepreneurial spirit, the most effective items were respectively favorable access to computer and internet and learned and efficient instructors whereas the least effective items considered were degree orientation, students' apprenticeships in executive environments and education at the university. The findings showed a significant positive relation at the significance level of 0.05 between the level of education and age with the creation of entrepreneurial spirit amongst students. Furthermore a significant positive relation was observed between educational and academic factors, propensity to achievement, risk taking and ambiguity toleration, control source and family with entrepreneurial spirit at the significance level of 0.01. Also the results of multiple regression analysis showed that 79.7% of entrepreneurial spirit (the dependent variable) variance was explained by such independent variables as educational and academic factors, achievement propensity, being innovative, risk taking and ambiguity toleration, control source and family.

**Keywords:** Entrepreneurial spirit, wood and paper industry, educational and academic factors

## INTRODUCTION

The unemployment of post-graduates is one of the most consequential issues that many of the developing countries are nowadays dealing with. This could be caused by heterogenic educational planning in terms of market needs and also miscalculation of befitting human resources for the future labor market notwithstanding that the aim of the higher education system is to provide graduates with necessary skills to play an active role in the society's affairs. During recent decades there has been growing attention towards entrepreneurship and its education. The objective of teaching entrepreneurship is to plenish students with creativity and incumbent skills like management and marketing. Hence it's necessary that students be trained in such a way that their entrepreneurial characteristics be developed(Gibb, 2012). Entrepreneurship plays an important role in the economy of countries through extending innovation, nourishing competitiveness, creating jobs and furtherancing economic richness(Guasch, Kuznetsov, & Sanchez, 2002; Holmgren & From, 2005). Thereupon,in current situation of limited awareness of entrepreneurship in between postgraduates, the lack of universities involvement in active creation of entrepreneurial spirit amongst their students is obvious(Wong, Lee, Ho, & Wong, 2005). Literature review upholds that education affects cultural characteristics particularly and thereby educational levels influence entrepreneurship(Hayton, Zahra, & Zahra, 2002; Morrison, 2000). For instance, the behaviors that are taught to people at their youth would manifest as mobilized skills in higher education and this issue plays an important role in building the overall entrepreneurial behavior(Casson, 1991; Ronstadt, 1984). Entrepreneurship education concerns the notion of how attributes are linked to entrepreneurial performance(Ahmadpour & Moghimi, 2006). Entrepreneurs generally make their decisions without having the intact information and spend large amounts of time and effort to create a context for an investment the result of which is unknown(Cromie, 2000). As *Pacheco* (1998) suggests, entrepreneurial characteristics from university students' point of view are providency power, high level of imagination, hardworking, motivation, self-belief, strong will, teamwork skills and network building whereas negative characteristics include cruelty in market and unpredictability. *Abedini* (2002) states that according to the entrepreneurial characteristics school, needs, motivation, attitudes, sentiments and peoples' values are the fundamentals of their primary behavior and it is these dominant values that compel people to divulge certain behavior. As *Moghimi* (2001),with regard to humane entrepreneurship school,positsthis school enumerates some attributes of accomplished entrepreneurs, namely high need for personal achievement, low need for control, self-adjustment activities, self-belief in controlling one's own life outcomes, risk taking, ambiguity toleration, self-esteem and non-associability. Business in the family influences the entrepreneurial behavior exclusively(Basu & Goswami, 1999; Duchesneau & Gartner, 1990). People can generate the idea of a new and secure business via working in family businesses and also gain skills that are needed for their future or for the resumption of the family business as well(Getz & Carlsen, 2005). The findings of several studies show that parents affect the entrepreneurial spirit of children in different status(Matthews & Moser, 1996). For instance some researchers believe that

being disposed to a business environment in the family can extol the perception of apt children through improving their realization of self-employment in a professional manner (Krueger, Reilly, & Carsrud, 2000). Control source, too, is another influential factor on entrepreneurial spirit in such a way that *Diaz & Rodrigues* (2003) state that people with more potent internal control sources, will be lustier entrepreneurs than those who has wonkier control sources. Concerning the role of universities in training a great deal of youth and professional work forces of societies, their influx in educating and breeding entrepreneurs cannot be ignored. Thus the main question of the present research is that what factors influence the students' entrepreneurial spirit and what is the weight of each of these factors?

### Entrepreneurial Spirit in previous research

Findings of *Altinay et al.* (2008) indicated that having an entrepreneur family and the individual's innovativeness affect starting a new business and also stated that there is a significant positive relation between ambiguity toleration and risk taking propensity while the relationship between control source and risk taking propensity is a negative one. *Kellermans & Eddleston* (2008) also stated that there is a significant positive relationship between trepan to change, contribution of generations, perception of technological opportunities and entrepreneurial spirit. *Hoseini et al.* (2009) introduced extraordinary educational programs that are related to profession's skills, creative educational methods in universities, suitable curriculum and consentaneous planning with regard to circumstances, students' fondness, competitive and suitable environment in the university as the most effective factors on entrepreneurial spirit. In their research *Jamshidifar et al.* (2010) suggested that such factors as age, educational level, loan inception, economical barriers, activity background, income, acquisition of necessary skills and risk taking are of great influence on entrepreneurial spirit. Furthermore *Altinay & Daniele* (2012) findings showed that there was a correlation among innovativeness, risk taking propensity, having an entrepreneur family with entrepreneurial spirit and appetency. They also pointed out that the effect of education on creation and nourishing entrepreneurial spirit is not significant. Where or not there seems to be a relation between ambiguity toleration and entrepreneurial spirit however *Gurel et al.* (2010) did not find any link between ambiguity toleration with predisposition to create a new business amongst British and Turkish university students. Besides the findings of *Babb & Babb* (1992) indicated that there is no significant difference between ambiguity toleration of rural entrepreneurs and non-entrepreneurs of north Florida. In contrast with these conclusions, *Pillis & Reardon* (2007) found out that there existed a positive relationship between ambiguity toleration and entrepreneurial spirit. Moreover *Gurol & Atsan* (2006) showed that entrepreneurs are more creative than non-entrepreneurs and *Koh* (1996) also indicated that there existed a significant positive relation between being innovative and entrepreneurial spirit. *Gurel* (2010) findings, too, framed that the relationship between innovativeness and predisposition to create a new business amongst the British and Turkish university students is that of positive significance type. *Tang & Tang* (2007) evinced that people who have high need for achievement, choose the tasks with

calculated risks. *Moradi & Shabanali Fami* (2010) also demonstrated in their research that there exist a significant difference between the skills of advancement motivation and also capacities of advancement motivation in university students of different levels and their parents' jobs with their entrepreneurial capacities. They also pointed out that there is no significant difference among female students from different majors regarding the entrepreneurial capacities, moreover no significant relation was found between parents' education levels and entrepreneurial capabilities of students. *Maleki Ale Agha* (2007) also showed that building entrepreneurial thinking amongst postgraduates affects the development of entrepreneurship, withal he concluded that specialized and pragmatic instructions in the context of entrepreneurship influences its development. Further findings of this research were that introducing entrepreneurial opportunities inside universities can import largely on creating facilities for developing entrepreneurial and professional skills and also common academic trainings can hardly enable entrepreneurial motivation and susceptibility towards a particular profession. And lastly entrepreneurship development in between university students relies largely on entrepreneurial behavior development by the means of extension, education, support and recognition of apt entrepreneurs. *Oladian et al.* (2010) research showed that from the postgraduates and entrepreneur managers perspective, paying attention to goals and educational materials, minding the human resources and educational facilities, educational evaluation, peoples' risk taking propensity, advancement motivation, peoples' creativity and personal control source influence the entrepreneurship curriculum of educational sciences major.

### **Design/methodology/approach**

This research in its nature is a quantitative one and with regard to the issue of control over the variables is of non-experimental type which has an applied modality. In total, 572 students who constitute the overall population of two universities (*i.e.* Agriculture and natural resources faculty of Tehran University and Shahid Rajaiee teacher training University) are the target population from which 80 students were drawn as a sample utilizing the Cochran formula. To ensure that the sample was really representing the target population it was increased to 110 students from whom 100 completed questionnaires were collected and analyzed.

### *Procedure*

The main tool of this research was an organized and pretested questionnaire. A random proportional stratified sampling method was employed upon which results, 40 questionnaires were consigned to Shahid Rajaiee University and another 70 were deputed to Tehran University. Data analysis was done in descriptive and inferential parts using the SPSS software. For this purpose on the descriptive side, descriptive statistics such as frequency, mean and coefficient of variations were employed whereas in inferential part, correlation coefficient tests, Mann-Whitney test and regression were used.

## RESULTS AND DISCUSSION

Drawing upon the results of this research, the mean of students' age was 15 to 24 years with the standard deviation of 4.54. 62 of the whole 100 respondents were from Tehran University whereas the remaining 32 were from Shahid Rajaiee University. Regarding the gender issue, 74 of the students were male and the other 26 were female. Considering the level of education 66% of the students were bachelor students, 30% were masters students and 4% were studying for their PhD degree. In terms of self-employment, 33% of the respondents had self-employment experience whilst 67% lacked this quality. From the ones studying at Tehran University, 17.7% had self-employment experience and from those studying at Shahid Rajaiee University, 57.9% had the experience of self-employment. Respondent's perspectives about the influence of psychological factors on entrepreneurial spirit Table 1 illustrates that from the students' point of view, motivation, providence and need for achievement had the most influence and such factors as systematic attitude, exceptionability and internal control had the least impact on entrepreneurial spirit of the respondents. These findings confirm the results of *Haipachko's* research (1998) in which the entrepreneurial qualities were explored from the students' point of view and also *Abedini* (2002) in whose research he came to the conclusion that motivations, attitudes, sentiments and individuals values are the fundamentals of entrepreneurial spirit, and moreover the claims of *Moghimi* (2001) that high need for personal achievement, low need for control, self-adjusting activities, believing in one's abilities to control one's life's outcomes, risk taking, high levels of ambiguity toleration, high self-esteem and non-adaptiveness are the influential factors on entrepreneurial spirit.

**Table1.** Respondents' perspectives about the impact of each psychological factor on entrepreneurial spirit

<i>Variable</i>	<i>Mean (from 5)</i>	<i>Standard Deviation</i>	<i>coefficient of variations</i>	<i>rank</i>
Motivation	4.44	0.656	0.147	1
Providence	4.36	0.743	0.170	2
Need for achievement	4.21	0.729	0.173	3
Responsibility	4.28	0.766	0.178	4
The ability to manage creatively	4.11	0.815	0.198	5
Hard work & continuous efforts to achieve goals	4.26	0.848	0.199	6
Efficient thinking	4.04	0.852	0.210	7
The ability to think and planning	4.17	0.900	0.215	8
Consulting with experts	4.12	0.891	0.216	9
Managerial threefold skills (technical, conceptual & human relations)	4.05	0.903	0.222	10
Confidence & self-esteem	4.13	0.950	0.230	11
Braveness	3.96	0.931	0.235	12
Time management	3.95	0.936	0.236	13
Specialized skills	4.05	0.957	0.236	14
Well devising	3.85	0.936	0.243	15
The ability to analyze problems	3.90	0.948	0.243	16
Believing in exploration before action	3.94	0.983	0.249	17
Awareness of economics & markets	4.05	1.009	0.249	18
Teamwork spirit	4.07	1.027	0.252	19
Having relations with entrepreneurs	3.95	1.009	0.255	20
Having independency of opinions	3.81	0.986	0.258	21
Individual experiment	3.91	1.016	0.259	22
Innovativeness	3.97	1.029	0.259	23
Risk taking and presenting new ideas	3.93	1.057	0.268	24
Flexibility	3.79	1.047	0.276	25
The ability to motivate others	3.75	1.040	0.277	26
Financial and moral support from the family	3.92	1.089	0.277	27
Internal control	3.77	1.053	0.279	28
Exceptionability	3.64	1.078	0.296	29
Having systematic attitude	3.53	1.068	0.302	30

*Respondent's perspectives about the influence of each one of educational and academic factors on entrepreneurial spirit*

As is seen in Table 2, the respondents identified the following educational and academic factors as most influential respectively: target orientation of schooling, favorable access to computer and internet and learned and efficient instructors, whereas the three factors of degree orientation, students apprenticeships in executive environments and education at the university was considered the least effective items. These finding confirm the results of *Hoseini et al.* (2009) research.

**Table 2.** Respondent's perspectives about the influence of each educational and academic factors on entrepreneurial spirit

<i>Variable</i>	<i>Mean (from 5)</i>	<i>Standard Deviation</i>	<i>coefficient of variations</i>	<i>rank</i>
Target orientation of schooling	4.29	0.902	0.210	1
Favorable access to computer and internet	4.26	0.960	0.225	2
learned and efficient instructors	4.21	0.977	0.232	3
Holding marketing courses for students	4.20	0.995	0.236	4
Close relations between university and successful businesses	4.02	1.005	0.25	5
Enjoying successful entrepreneurs for teaching some courses	4.05	1.029	0.254	6
Scientific trips	4.02	1.035	0.257	7
Academic equipment and facilities	4.15	1.077	0.259	8
Academic curriculum	3.99	1.049	0.262	9
Creation or development of entrepreneurship centers in academic centers & organizations	3.96	1.044	0.263	10
Holding entrepreneurship seminars	3.77	1.024	0.271	11
Information system for accessing technological knowledge	3.93	1.066	0.271	12
Extraordinary trainings for gaining career skills	3.99	1.087	0.272	13
Preparing suitable syllabus for labor market	4.04	1.118	0.276	14
Suitable atmosphere and environment of competition in colleges	3.82	1.077	0.281	15
Creative training skills	3.80	1.073	0.282	16
Existence of entrepreneurship courses among other courses	3.87	1.098	0.283	17
Preparing suitable books in	3.74	1.070	0.286	18

entrepreneurship context				
Scientific and scholar spirit among tutors	3.95	1.149	0.290	19
Suitable planning identic to students' favors	3.92	1.161	0.296	20
Scientific activities in alignment with the presented course	3.89	1.205	0.309	21
Holding training courses for tutors	3.87	1.203	0.301	22
Gender factor in acceptance of students	3.48	1.105	0.317	23
Dynamic & creative atmosphere in dormitories	3.70	1.193	0.322	24
Education at the university	3.53	1.150	0.325	25
Students apprenticeships in executive environments	3.75	1.274	0.339	26
Degree orientation	3.08	1.277	0.414	27

*The relationship between individual characteristics and entrepreneurial spirit creation*

In order to explore the relationship between individual characteristics and entrepreneurial spirit, chi square correlation coefficient was employed which was well suited with the nature of nominal data. Also for clarifying the relationship between age and entrepreneurial spirit, Pearson correlation coefficient was used. The results of these tests, indicated that there existed a significant positive relation between the level of education and age at the significance level of 0.05, but the other variables did not divulge any significant relation with entrepreneurial spirit. These findings confirm in part the outcomes of *Jamshidifar et al. (2010)* in which he concluded that age and level of education are effective in the creation of entrepreneurial spirit. Furthermore these results also second the findings of *Morrison, Hayton, Zahra & Zahra (2002)* eke *Shabanali Famistating* that education affects cultural characteristics exclusively and there upon levels of education have a great impact on entrepreneurship whilst the gender factor doesn't make any significant change in entrepreneurial spirit. We also have to keep in mind that our research does not confirm the findings of *Altinay and Daniele (2010)*.

**Table 3.** *the relationship between individual's characteristics with entrepreneurial spirit*

<i>Variable</i>	<i>Correlation coefficient</i>	<i>Significance level</i>
Self-employment experience	-0.046	0.577
The university of education	0.070	0.401
Gender	0.033	0.688
Level of education	0.184	0.027
Age	0.153	0.034

*Role of the education university in creation of entrepreneurial study*

In order to explain the role of each of the universities in creation of entrepreneurial spirit in between the students, the Mann-Whitney test was conducted. For this purpose the five couple of factors namely family, control source, risk taking and ambiguity toleration, innovativeness and need for achievement were categorized. The results of this test indicated that there was no significant difference between the two universities with regard to the role of psychological factors in creating entrepreneurial spirit, neither was there any significant difference between the two universities but there was a significant difference in terms of self-employment experience between the two universities.

*Table 4. the results of Mann-Whitney test*

	<i>The role of family in entrepreneurial spirit</i>	<i>Control source</i>	<i>Risk taking &amp; Ambiguity toleration</i>	<i>Innovativeness</i>	<i>Need for achievement</i>	<i>Educational &amp; Academic factors</i>	<i>Self-employment experience</i>
<b>Mann-Whitney U</b>	1091	1027.5	1128.5	1111	1007	1063	705
<b>Z</b>	-0.623	-0.953	-0.353	-	-	-0.817	-4.124
<b>Significance level</b>	0.533	0.341	0.724	0.632	0.221	0.414	0.000

*The role of psychological, educational and academic factors in creating entrepreneurial spirit*

In order to explore the correlation between the psychological, educational and academic factors in creating entrepreneurial spirit Pearson correlation coefficient was employed. The results showed that there existed a significant positive relation among all the educational and academic items at the significance level of 0.01. These items are need for achievement, innovativeness, risk taking and ambiguity toleration, control source and a family that has entrepreneurial spirit. These findings endorse the results of *Cromie(2000)* and *Pillis& Reardon (2007)* research about existence of a significant positive relation between risk taking, ambiguity toleration and creation of entrepreneurial spirit. The findings of *Kellermans& Alston (2008)*, *Basu& Goswami(1999)*, *Duchesneau& Gartner (1990)*, *Getz and Carlsen (2005)*, *Jodlet al. (2001)*, *Mathews & Moser (1996)* and *Krueger et al. (2000)* regarding the existence of a significant positive relation between having a family with entrepreneurial spirit was also confirmed. In terms of educational and academic factors' relation with creation of entrepreneurial spirit, *Ale Agha's* findings (2007)

about the influence of entrepreneurial thinking on developing entrepreneurship among postgraduates were validated. Regarding the control source and innovativeness, the outcomes of such researches as *Dias & Rodriguez (2003)*, *Kellermans & Alston (2008)*, *Gurol&Atsan(2006)*, *Koh (1996)* and *Tang & Tang(2007)* were confirmed, yet the findings of *Gurol's* research (2010) on Turkish and Irish students and *Babb and Babb's* research (1992) on rural entrepreneurs and non-entrepreneurs were not verified.

**Table 5.** *Correlation coefficient among psychological, educational and academic factors in creating entrepreneurial spirit*

<i>Variable</i>	<i>Correlation coefficient</i>	<i>Significance level</i>
Educational and Academic Factors	0.923	0.00
Need for achievement	0.779	0.00
Innovativeness	0.739	0.00
Risk taking & ambiguity toleration	0.775	0.00
Control Source	0.704	0.00
Family	0.531	0.00

In order to predict the effect of each one of the psychological, educational and academic factors on entrepreneurial spirit of students, regression test was utilized in inter mode. The results of this test are summarized in table 6, according to which 79.7% of the dependent variable (*i.e.* entrepreneurial spirit) variance was explained by research variables. The findings also showed that innovativeness had the greatest direct impact on entrepreneurial spirit with  $\beta=41$  and educational factors, need for achievement, family, risk taking and ambiguity toleration and control source ranked respectively. The formal outcomes of this test are illustrated in table 7.

**Table 6.** *Determination coefficient in creating entrepreneurial spirit*

<i>Variable</i>	<i>Correlation coefficient</i>	<i>Determination coefficient</i>	<i>F</i>	<i>Significance level</i>
psychological, educational and academic factors	0.893	0.797	60.188	0.00

**Table 7.** *determination coefficient in creating entrepreneurial spirit*

<i>Variable</i>	<i>Non-standardized coefficient</i>	<i>Standardized coefficient</i>	<i>t</i>	<i>Significance level</i>
Constant coefficient	1.148	-	0.486	0.628
Innovativeness	0.589	0.410	5.574	0.000
Educational Factors	0.111	0.363	5.902	0.000
Need for achievement	0.314	0.178	2.398	0.019
Family	0.284	0.141	2.424	0.017
Risk taking and ambiguity toleration	0.158	0.127	1.694	0.094
Control source	-0.236	-0.148	-2.185	0.031

### CONCLUSION AND SUGGESTIONS

Drawing upon the students perspectives, in terms of psychological factors, motivation, need for achievement and providence had the greatest impact on entrepreneurial spirit, moreover among the educational and academic items, target orientation of schooling, favorable access to computer and internet and learned and efficient instructors were known as the most influential factors. The finding implicated a significant positive relationship among the level of education, age, educational and academic factors, need for achievement, innovativeness, risk taking and ambiguity toleration, control source and having a family with entrepreneurial spirit. Furthermore the results of regression test also showed that innovativeness, educational and academic factors and need for achievement had the greatest direct impact on the creation of entrepreneurial spirit. In order to persuade students to be behave more entrepreneurial, incentive instructions should be kept in mind while planning and policy making for the future of universities, Also it's worthy to familiarize faculty members with entrepreneurship and idea creation processes. It would be best if the curriculum of wood and paper industries major be provided in such ways that it can reinforce the impact of individual characteristics on entrepreneurial spirit creation. The universities have to prepare the incumbent environment for connecting students with entrepreneurs in order to nourish their motivation, confidence and hard work spirit for becoming entrepreneurs. Universities also need to plan their affairs in such a way to extol thinking and planning abilities of the students and hence reduce the risks of starting new businesses. Enjoying instructors who experience in the field of entrepreneurship is also suggested, while the incentive policies for furtherancing entrepreneurship and innovation among students should not be forgotten. It's also necessary to increase academic equipment and extend communicational networks among students and knowledge societies with the purpose of consolidating the interaction between entrepreneurs and students.

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