



Investigating the Relationship between University Education and Agricultural Students' Entrepreneurial Spirit

Reza Movahedi¹, Samadollah Ghanbari²

¹Associate Professor, Agricultural Extension and Education Dep., College of Agriculture, Bu-Ali-Sina University, Hamedan, Iran, email: r.movahedi@basu.ac.ir

²M.Sc. Graduated, Department of Agricultural Extension and Education, Bu-Ali-Sina University, Hamedan, Iran.

Abstract

Keywords:

University Education, Entrepreneurship, Entrepreneurial Spirit, Agricultural Students

The purpose of this study was to investigate the relationship between university education and agricultural students' entrepreneurial spirit. To do this study, 150 samples were selected by using stratified random sampling methods among senior students both on graduated and undergraduates levels in Bu-Ali Sina University. Data collection tool was a researcher made questionnaire which its validity was verified by a group of experts and professors. The reliability of the questions was tested during a pre-test process using a Cronbach's alpha test and it was between 0.75 and 0.93. Descriptive results showed that entrepreneurial spirit of the students was between moderate to high and among entrepreneurial spirit indicators the amount of self-confidence was highest but risk taking was the lowest. The results of Pearson test revealed that university education at each three level of knowledge and skill, social-communicational, and individual had a significant relationship with entrepreneurial spirit of the agricultural students.

1. Introduction

Entrepreneurship which can be understood as "the mindset and process to create and develop economic activity" has significantly raised interest among practitioners, scientists and politicians over the last decades (Davey et al., 2009). This impressive and rapid growth of entrepreneurship is attributed to the power of education in promoting social, economic, political, and spiritual well-being of an individual and social development. Many definitions can be found in the literature, however, a generally accepted and popular definition for Entrepreneurship is that "entrepreneurship is process that involves the discovery, evaluation, and exploitation of opportunities to introduce new products, services, processes, ways of organizing, or markets" (Shane and Venkataraman, 2000). Entrepreneurship as a strong engine for economic growth and development can play a vital role in society and create new jobs and businesses (Farajollahi et al. 2012). Reviewing on entrepreneurs' traits shows that these people have special traits that bring about a good seedbed and

situation for disseminating and transferring entrepreneurship spirit among other community's people (Movahedi et al. 2012). Because the entrepreneurs have entrepreneurial traits and characteristics they are able to identify new needs of society therefore, they play very important role on job creating and new opportunities. In this vein, training students in such a way that entrepreneurial traits be developed and stimulated among them are necessary (Rezaei and Rahsepar, 2010). In regard to meet society's needs and demands, the students' success depends directly on their personal and specialized skills which are leaned during the university programs. Therefore, a successful student is one who not only can learn specialized skills but also learn such skills as innovation, creativity, problem solving, planning, teamwork, ability to use opportunities, self-confidence, responsibility, and risk-taking. The universities should provide students learn these traits and skills (Norouzzadeh and Kosary, 2010). Education has been the instrument in the development of man to enable him live an effective and meaningful life and to be able to

contribute towards the development of society in which he finds himself. Many colleges and universities, various government and non-government agencies, provide entrepreneurial programs and training for the development of entrepreneurship (Dionco-Adetayo, 2004). Fostering entrepreneurship among students has become an important topic in universities and governments' as well as in research. The positive role of universities in developing entrepreneurial intention and to explore the factors influencing entrepreneurial behavior of students are confirmed by a number of studies (Fayolle et al. 2005, Hannan et al, 2004) that help to explain the emergence of entrepreneurial intention among target groups as well as suggest the stimulation of entrepreneurship education that can influence the students' attitudes and intentions towards entrepreneurship. The introduction of entrepreneurship programs to the college students would enhance students' attributes and further develop awareness of entrepreneurial opportunities and skills to form entrepreneurial venture.

Higher education institutions play an important role in the generation of high tech entrepreneurial capacity. This is the creation of skills, incentives and a cultural environment favorable to the provision of instruments for the economic growth (Teixeira and Davey, 2008). The impact of entrepreneurship education has been recognized as one of the crucial factors that help youths understand and foster an entrepreneurial attitude (Gorman et al., 1997; Kourilsky and Walstad, 1998). Due to the influence that education could have on the attitudes and aspirations of the youth, there is a need to understand how to develop and nurture potential entrepreneurs even while they are still students in school. Few empirical studies have examined the entrepreneurial propensity of university students as a source of future entrepreneurs (Wang and Wong, 2004).

Entrepreneurship skills were also identified as the most important in preparing agricultural students for the labor market (Movahedi, 2009). Although there are entrepreneurship centers responsible for entrepreneurial activities at universities in Iran, there is neither adequate support nor the facilities needed to conduct entrepreneurial activities for students. Ibrahim and Soufani (2002) stated that university curricula should focus on encouraging autonomy and independence, innovation and creativity, as well as risk-taking. Universities and higher institutes in agriculture usually respond to prepare main part of specialists, researchers, change agents, and farmers. Over the years, the world has changed and,

in many of the developing countries, agricultural education has failed to adapt and respond to the realities of rural societies. Curricula and teaching methods and tools often have been developed that are not relevant to the development objectives of individual countries, to the needs of farmers and the labor market. In many developing countries, the public sector used to absorb the large majority of agricultural graduates and consequently, agriculture graduates are finding it increasingly difficult to become employed. Their education in agriculture has not been oriented to the needs of an increasingly sophisticated commercial sector (FAO, 1997). Considering the mentioned issues, this study has an aim to investigate the relationship between university education at three skill's levels on knowledge and skills, social-communicational and personal and the agricultural students.

In reviewing literature on research conducted about entrepreneurial spirit among different students many studies have done both nationally and internationally that some of them are mentioned below. The research conducted by Movahedi et al, (2011) showed no significant relationship between the variables gender, age, education level, and field of study with the dependent variable the agricultural students' entrepreneurial spirit. Jamshidifar et al, (2011) found that there was a significant effect between the variables age, educational level, getting loan, income, agricultural experience, having necessary skills, and risk-taking with the dependent variable entrepreneurship motivation among the agricultural students in Tabriz University. Norouzzadeh and Rezaei (2011) in a study on factor affecting on developing entrepreneurship spirit among the agricultural students showed the factors level of student awareness, skillful and well experiences professors, relevant educational content, family, society, and government were affected on entrepreneurship development among the students. According to Movahedi et al, (2013) the trait "internal control" was the most important entrepreneurial characteristic of the agricultural students in Bu Ali Sina University. The results showed a significant difference between entrepreneurial personality traits of both senior agricultural students in third and fourth year of their education. However, the results showed no significant difference between the agricultural students in the graduated and undergraduates levels in terms of their entrepreneurial personality traits. According to Rezaei and Rahsepar (2010) although the amount of entrepreneurial spirit among the students was in a good status but the risk-taking level was rather weak among the students in Islamic Azad University of Darab branch. Fallahi-Haghighi

et al. (2011) in their study revealed that entrepreneurial spirit were rather high among 70 percent of agricultural students in Tehran University. This study also showed that among the entrepreneurial traits need for achievement, internal control, and creativity were in high level but accepting the risk was reported in low level among the agricultural students.

2. Materials and Methods

The current study typologically is a quantitative, in terms of objective an applied and according to variables' control has used a non-experimental methodology. The main purpose of this study was to investigate the relationship between university education and agricultural students' entrepreneurial spirit. To do this, 150 samples were selected by Kerjcie and Morgan table using a stratified sampling method among 260 senior graduated and undergraduates' students in Bu-Ali Sina University. Data collection tool was a researcher made questionnaire which its validity was verified by a group of experts and university professors. The reliability of the questions was tested during a pre-test process using a Cronbach's alpha test and it was between 0.75 and 0.93. The questionnaire was structured around two parts. The first part was related to personal characteristics such as age, gender, educational level, and academic field of study. The second part was consisted of the university education impacts on three levels include knowledge and skill, social-communicational, and individual. Data processing and outputs analyzing was done by SPSS software. Data analysis was done by two parts of descriptive and analytical methods. In descriptive section statistics such as mean, percent, variance, and standard deviation were used. In analytic section Spearman and Pearson correlation coefficients were employed.

3. Results and discussion

Results showed the respondents' age was 23.4 in terms of mean with a standard deviation of 5.5. Results also showed that 48.3 percent of the respondents were male and the rest were female. About level of the education results showed 61.4 percent of the respondents were undergraduates and the rest were graduated students. The respondents had an average of 16.3 in their degree with a scale of zero to 20.

3.1 Assessing the amount of university education impact

About the amount of university education impact this factor was assessed by three variables including knowledge and skill impacts, social-communicational impacts, and individual impacts.

Each variable was also measured by different indicators as shown in table 1. In order to assess the indicators shown in table 1 a five point Likert's type scale was used from very high=5 to very low=1 and then the statistics such as mean, standard deviation and coefficient of variation were calculated. As shown in table 1 the highest rank at knowledge and skill impact is referred to theoretical knowledge and information on agriculture, at social-communicational impact presented in better social communication, and at individual impact referred to personality growth.

3.2 Assessing students' entrepreneurial spirit and its relationship with independent variable

The amount of the students' entrepreneurial spirit was assessed through 11 variables. As shown in table 2 the statistics such as mean, standard deviation and coefficient of variation were calculated according to a five point Likert's type scale include very high=5, high=4, moderate=3, low=2, and very low=1. The results illustrated in table 2 shows that the highest rank belongs to self-confidence and the lowest refers to risk-taking, but all variables have a mean magnitude above moderate. To assess the relationships between each independent variable and the students' entrepreneurial spirit correlation coefficients were used in relevant to variables' scale. Therefore, for calculating two nominal and ordinal variables a Spearman coefficient was used and for calculating two ordinal variables a Kendall's tau coefficient was used. Pearson correlation was also used to calculate the correlation between intervals or ratio variables. The results of Kendall's tau test revealed that university education at each three level of knowledge and skill, social-communicational, and individual had a significant relationship with entrepreneurial spirit of the agricultural students. The results of Pearson test also showed no significant relationship between the independent variables age and grade per average with the dependent variable the students' entrepreneurial spirit. The results of Fallahi-Haghighi et al (2011) also shows the same results but the results of researchers such as Rezaei and Rahsepar (2010) shows a paradox in this regard. The results of Spearman test also revealed no significant relationship between the independent variables gender, education level, and field of study with the dependent variable the students' entrepreneurial spirit. This results is coinciding with Rezaei and Rahsepar (2010), Movahedi et al (2013), and Movahedi and Fathi (2010) about the relationship between the similar dependent and independent variables but Fallahi-Haghighi et al (2011) and Powella and Eddleston (2013) results don't prove our result (see also table 3).

Table 1. Assessing the amount of university education impact

Variable	Indicator	Mean	Standard deviation	Coefficient of variation	Priority
Knowledge and skill impact	Theoretical Knowledge and information on agriculture	3.15	0.99	0.31	1
	Theoretical Knowledge and information on internet	3.12	1.06	0.34	2
	Technical Knowledge and information on agriculture	3.05	1.03	0.34	3
	Knowledge and skills on using computer	3.02	1.15	0.38	4
	Knowledge and skills on information	3.00	1.00	0.33	5
	Knowledge and information on agricultural general issues	2.94	0.89	0.30	6
	Knowledge and information on agricultural professional issues	2.86	1.10	0.39	7
	Knowledge and information on agricultural practical issues	2.82	1.23	0.44	8
	Knowledge and skills on software	2.76	1.13	0.41	9
	Knowledge and skills on doing research	2.68	1.01	0.38	10
	Knowledge and skills on agricultural business	2.61	1.12	0.43	11
	Knowledge and skills on English language understanding	2.57	1.13	0.44	12
Social-communicational impact	Better social communication	3.62	0.83	0.23	1
	More responsibility	3.51	0.84	0.24	2
	More acculturation	3.42	1.05	0.31	3
	Better public relations	3.42	1.04	0.30	4
	More social participation	3.37	0.90	0.27	5
	More cooperation and collaboration	3.33	0.95	0.29	6
	Better team and group activities	3.32	1.00	0.30	7
	Better encourage others	3.23	1.08	0.34	8
	More participation in associations and enterprises	2.93	1.09	0.37	9
Individual impact	Personality growth	3.47	0.93	0.27	1
	Better competitiveness	3.43	0.95	0.28	2
	More ability of problem solving	3.35	0.92	0.27	3
	Better creativity	3.32	0.97	0.29	4
	Personal living standard	3.31	1.07	0.32	5
	Ability to implement new ideas	3.11	1.06	0.34	6

Very High=5, High=4, Moderate=3, Low=2, And Very Low=1

Table 2. Assessing students' entrepreneurial spirit

Variable	Mean	Standard deviation	Coefficient of variation	Rank
Self-confidence	3.63	1.01	0.28	1
Internal control power	3.52	0.94	0.27	2
Need for achievement	3.51	1.16	0.33	3
Futurism	3.49	1.18	0.34	4
Perseverance	3.47	1.11	0.32	5
Competitiveness	3.43	1.07	0.31	6
Successfulness	3.39	1.12	0.33	7
New opportunity recognition	3.31	1.26	0.38	8
Creativity and innovation	3.26	1.14	0.35	9
Leadership and authoritarianism	3.17	1.21	0.38	10
Risk-taking	3.11	1.14	0.37	11

Very High=5, High=4, Moderate=3, Low=2, And Very Low=1

Table 3. Calculating the relationships between independent variable and the students' entrepreneurial spirit

Variable 1	Variable 2	r	p
Knowledge and skill impact	Entrepreneurial spirit	0.49	0.000
Social-communicational impact		0.59	0.000
Individual impact		0.62	0.000
Age		0.03	0.70
Grade per average		0.16	0.07
Gender		0.09	0.27
Field of study		0.15	0.06
Education level		0.09	0.26

4. Conclusion and recommendations

Results of this study showed that university education has significant impact on the agricultural students in three levels of knowledge and skill, social-communicational, and individual aspects. In regard to knowledge and skill aspect the most important indicators were theoretical knowledge and information on agriculture, theoretical knowledge and information on internet, technical knowledge and information on agriculture, knowledge and skills on using computer, knowledge and skills on information. The most important indicators on social-communication aspect were social communication and better responsibility and the most important indicators on individual aspect were personality growth and better competitiveness respectively.

The results about the amount of the students' entrepreneurial spirit showed that it was between moderate to high so that all 11 variables had a mean magnitude above moderate. In this regard the highest rank belongs to self-confidence and the lowest refers to risk-taking.

The results of analytical part revealed that university education at each three level of knowledge and skill, social-communicational, and individual had a significant relationship with entrepreneurial spirit among the agricultural students. The results also showed no significant relationship between the independent variables gender, age, grade per average, education level, and field of study with the dependent variable the students' entrepreneurial spirit.

With regard to the results obtained in this study the following recommendation can be drawn and dealt with:

In order to improve the agricultural students' skills and abilities on the knowledge, social and communication and individual skills special and planned educational courses should be held and implemented.

In regard to this result that level of practical knowledge and skills among the students were reported rather weak, therefore it can be recommended that more attention must be taken into practical courses in agricultural colleges so that the skills such as entrepreneurship, creativity and

innovation, leadership and risk-taking are better improved.

Teaching entrepreneurship courses or related programs both theoretically and practically can be offered for the agricultural students at the university level order to improve their entrepreneurial spirit.

In regard to this result that level of risk-taking among the agricultural students were reported rather weak, therefore it can be recommended that the students should be more informed and acquainted with entrepreneurs also a situation should be prepared for more contacts and joint activities between the students and the entrepreneurs.

Finally it is recommended that the agricultural students should increase their entrepreneurship information through membership in associations and enterprises related to entrepreneurship issues.

References:

- 1) Davey, T. , Plewa, C. and Kliewe, T. (2009). Attitudes to entrepreneurship: what do 1st year business students think? Areas of focus and improvement for universities in promoting and supporting students' entrepreneurship. *AGSE*, 1267-1282.
- 2) Dionco-Adetayo , E. A. (2004). Factors Influencing Attitude of the Youth towards Entrepreneurship Program. Obafemi Awolowo University Website, Nigeria.
- 3) Fallahi-Haghighi, N., Rezvanfar, A., Kalantari, Kh. and Razavi, M. (2011). Study on entrepreneurial traits of agricultural students in Tehran university, *Iran agricultural development and economics research*, 42 (3): 357-366.
- 4) FAO. (1997). Issues and Opportunities for Agricultural Education and Training in the 1990s and Beyond. FAO publications, Rome, Italy.
- 5) Farajollahi, M., Aghajani, H., and Ganjekhor, Z. (2012). Reviewing on Education Role on Students Entrepreneurial Spirit of Female Technical High Schools in Mazandaran Province, *Women Studies*, 9(3): 11-137.

- 6) Fayolle, A., Kyro, P and Ulijn, J. (2005). *Entrepreneurship Research in Europe*, Edward Elgar Publishing Limited, UK.
- 7) Gorman, G., Hanlon, D and King, W. (1997). Some research perspectives on entrepreneurship education, *International Small Business Journal*, 15(3): 56-77.
- 8) Hannan, M., Hazlett, S. A and Leitch, C. (2004). *Entrepreneurship Education: How Do We Measure Success?* Working paper, Queen's University Belfast.
- 9) Ibrahim, A. B and Soufani, K. (2002). *Entrepreneurship Education and Training in Canada: A Critical Assessment*, Education and training, 44 (8/9): 421-430.
- 10) Jamshidifar, M., Khorami, Sh and Raheli, H. (2011). Reviewing on factors affecting the entrepreneurial spirit of agricultural students at Tabriz University, *Agricultural Extension and Education Research*, 3(3): 53-64.
- 11) Kourilsky, M. L and Walstad, W. B. (1998). *Entrepreneurship and female youth: Knowledge, attitudes, gender differences and educational practices*, *Journal of Business Venturing*, 13: 77 - 88.
- 12) Movahedi, R. (2009). *Competencies needed by agricultural extension and education undergraduates for employment in the Iranian labor market*. Ph.D thesis, Humboldt University of Berlin, Germany.
- 13) Movahedi, R and Fathi, H. (2011). *Assessing agricultural students attitude towards entrepreneurship*, *International Journal of Agriculture: Research and Review*. 1 (4): 168-173.
- 14) Movahedi, R., Saadi, H and Fathi, H. (2011). *Entrepreneurial characteristics and traits affecting students: case of Bu Ali Sina university*. Scientific Conference of Improving The University Entrepreneurial. July 11, Hamedan: Payame Noor University, Famenin branch.
- 15) Movahedi, R., Jalilian, S. and Armand, S. (2013). *Entrepreneurial Personality Traits of Agricultural Students*, *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 3(1):7-12.
- 16) Movahedi, R., Yaghoubi-Farani, A. Khodaverdian, M and Zarei, Sh. (2011). *Study on entrepreneurial spirit of the agricultural students and the ways to improve entrepreneurship education*, *Agricultural Extension and Education Research*, 3(3): 65-81.
- 17) Norouzzadeh, R and Kosary, M. (2011). *Determining Four -Elements Features of Curriculum in Bachelor Level with Emphasis on Entrepreneurship Skills Development*, *Research and Planning in Higher Education*, 15 (4): 1-18.
- 18) Norouzzadeh, R and Rezaei, N. (2011). *Motivators and Preventers Affect on Entrepreneurial Spirit, Perceptions of The Agricultural Students at Scientific-Applied Higher Education Center*, *Agricultural Education Management Research*, 12: 75-90.
- 19) Powella, G. N and Eddleston, K. A. (2013). *Linking family-to-business enrichment and support to entrepreneurial success: Do female and male entrepreneurs experience different outcomes?* *Journal of business venturing*, 28(2): 261-280.
- 20) Rezaei, M. H. and Rahsepar, T. (2010). *Study on Situation of Entrepreneurial Characteristics of the Students in Azad University of Darab*, *New Approach in Educational Management*, 2 (4): 45-62.
- 21) Shane, S. and Venkataraman, S. (2000). *The promise of entrepreneurship as a field of research*, *Academy of Management Review*, 26(1): 13-17.
- 22) Teixeira, A. A. C and Davey, T. (2008). *Attitudes of Higher Education students to new venture creation: a preliminary approach to the Portuguese case*. FEP working papers, Nr. 298, University of Porto.
- 23) Wang, C. and Wong, P. K. (2004). *Entrepreneurial interest of university students in Singapore*, *Technovation*, 24: 163-172.