

## Factors Affecting the Entrepreneurial Spirit: Some Evidences from Rural Women of Iran

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### ABSTRACT

*The creation of an entrepreneurial spirit among rural women will assist in rapidly achieving rural development through the building of motivation, increasing self-confidence and helping women to further use of their potential in other aspects. This survey investigated factors affecting the entrepreneurial spirit among rural women and avenues for promoting it. The research population was rural women from Nimrooz County in the south eastern of Iran. A research sample was selected using stratified random sampling with proportional allocation and data was collected via questionnaire. The result indicates that education has an effect on entrepreneurial spirit in such a way that the higher the educational level women held, the higher their entrepreneurial spirit was. In addition, the result indicates a difference between single and married women in terms of entrepreneurial spirit. However, there are no significant relationships between other variables such as savings, the background of setting up a business within the family, occupational status and entrepreneurial spirit. Accordingly, promoting entrepreneurship at all educational levels and acquainting girls with entrepreneurial activities from high school, and promoting entrepreneurial culture within the society through cultural institutions can be effective in strengthening entrepreneurial spirit.*

**Keywords:** Entrepreneurial Spirit, Entrepreneurship, Nimrooz, Rural Women.

### 1. INTRODUCTION

Entrepreneurship is a key factor in rural development that can play a significant role in improving the economy and rural livelihoods through the creation of employment and income opportunities (Rezvani & Najjarzadeh, 2009).

Entrepreneurship reduces unemployment and increases human resource productivity, thereby increasing people's revenue (Mohapatra, Rozelle, & Goodhue, 2007). The problems of unemployment, promoting job creation, self-employment and moving towards development have doubled the need for entrepreneurship (Tavasoli, Charmchian Langerodi, & Ahmadpour, 2012). Entrepreneur is the core part of entrepreneurship which is defined by Schumpeter as someone who is an innovator, while Kirzner stated the entrepreneur as a market maker who recognizes customers and acts as a catalyst (Della-Giusta & Philips, 2006). A typical entrepreneur is an optimistic person who can recognize or create opportunities. They approach opportunities from a range of different perspectives and are motivated about their ideas. Entrepreneurs want to be independent and control their own work. They may not have much experience, but attempt to gain this. They tend to take risks and have high expectations of themselves (Hoang & Gimeno, 2008), while female entrepreneurs are defined as individuals who creatively and innovatively set up or accept a business on their own, in partnership or as a result of a bequest and who accept social, administrative and financial responsibilities and risks to supply new products and overcome rivals in the sale and purchase market (Lovey & Fielium, 1995).

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If female entrepreneurship is considered an undisputed necessity, the most important female entrepreneurial factor, female entrepreneurial spirit, should be given special consideration. Developing entrepreneurial spirit among women especially rural women can lead to their economic flourishing and enable their self-sufficiency. In terms of social aspects, developing entrepreneurial spirit among rural women has special importance in terms of steering them away from isolation, to build their self-confidence and the further application of their potential in other aspects (Firoozabadi & Nasrolahi Vosta, 2014).

Entrepreneurial spirit is defined as a set of concepts, including attitudes and beliefs, characteristics and individual subjective assessments of the entrepreneur's behaviour, i.e., how they introduce themselves to others as entrepreneurs. The concept of entrepreneurial identity involves how a person defines the role of entrepreneurship and their cognition of this role. People with different approaches to entrepreneurial spirit will behave differently in similar circumstances. Therefore, focusing on entrepreneurial spirit can help to answer the following question: Why do some people actively look to identify entrepreneurial opportunities while others ignore the opportunities that they have? (Hoang & Gimeno, 2008).

In recent years, researchers have studied entrepreneurship from sociological and psychological perspectives. David McClelland believes that the major cause of economic backwardness in developing countries is due to not understanding individual creativity. He states that the correct training programme can strengthen the necessary work spirit in communities, which in turn will provide the necessary conditions for industrialization (Tafzili, 1993). Studies have shown that entrepreneurs have different characteristics, a collection of which are noted in the following (Carland, Hoy, Boulton, & Carland, 1984).

**Need for achievement:** The need for achievement is defined as having a tendency for performing tasks at a standard of excellence in order to succeed in competitive situations. People with a need for achievement tend to challenge themselves consistently and need regular feedback about their performance in order for them to achieve accessible goals. These types of people prefer to individually take responsibility for solving problems, setting goals and achieving them through personal attempts.

**Internal locus of control:** A person's opinion about whether they are in control of internal or external events is referred to as their locus of control. Most entrepreneurs exhibit an internal locus of control. People with an external locus of control believe that external events that are out of their control determine their fate. In other words, successful entrepreneurs believe in themselves and do not relate their success and failures to fate or luck. This is typically characteristic of entrepreneurs.

**Risk-taking:** Risk-taking is the acceptance of moderate risks that can be restrained by personal effort. Risk-taking includes the willingness to manage, undertake and allocate resources to opportunities that are likely to bear the reasonable costs of failure.

**Independence:** The dominant characteristic of an entrepreneur is their internal autonomy and independence. Internal autonomy means that the person feels in control regarding their own fate (Sheikhan, 2011).

**Creativity:** Creativity is the ability to generate new ideas. For a proper definition of creativity, first, innovation should be defined. Innovation is a creative or unusual search for a new solution to problems and needs. Innovation in entrepreneurship consists of producing new products or services within a company or organization. Innovation and creativity are both inseparable parts of entrepreneurship, which entrepreneurship cannot function without them (Sheikhan, 2011).

Rural women's entrepreneurship has encountered a diverse range of cultural, economic and social barriers. In most cases, these barriers are caused by unawareness and a lack of necessary training. Throughout the world, one third of entrepreneurs are women and they have been able to apply their abilities and capabilities to various contexts over a short period of time, and to bring about major changes in the economic development of countries by entering the business environment (Mead & Liedholm, 1999).

An area where rural women's entrepreneurship is a matter in Sistan and Baluchistan, which is the largest Province in Iran, located in the south eastern of Iran. It has a 28.7 per cent labour force participation rate, the lowest among Iran's provinces (it is 36.7 per cent for the entire country). The male labour force participation rate is 49.1 per cent, while the female labour force participation rate is 11.6 per cent in the rural areas of this province and the ratio of male to female employers is 6.7 per cent (Statistical Yearbook of Sistan and Baluchistan Province, 2009).

Nimrooz County is one of the most eastern counties in Sistan and Baluchistan Province and people living on this county's border rely mostly on the exchanging of goods and cross-border trading, as well as agriculture. However, people's incomes have dropped dramatically due to drought, a decrease in agriculture, border closures and a reduction in trade exchange. Subsequently, immigration has increased significantly and most of the small and border villages of this county have become deserted. Thus, diversifying employment and self-employment among the people of this county, especially among women who have low labour force participation rates compared to men, should be taken into consideration. Therefore, this research investigated factors affecting the entrepreneurial spirit of rural women in the Nimrooz County and solutions for promoting entrepreneurship. Subsequently, the following objectives were considered.

- i. To identify the effect of network resources such as the use of mass media and family background of setting up a business on entrepreneurial spirit.
- ii. To identify the effect of individual characteristics such as age, marital status, occupational status and the household head's employment on entrepreneurial spirit.
- iii. To identify the effect of economic status such as individual savings and household income on entrepreneurial spirit.

## **2. LITERATURE REVIEW**

There are a limited number of studies about entrepreneurial spirit among different individuals especially rural women and factors affecting it; some of these are noted in the following section.

The research of Mead & Liedholm (1999) about African small enterprises showed that 45 per cent of African enterprises are operated by women, most of which are small. Veisizadeh, Maghsoudi, & Aghapour Sabaghi (2014) investigated rural women's entrepreneurship spirit. The findings showed that four variables including age, family cost, attitude towards entrepreneurship, and the motivation to create jobs determine 51.7 percent of the variance of the factors affecting on women's entrepreneurship spirit.

Ghani, Kerr, & Oconnell (2014) studied political reservation and female entrepreneurship in India. They concluded that new establishments were concentrated in industries where women entrepreneurs had been traditionally active and that the entry was mainly found among household-based establishments; in this way, women's entrepreneurship can affect economic growth and support the persistence of informal enterprises.

Afrin, Islam, & Ahmed, (2010) investigated microcredit and rural female entrepreneurship development in Bangladesh. Their findings showed that microcredit not only caused social and economic changes, but also led to entrepreneurship. The result of multivariate analysis showed that financial management skills, group identity, experience gained from parents' families and the limitation of options all had impacts on rural women's independence, and that their interest in entrepreneurship had a significant relationship with rural entrepreneurship development in Bangladesh. On the other hand, factors such as family funds, previous involvement in business and family employment were not found to be significantly related to rural women's entrepreneurship.

Hani, Rachmania, Setyaningsih, & Putrid (2012) researched patterns within Indonesian women's entrepreneurship. Their results showed that the family's emotional and financial support, the educational level of female entrepreneurs, self-esteem and using microfinance all played a role in identifying patterns of entrepreneurship.

Aghajani & Abbasgholipour (2012) studied explanations for the relationship between biographical characteristics and the entrepreneurship spirit of students. Their findings indicated that among biographical characteristics, only age had a meaningful relationship with entrepreneurial spirit. One way of developing entrepreneurial spirit among students is by promoting and encouraging behaviours through educating, supporting and recognizing those who are capable and well-suited to entrepreneurship.

Imani, Nazem, & Rafee Liavli (2017) identified components and factors affecting entrepreneurship of students in vocational colleges and schools of Gilan. 15 factors were classified including education, research, motivation and entrepreneurial capacity, attitude, personality, information technology, management support, environment, entrepreneurship skills, culture, family, entrepreneurship lesson, commercialization and infrastructure.

Sarani, Shahpasand, & Savari (2013) analyzed barriers to entrepreneurship among rural women in Divan-Darreh city using grounded theory. The results showed that barriers to rural women's entrepreneurship can be classified into four categories: (1) personal and physiological barriers such as husband's and parents' disagreement, lack of knowledge and understanding of business environments and lack of self-confidence and lack of motivation among rural women; (2) cultural barriers such as stereotypical beliefs about women, patriarchy, ridicule and domestic blame, etc.; (3) social barriers such as relations governing the work organization, social insecurity, discrimination regarding types of training, lack of independent spirit among rural women and inexperience among women in employment; (4) economic barriers such as lack of financial support from family, women excitability in defeat, lack of government support and restrictions on women's access to credit. This study found that, from rural women's perspectives, cultural and economic barriers were the most important obstacles for the creation of a private business and entrepreneurship.

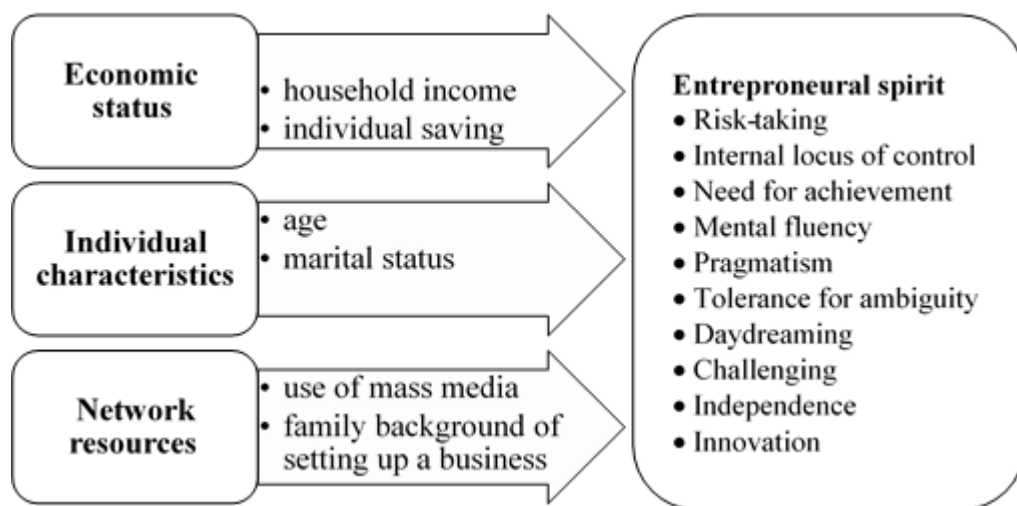
Ebrahimi Meymand & Savari (2013) investigated the entrepreneurial spirit of rural girls in Divandarreh County. Their findings revealed no significant relationships between age, income, field of study, father's education, mother's education, level of education and the use of mass media. However, there was a significant positive relationship between the interest in private businesses and the need for entrepreneurship education and entrepreneurial spirit. The more need students had for entrepreneurship, or the bigger their interest in entrepreneurship was, the higher entrepreneurial spirit they had.

Markantoni & Hoven (2012) carried out a case study of rural female entrepreneurs in Veenkoloniën. They explored the factors that enabled these women to start a side activity and the related organizational and emotional struggles they faced while running such activities within the perimeter of their home.

Habibi, Dadras, & Madah Shariati (2014) investigated rural female entrepreneurs and the barriers to their work. Their findings indicated that rural women's entrepreneurship faces problems such as financial difficulties, cultural, excessive dependence on intermediation, fear of scarcity and lack of consumable materials, intense competition, high costs of production and lower motility and family constraints. Social misconceptions regarding women's participation in activities, lack of awareness regarding Iranian women's access to citizenship rights, the higher illiteracy rate among women compared to men and the low percentage of female professionals are the most important cultural barriers of women's employment in Iran.

Mahboobi & Sharifzadeh (2013) studied entrepreneurship spirit among students of agricultural sciences at Gorgan University. The results showed that there was a significant relationship between gender, parents' jobs, occupational history and risk-taking. Furthermore, there was a significant relationship between gender, occupational history, starting up a business and pragmatism.

Monavari Fard, Dehghan, Lotfian, & Salehi (2013) analysed factors affecting the development of an entrepreneurial student. Their result indicated a significantly positive relationship between the level of education and age with the entrepreneurial spirit of students. According to the literature review, three factors affecting on entrepreneurial spirit can be classified including economic status, individual characteristics and network sources. Accordingly, the conceptual framework was illustrated in the following (figure 1).



**Figure 1.** The conceptual framework (adapted from Es'haghi, Ghadimi, & Deh Haghi (2012) and Hashemi & Aminzadeh (2011).

### 3. METHODOLOGY

This study was an applied research in terms of purpose, a fieldwork in terms of controlling variables, as well as a survey research method. Data was collected via questionnaire (its validity confirmed by expert perspectives) and its reliability measured by calculating Cronbach's alpha coefficient in a pre-test of 30 rural women from the research area. Cronbach's alpha coefficient ranged from 0.65 to 0.89, which indicated the reliability of the study tool (Table1). The statistical population of the study consisted of 406 15 to 64-year-old rural women in the Nimrooz County. In order to determine sample size, the Krejcie and Morgan Table (Patten, 2002) was used and 186 ones were selected by stratified sampling with proportional allocation (Table 2). SPSS software was used to analyze data and Pearson and Spearman's correlation coefficient, regression, t-test, Mann-Whitney test and Kruskal-Wallis analysis were employed.

**Table 1** The result of Cronbach-Alpha coefficient of the questionnaire

Components	Cronbach-Alpha coefficient
Risk-taking	0.65
Internal locus of control	0.87
Need for achievement	0.81
Mental fluency	0.89
Pragmatism	0.67
Tolerance for ambiguity	0.83
Daydreaming	0.66
Challenging	0.82
Independence	0.67
Innovation	0.70

**Table 2** Statistical population and sample size according to Krejcie and Morgan table

Number	Village	Total population	15-64 year old women	Sample size
1	Hussain Abad Khajeh	483	129	58
2	Charak	371	102	46
3	Noor Mohammad Dashti	251	92	43
4	Bazi	201	83	39
	Total	1306	406	186

#### 4. RESULTS AND DISCUSSION

The result of the descriptive statistics of respondents' characteristics shown in Table 3 indicates that the mean age of respondents was 28.90 with a standard deviation of 11.62. Average monthly household income was 422.61 thousand toman with a standard deviation of 263.02. Average annual household savings was 1019.04 thousand toman with a standard deviation of 6439.98. The findings also showed that 79 (45.1 percent) of household heads were farmers, 17.1 percent were employees, 9.1 percent were laborers, 17.7 percent were privately employed and 10.9 percent were unemployed. On the other hand, 90 percent of respondents were housewives, while others were employed as carpet weavers, ranchers, farmers and employees, or had a private job. Furthermore, the results indicated that in terms of the level of education, most respondents had a diploma (more than 42 percent). The findings showed that about 84 percent of respondents did not have a family background of setting up a business. Among the samples, 43 (23.1 per cent) lived in Noor Mohammad Dashti, 46 (24.7 per cent) lived in Charak, 39 (21 per cent) lived in Bazi and 58 (31.2 per cent) lived in Hussain Abad Khajeh.

**Table 3** Descriptive statistics

Variable	Level of variable	Frequency	Percent	Mean	Standard deviation
Marital status	single	52	35.9	-	-
	married	93	64.1		
Level of education	illiterate	15	8.4	-	-
	Primary school	23	12.9		
	Secondary school	40	22.5		
	diploma	75	42.1		
	University education	25	14		
occupation	farmer	4	2.4	-	-
	private job	3	1.8		
	employee	6	3.6		
	carpet weaver	4	2.4		
	housewife	149	89.8		

Household heads' job	Farmer	79	45.1	-	-
	privately employed	31	17.7		
	employee	30	17.1		
	unemployed	19	10.9		
	laborer	16	9.1		
Villages	Noor MohammadDashti	43	23.1	-	-
	Charak	46	24.7		
	Bazi	39	21		
	HussainAbad Khajeh	58	31.2		
Family background of setting up a business	Yes	28	16.1	-	-
	No	146	83.9		
Savings	Yes	24	13.3	-	-
	No	157	86.7		
Annual household savings	-	-	-	1019.04	6439.8
Monthly household income				422.61	263.02
Age (year)				28.90	11.62

Kohn (1990) classified a correlation coefficient as the following: 0 to 0.20 = weak, 0.21 to 0.50 = slightly weak, 0.51 to 1 = average and over 1 = strong. The analysis of correlation between entrepreneurial components and independent variables (age, income, savings, education and use of mass media) were carried out according to Kohn's classification (Table4). The findings indicate that there are significantly negative, but weak relationships between innovation and age at the 0.01 level, meaning that the older women were, the less innovative they were. This is based on the assumption that the older they were, the lower their level of education was. As most young rural girls are at school, their creativity and innovation are stimulated, which impacts on innovation. This result is consistent with findings by Hosseini & Azizi (2007) and Ghasemi, Asadi, & Hoseini Nia (2009). There is a slightly weak significant positive relationship between household income and the need for achievement, indicating that people with higher incomes tended to work according to high standards of quality. This finding is consistent with results obtained by Ebrahimi Meymand & Savari (2013).

In addition, there is a slightly weak significant positive relationship between savings and the tolerance for ambiguity at the 0.01 level. Most rural women are devoid of savings and have low incomes, and if they face an uncertain situation, they are often unable to cope with it. Thus, any financial loss will significantly disturb rural households. However, if they do have savings, they will have a higher tolerance for ambiguity. Furthermore, there is a slightly weak significant positive relationship between the need for achievement, mental fluency, pragmatism, being challenged and innovation and entrepreneurial spirit at the 0.01 level, and for daydreaming at the 0.05 level. This finding is consistent with results obtained by Hani *et al.* (2012), Eskandari (2006) and Aldrich (2001). In most studies, the level of education had a significant positive relationship with entrepreneurial spirit, which emphasizes the training dimension of entrepreneurship and is consistent with findings by Donnellon, Ollila, & Middleton (2014). Nevertheless, there is no relationship between entrepreneurial components and the use of mass media, which is inconsistent with results obtained by Ali, Lu, Cheng, & Chaoge (2012) and Aghajani & Abbasgholipour (2012). This may have been due to the mass media paying less attention to entrepreneurship among rural women, or because rural women lead very busy lives.

**Table 4** Correlation between individual characteristics and entrepreneurial components among rural women of nimrooz county

Components	Age <sup>+</sup>		Income <sup>+</sup>		Savings amount <sup>+</sup>		Education <sup>++</sup>		Use of mass media <sup>++</sup>	
	r	p	r	p	r	p	r	p	r	p
Risk-taking	0.07	0.35	0.15	0.88	0.66	0.37	0.19	0.79	-0.17	0.82
Internal locus of control	0.02	0.72	0.15	0.15	-0.05	0.47	0.11	0.11	0.13	0.06
Need for achievement	-0.49	0.52	0.39**	0.000	0.05	0.45	0.22**	0.003	0.10	0.16
Mental fluency	-0.13	0.06	-0.14	0.18	0.55	0.46	0.21**	0.004	-0.03	0.67
Pragmatism	-0.33	0.66	0.12	0.27	-0.28	0.70	0.20**	0.008	0.09	0.19
Tolerance for ambiguity	0.53	0.48	0.23	0.84	0.24**	0.001	-0.61	0.42	-0.07	0.30
Daydreaming	-0.60	0.42	-0.14	0.90	0.73	0.33	0.15*	0.03	0.11	0.14
Challenging	-0.12	0.11	0.002	0.98	0.89	0.23	0.20**	0.008	0.02	0.76
Independence	-0.23	0.75	0.47	0.67	-0.11	0.88	0.42	0.58	0.002	0.97
Innovation	-0.2**	0.007	0.27	0.80	0.11	0.11	0.32**	0.000	0.07	0.33
Entrepreneurial spirit	-0.89	0.24	0.10	0.34	0.003	0.97	0.26**	0.000	0.07	0.32

Notes: Age, income and savings: Pearson correlation coefficient,  
 Education and use of mass media: Spearman correlation coefficient  
 \*\*  $P \leq 0/01$  \*  $P \leq 0.05$

The Kruskal-Wallis test was used to compare the different occupational groups for household heads. As shown in Table 5, there is no significant difference between the different occupational groups in terms of entrepreneurial spirit. However, this finding is inconsistent with the results of Mahboobi & Sharifzadeh (2013) and Hani *et al.* (2012). This may have been due to the different areas in which the studies had been carried out. The studies noted above were carried out within universities and a significant difference is found between the occupational status of household heads and students' entrepreneurial spirit, especially female students who had employed mothers, whereas in rural areas most household heads are farmers and women are housewives. Rural women seem to believe that they can only be active as workers in farm fields; this serves as a barrier to creative thinking and self-confidence in the field of entrepreneurship.

**Table 5** Kruskal-Wallis test in order to compare entrepreneurship mean score among different occupational groups of household head

Different occupational groups	Frequency	Mean rank	Chi- square	Degree of freedom	P
Farmer	79	88.97	1.66	4	0.79
Privately employed	31	84.44			
Employee	30	95.17			
Unemployed	19	77.00			
Laborer	16	89.13			

In the following, an independent t test and Mann-Whitney test were used to compare the mean scores of entrepreneurial components between two groups of respondents on the basis of marital status, savings, occupational status and family background relating to setting up a business. As illustrated in Table 6, there is a significant difference between single and married women in terms of daydreaming, being challenged, innovation and entrepreneurial spirit at the 0.05 level. In addition, there is a significant difference between people with and those without savings in terms of tolerance for ambiguity at the 0.01 level. However, there is no significant difference between the mean scores of respondents in terms of occupational status. In other words, whether rural women were employed or not had no effect on their entrepreneurial



spirit. Furthermore, having a family background of setting up a business had no effect on their entrepreneurial spirit. This is consistent with findings by Hani *et al.* (2012), but inconsistent with the findings of Afrin *et al.* (2010) and Tavasoli *et al.* (2012). Married women generally had higher levels of independence and self-confidence compared to single women in terms of setting up a new business, especially in rural areas where single women participate less in the working environment.

**Table 6** Compare means of the entrepreneurial components between two groups of respondents using independent t test and Mann-Whitney test

	groups	Risk-taking	Internal locus of control	Need for achievement	Mental fluency	Pragmatism	Tolerance for ambiguity	Daydreaming	Challenging	Independence	Innovation	entrepreneurial spirit
Marital status	married	3.22	3.82	3.80	3.22	4.18	3.66	3.56	3.62	3.38	3.26	3.43
	single	3.08	3.85	3.76	3.05	4.09	3.72	3.29	3.30	3.12	3.00	3.08
	T	1.71	-0.31	0.46	1.36	0.80	-0.58	2.02	2.18	1.66	2.23	2.06
	p	0.08	0.75	0.64	0.17	0.42	0.56	0.04*	0.03*	0.10	0.02*	0.04*
Occupational status	employed	93.12	94.46	90.54	96.86	93.30	90.66	84.36	99.02	94.98	97.16	99.60
	unemployed	86.56	86.33	86.40	85.33	85.34	84.61	85.11	84.57	83.87	84.35	85.47
	z	-0.60	-0.74	-0.38	-1.06	-0.74	-0.56	-0.71	-1.56	-1.04	-1.13	-1.29
	p	0.54	0.45	0.70	0.28	0.49	0.57	0.94	0.11	0.29	0.25	0.19
Savings status	yes	79.63	99.94	98.65	80.04	98.59	115.73	77.45	73.94	91.50	73.94	91.75
	no	92.74	89.63	89.25	92.11	88.73	85.21	90.00	91.09	88.65	91.93	90.89
	z	-1.14	-0.89	-0.82	-1.05	-0.85	-2.61	-1.06	-1.49	-0.24	-1.59	-0.07
	p	0.25	0.36	0.41	0.29	0.39	0.009**	0.28	0.13	0.80	0.11	0.94
Family background of setting up a business	yes	89.61	79.43	93.32	86.73	90.66	83.73	75.07	85.89	84.66	74.19	84.71
	no	87.10	89.05	85.78	87.05	85.69	85.85	86.97	84.82	85.67	88.22	88.03
	z	-0.24	-0.92	-0.73	-0.31	-0.48	-0.20	-1.18	-0.10	-0.09	-1.35	-0.31
	p	0.80	0.35	0.46	0.97	0.62	0.83	0.23	0.91	0.92	0.17	0.74

Notes: Marital status: independent t test, Occupational status, savings and family background of setting up a business: Mann-Whitney test  
\*\* P≤ 0/01 \* P≤ 0.05

The Kruskal-Wallis test was used to compare the means of entrepreneurial spirit among five educational groups. This test is equivalent to a one-way ANOVA in terms of parametric tests. The Kruskal-Willis test showed whether there were any differences between the various groups. However, it did not indicate what these differences were (Kalantari 2012). The result of this test shows that there is a significant difference between different educational groups at the 0.05 level ( $\chi^2= 12.071$  and  $p=0.01$ ).As shown in Table 7, the group with university education had the highest mean rank in terms of entrepreneurial spirit, followed by those with a diploma, who had the highest mean rank and a similar entrepreneurial mean rank; entrepreneurial spirit decreased as education decreased. The Mann-Whitney test was used as a post hoc means for pinpointing which of the groups in particular differed from one another. The result shows that there is no significant difference between illiterate women and women with primary school education, whereas there was a significant difference between illiterate and other educational groups (secondary school, diploma and university education). Moreover, there is a significant difference between women with primary school education and women with secondary school education, and between those with diploma and university education. Additionally, there is no significant difference between women with secondary school education and diploma, while there was a significant difference between women with secondary school education and those with university education. Finally, there is a significant difference between women with diploma and those with university education. Moreover, one-way ANOVA test was used to compare the means for entrepreneurial spirit among different villages. The results of this test show that

there is no statistically significant difference between entrepreneurial components for different villages; therefore, there was no need for conducting a post hoc test.

**Table 7** The result of Kruskal-Wallis test to compare means of the entrepreneurial spirit among different educational groups

Different educational groups	Frequency	Mean rank	Chi-square	Degree of freedom	Significant level(P)
Illiterate	15	61.60 <sup>a</sup>	12.071	4	0.01
Primary school	23	74.52 <sup>a</sup>			
Secondary school	40	82.93 <sup>b</sup>			
Diploma	75	96.62 <sup>b</sup>			
University education	25	109.18 <sup>c</sup>			

Multiple linear regressions assume that there is little or no multicollinearity in the data. Thus, multicollinearity was employed prior to multiple linear regressions. Multicollinearity occurs when two or more than two explanatory or predictor (independent) variables are highly correlated with one another. There will be multicollinearity if the tolerance (TOL) is less than 0.2 and of the variation-inflation factor (VIF) is more than 10. As shown in Table 8, no multicollinearity is found in this research. Therefore, multiple linear regressions were used to pinpoint the effects of different variables on strengthening the entrepreneurial spirit of rural women. Subsequently, entrepreneurial spirit as the dependent variable and the nine variables including savings status, savings amount, occupational status (employed and unemployed), household income, age, marital status, education, family background of setting up a business and the use of mass media as independent variables were entered into the regression analysis at the same time. It should be noted that nominal variables including savings status, occupational status, marital status, family background of setting up a business and the use of mass media were converted into dummy variables, coded 0 and 1.

The results of the multiple linear regression shows that only marital status and education are able to meaningfully explain the entrepreneurial spirit variance. In other words, 0.02 and 0.03 per cent of entrepreneurial spirit variance can be explained by marital status and education, respectively (Table 8). This finding is consistent with the result of Imani, *et al.* (2017) which showed that education was an affecting factors on entrepreneurship. However, it is inconsistent with the findings of Veisizadeh, *et al.* (2014), Monavari Fard, *et al.* (2013) and Aghajani & Abbasgholipour (2012) which indicated age as an effective factor on entrepreneurial spirit.

**Table 8** Multiple linear regressions to pinpoint the effects of different variables on entrepreneurial spirit

variables	B coefficient	$\beta$ coefficient	t-statistic	Significance level	VIF	Tolerance
Savings status	0.081	0.071	0.883	0.378	1.273	0.786
occupational status	0.104	0.092	1.231	0.220	1.094	0.914
Household income	0.000	0.001	0.019	0.985	1.192	0.839
savings amount	0.000	0.109	1.313	0.191	1.356	0.737
age	0.005	0.132	1.398	0.164	1.737	0.576
marital status	-0.162	-0.170	-2.037*	0.043	1.371	0.729
Level of education	0.025	0.269	3.061**	0.003	1.516	0.660
Family background of setting up business	-0.004	-0.004	-0.051	0.959	1.135	0.881
use of mass media	0.023	0.022	0.291	0.771	1.095	0.913
R=0.319	R <sup>2</sup> =0.102	R <sup>2</sup> <sub>Ad</sub> =0.056	F=2.214	Sig=0.023		

To compare the means of different entrepreneurial groups in terms of age, level of education, savings amounts and household incomes, the Kruskal-Wallis test was used (Table 9). Respondents were divided into three categories: Poor (non-entrepreneurs), average (potential entrepreneurs) and strong (talented entrepreneurs) respondents. The results indicate that there is a significant difference between different entrepreneurial groups in terms of level of education. However, no significant difference is found between these groups in terms of age, savings amounts and household incomes.

**Table 9** The result of Kruskal-Wallis test to compare means of different entrepreneurial groups in terms of age, level of education, savings amounts and household income

Groups	Frequency	mean rank			
		Age	level of education	savings amounts	household income
Non-entrepreneurs	19	98.03	74.37	80.00	52.15
Potential entrepreneurs	139	88.35	88.36	84.46	39.30
Talented entrepreneurs	21	93.67	110.67	88.58	53.30
Chi- square	-	0.704	5.779	1.878	4.740
Degree of freedom	-	2	2	2	2

## 5. CONCLUSION

This study investigated factors affecting the entrepreneurial spirit of rural women and from the study framework and literature review, 10 different entrepreneurial components (risk-taking, internal locus of control, need for achievement, mental fluency, pragmatism, tolerance for ambiguity, daydreaming, being challenged, independence and innovation) were actually dimensions of entrepreneurial spirit .

The results shows that there is a significant positive relationship between the need for achievement and income, tolerance for ambiguity, savings amount, level of education, mental fluency, pragmatism, being challenged, innovation and entrepreneurial spirit.

The highest average for women's education is diploma and a small number of them are illiterate. Most of them are housewives and the most common employment among household heads is as a farmer. Women's average age is low, indicating that most women are young and at a working-age. In addition, the majority of women are without individual savings and household income is too low to enable them to have savings. Related organizations will therefore be less inclined to provide them with loans and if they are given loans, they will be low. Women will face many barriers, which may lead to a loss of motivation for seeking out work activities. On the other hand, level of education is an affective factor for entrepreneurial spirit and indicates that entrepreneurship can be increased among rural women through training.

The findings of this study indicate that women who have savings and higher incomes are better able to face difficult situations and have higher self-confidence compared to those who do not have any savings, or have no access to loans. Level of education is also an important and effective factor impacting on entrepreneurial spirit for some components such as the need for achievement, mental fluency, pragmatism, being challenged, innovation and entrepreneurship. Additionally, there is a significant negative relationship between age and innovation, which indicates that innovation among rural women decreases as age increases.

There is no significant relationship between variables including age, income, use of mass media and entrepreneurial spirit. Moreover, there is no significant relationship between occupational status and type of employment and entrepreneurial spirit.

The results of comparing the means of marital status and entrepreneurial components shows that there is a significant positive difference between single and married women in terms of daydreaming, being challenged, innovation and entrepreneurship, as married women had a higher mean score, indicating that the family is effective to support financially and spiritually and that married women had access to this type of support more than single women. Comparing the means for savings status show that there is a significant positive difference between people with and without savings, but only in terms of tolerance for ambiguity and people with savings had a higher mean score. There is no significant difference between employed and unemployed women in terms of entrepreneurial components. Furthermore, there is no significant difference between people who had a family background of setting up a business and those who did not. Entrepreneurial spirit increased as the level of education increased and there is a significant difference between different levels of education in terms of entrepreneurial spirit. However, there is no significant difference among different villages in terms of entrepreneurial spirit. The analysis results for the effect of independent variables on entrepreneurial spirit shows that among independent variables such as savings amount, savings status, marital status, occupational status, household income, age, education, family background of setting up a business and the use of mass media, only marital status and education have a significant role in explaining entrepreneurial spirit variance.

### **5.1 Recommendation for Promoting Entrepreneurial Spirit among Rural Women**

This study shows that women usually do not have any savings and that having savings helped them in terms of tolerating ambiguity and being offered low-interest loans without collateral could be a good tool for women who pursue entrepreneurship. This can lead to job creation and self-employment among women. In addition, the government should allocate special financial resources to banks in order to provide more women with loans, particularly those who tend to invest in different fields. These resources should specifically be provided to women.

This study also shows that level of education is an effective factor for entrepreneurial spirit. Strengthening entrepreneurial ideas at all levels of education and acquainting women with entrepreneurial activities from high school onwards, and getting cultural institutions such as broadcasting organizations to pay more attention to young women pursuing education can lead to promoting their entrepreneurial spirit. Family support is also an important factor in this context.

Since marital status has an impact on entrepreneurial spirit and indicates that having family support is an effective factor on entrepreneurial spirit, women's entrepreneurial potential should be supported through mass media, extension agents and rural centers that support women's rights. Additionally, informing society about their effective role within both the family and the economy of society can lead to generating the support of family and society with regards to women who are entrepreneurially motivated.

As rural women in the studied area are potential entrepreneurs, centers that gather rural female entrepreneurs together with other rural women should be established in order to build recognition for new businesses, as well as to develop self-belief, boost self-confidence and encourage women to enter the business world.

During seasons when there are less agricultural and rural work and more leisure time for rural people, including rural women, it is recommended that seasonal small businesses be operated such as doll-making, flower arranging and sewing workshops for rural girls and women, not only to receive basic training, but also to increase their own skills, which in turn can lead to boosting their entrepreneurial spirit.

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