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# THE EFFECT OF ENTREPRENEURSHIP EDUCATION ON THE ENTREPRENEURIAL ATTITUDE, ABILITY AND ASPIRATION OF RURAL WOMEN: A QUASI-EXPERIMENTAL STUDY

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## ABSTRACT

***Purpose:*** *Entrepreneurship education, as a key for persuading entrepreneurial activities among the youth and women, aims at changing the existing conditions and offering a new product or service and consequently, making higher economic values. The present study was an attempt to investigate the effect of entrepreneurship education on entrepreneurial attitude, ability and aspiration among rural women to start small businesses.*

***Methodology:*** *This study employed a quasi-experimental, pre-test, post-test design. 30 participants were randomly assigned to two groups of experimental and control. For data collection, a questionnaire based on Global Entrepreneurship Indices (2018) including 13 constituents on a five-point Likert scale was employed. The reliability of the questionnaire was 0.86.*

***Findings:*** *The results indicated that the mean score of rural women regarding entrepreneurial aspiration (4.25), attitude (3.47) and ability (3.22) considerably increased on the post-test.*

***Conclusion:*** *Entrepreneurship education can be considered as an effective step towards enhancing entrepreneurial activities and starting small businesses among the youth, especially the women.*

***Originality/ Value****: Due to the low rate of women entrepreneurship activities in Iran, the present study was carried out for the first time with the intervention of entrepreneurship education according to the KAB model among rural women and also its impact on their entrepreneurial attitude, ability, and aspiration.*

**Keywords:** Entrepreneurship Education, Entrepreneurial Attitude, Entrepreneurial Ability, Entrepreneurial Aspiration, Rural Women.

## INTRODUCTION

In today's world, population growth, unemployment, inflation, and other situational factors have made a lot of changes and led to new challenges and opportunities. Developed countries make use of innovative activities in order to revive their economies and remove the unemployment problems by creating job opportunities through entrepreneurial activities (Shahed



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& Fathi, 2016). Meanwhile, rural areas, possessing valuable natural, human and financial resources, can be considered as strategic assets playing significant roles in dynamicity of the economy of a country. It is important to take rural people and their entrepreneurial spirit into account because rural development is completely contingent upon entrepreneurship more than ever (Petrin, 1994). Rural entrepreneurship has been considered as one of the major element in the development of national economy (Paul et al., 2014) and as a strategy for rural development (Movahedi & Soleimanian Borujeni, 2015).

Entrepreneurship has been recognized as the engine of economic development and social change in most emerging economies (Stoica et al., 2020). Entrepreneurship is an economic activity in which the entrepreneur based on his/her Motivation and abilities is looking for discovering, creating, evaluating and employing the opportunities. This may consequently lead to introducing new products and services and organizing markets, processes and raw materials (Samadi, 2018). Entrepreneurship has also been defined in terms of the individual's attitude, skills and actions in Creation new professions (Iheonunekwu, 2003). Studies reveal that job creation through entrepreneurship is one of the most important objectives of economic development in rural areas (Fazel et al., 2009). Rural entrepreneurship is a new strategy for employing the capacities of rural areas in order to improve the life style of rural people, decrease the gap between rural and urban areas, and provides economic, social and environmental equal opportunities (Yaghoubi Farani et al., 2013).

There is an emergent need to make appropriate decisions in order to employ women's talents and capabilities (Jamshidian & Nasiri, 2016). Women can play a considerable role in entrepreneurial activities and economic development through creating new jobs and increasing GDP and consequently, through decreasing poverty and social deprivation, (Cardella et al., 2020). In fact, entrepreneur women are key factors of economic growth; they can provide startups for themselves and for others through offering different strategies for administering organizational and commercial issues and constraints and using different job opportunities (Anggadwita et al., 2017). Taking the proportion of rural women, as half of the rural population, into account is very important for achieving economic aims of the country. Therefore, it seems feasible to provide the appropriate conditions for rural women to enter entrepreneurship based on their capabilities. Entrepreneurship among rural women leads to an increase in the family income. This in turn, may lead to decreasing the gap between rural and urban families, decreasing the cost of production, improving literacy and hygienic conditions of rural families, meeting their financial needs, and decreasing the emigration rate. (Yaghoubi Farani et al., 2013).

Studies on entrepreneurship indicate that the number of entrepreneur women is different across the world (Botha, 2006). Although women's entrepreneurship is growing in some countries (Johansen & Foss, 2013), the statistics reveal the number of entrepreneur women is still far fewer than the number of entrepreneur men, and the greater the development, the bigger this difference in number (Cardella et al., 2020). It seems that women's entrepreneurship encounters some constraints and obstacles. While engaging in entrepreneurial activities, women face such barriers as lack of educating, experience and opportunity perception, shortage of knowledge and skills, lack of family support, lack of institutional support, problems in acquiring financial resources (Modarresi et al., 2016; Raghuvanshi et al., 2017), lack of access to networks (Allen & Truman, 1993), gender discrimination (Ilo, 2008), and negative attitudes of the society towards their business (Richardson et al., 2004). Therefore, the development of women's entrepreneurship is an essential factor in decreasing gender gaps in the market and enhancing their empowerment (International Labor Office, 2018). Women's entrepreneurial activities not



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only meet the financial needs of their families, they but also have positive effects on their personal growth and their living environment, their welfare and the society (Anggadwita et al., 2017). There are different ways for developing women's entrepreneurship, one of which is educating entrepreneurship.

Educating entrepreneurship has been considered as one of the keys for provoking entrepreneurship among the youth and women and it follows the purpose of changing the existing conditions and introducing a new product or service, and consequently, creating higher economic values (Johansen & Foss, 2013). Educating entrepreneurship leads to the development of behaviors, skills and insights regarding specific profession knowledge. In addition, increasing self-efficacy through acquiring the required knowledge and skills needed for startups creates positive attitudes towards entrepreneurship and increases the possibility of its implementation (Dehghanpour Farashah, 2013). The purpose of entrepreneurship education is empowering individuals to identify job opportunities, helping them create new, innovative ideas and providing the resources needed for implementing the ideas in the form of innovative businesses or risky investments (Chrisman et al., 2003).

There have been lots of studies on this issue. Previous studies (Liu et al., 2019) revealed that educating entrepreneurship leads to students' understanding and aspiration towards entrepreneurship and self-efficacy, and this in turn, leads to an increase in their positive attitude and their self-confidence. Iolanda Vodă & Florea (2019) stated that entrepreneurship education is very vital because it develops the individual's abilities, skills, attitudes and knowledge which are highly significant for entrepreneurial activities. In a similar study, Wei et al., (2019) found that entrepreneurship education is in close relation to educating innovative skills and can be employed in educating and supporting innovative activities. Modarresi et al., (2016) divided women's job growth motivations into two groups of intrinsic (need to success, need to independence, showing their self-efficacy, willingness to show efficacy as well as socio-cultural issues) and extrinsic (financial issues, reputation, and others' positive feedback). In a similar vein, Movahedi & Soleimanian Borujeni (2015) indicated that the educating methods effective for rural women's success in Iran include technical and practical educating of entrepreneurship, making use of successful entrepreneur women's experiences and using modern mass media. Moreover, women had positive attitude towards the role of educating in developing entrepreneurship.

Douglas (2014) asserted that entrepreneurship education from the elementary school may lead to a change in women's attitude and an increase in the number of women who choose startups as their appropriate jobs. Similarly, Stamboulis & Barlas (2014) reported that introducing entrepreneurship at the university considerably changed the attitude of the university students so that they achieved a better understanding of the concept of entrepreneurship and an increase in self-confidence in order to interact with the society. In a similar study, Buame et al., (2013) found that for the success of entrepreneur women, a blend of characteristics, skills, knowledge and attitudes is needed. This blend cannot be achieved through mere educating; rather, it should be shaped via cognition, social knowledge, skills and interpersonal experiences within the society. Mohammadi & Lashgarara (2013) claimed that entrepreneurship education to Iranian rural women is possible through developing such characteristics as risk acceptance, internal will and control, need for success, pragmatism, tolerance of ambiguity, challenging and independence.

Historical overview of the studies in Iran reveals that in the past, there was a suitable entrepreneurship culture in agriculture, farming, business and even industry. However, the



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dependence upon oil-based income decreased the spirit of innovation and entrepreneurship among Iranians (Jamshidian & Nasiri, 2016). Of course, in recent years, there have been some national endeavors in this regard so that the ratio of entrepreneurship increased from 0.18 in 2009 to 29.4 in 2019. Although there are equal entrepreneurship opportunities for both genders, the ratio of women's entrepreneurship to men's is 6.5 to 12.9 (Bosma & Kelley, 2019). Since the participation of women in equal social and economic opportunities can lead to the development of the country especially in rural areas where the presence of entrepreneur women by establishing small business may decrease unemployment, excessive emigration and the gap between urban and rural life, there is an emergent need for providing some educating regarding entrepreneurship. There has been some research on different educating methods for the empowerment of rural women regarding entrepreneurship. The present study was an attempt to investigate the effect of entrepreneurship education on rural women's entrepreneurial attitude, ability and aspiration in Semirom, Isfahan, Iran, who have countless entrepreneurial opportunities due to their abundant natural resources.

## THEORETICAL BACKGROUND

### Entrepreneurship

Entrepreneurship and innovation have been recognized as major dimensions of economic dynamicity being the essential driving for economic productivity and job creation (UNCTAD, 2017). Investment in entrepreneurship and job creation are very important in both the developed and developing countries and these activities are supported by the governments, universities and related organizations. Entrepreneurship refers to human activities and aims for startups (Taha et al., 2017) starting with a stimulus and moving towards identifying the opportunities, resources and functions (Cabera & Mauricio, 2017). Entrepreneurship has also been defined in terms of the willingness to work in a team, accept risks, set values, administer, implement and make innovations in the patterns, structures or resources (Salehi Kakhi et al., 2019). It has also been considered as an independent, risk-taking behavior aiming at making innovations in organizations or creating new organizations (Reyad et al., 2019). In other words, it is a complex process highly influenced by the context and environment: the environment affects the person and leads to his/her entrepreneurial behavior. The entrepreneurial environment is a blend of economic, cultural, social, and political factors affecting the person's willingness to entrepreneurial behaviors (Movahedi & Yaghoubi Farani, 2014).

The entrepreneur can perceive the opportunities for the startups (Reyad et al., 2019); he/she is able to present new ideas, takes the necessary measures for self-employment (turning ideas into products or services and presenting them), gives his/her own ideas over to others and establishing a small business. He/she is also able to make change through judgement and logical participation in entrepreneurial process; in fact, he acts as a catalyst for economic change (Jamshidian & Nasiri, 2016). Entrepreneurs are those who can appreciate the difference between limitations and opportunities and make benefit of both. Risking acceptance is one important feature of entrepreneurs since it is an indispensable part of the process of entrepreneurship (Anggadwita et al., 2019). Through creating job opportunities for others, offering new solutions for the problems, creating effective technologies and exchange ideas at the global level, entrepreneurs improve the economy and living conditions of people. Most factors that are beneficial for entrepreneurs are beneficial for the economy as well. Generally, supporting entrepreneurship brings about abundant benefits such as the development of business, creation of



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innovative ideas, higher rate of economic growth, and the increase of job creation for the countries (Translation of Global Entrepreneurship Report, 2018).

### Entrepreneurship among Women and Rural Women

In developing countries, women play an important role in the growth of their own country (Anggadwita et al., 2017). Due to the change in lifestyles and the needs of the modern society, entrepreneurship has become a prominent job for women. In fact, women play a mutual role; besides their roles in their families, they work for the economic development and can create job opportunities for others (Jamshidian & Nasiri, 2016). Women's entrepreneurship is the major source of economic power with regard to GDP growth, innovation, job creation and decreasing poverty in both developed and developing countries (Radomirova Ugrinova, 2016). Women's entrepreneurial activities lead to the improvement of production processes, networking and the growth of businesses (Anggadwita et al., 2017). Women organize their entrepreneurial activities through increasing their knowledge and skills, creating job opportunities in different economic sections and making local, national and international networks (Jamshidian & Nasiri, 2016).

While establishing and managing the business, entrepreneur women encounter more obstacles such as gender discrimination attitudes of the society, lower access to financial resources and fewer educating opportunities compared with entrepreneur men. In emerging economies, the participation of women in entrepreneurial activities and their role in economic growth can be observed even though they suffer from gender inequality in finding access to educational opportunities (Radomirova Ugrinova, 2016). There is a need for developing women's business through educating entrepreneurial abilities, knowledge and skills (Johansen & Foss, 2013). The economic and social survival of rural areas depends upon the discovery and revival of their material and spiritual resources. Identifying entrepreneurial talents and capabilities among rural residents, especially rural women, and attempting to develop entrepreneurship in rural areas through providing the required conditions is highly important. Therefore, one of the strategies for developing entrepreneurship is paying due attention to rural women and making the grounds for educating them regarding entrepreneurial activities (Movahedi & Yaghoubi Farani, 2014). Entrepreneurship Development among rural women promotes their personal capabilities and improves their decision making abilities in both family and society (Lawatre, 2016).

## ENTREPRENEURSHIP EDUCATION

For enhancing the probability of success in entrepreneurial activities, educating programs for developing entrepreneurial skills can be employed (Reyad et al., 2019). Entrepreneurship education is one of the most powerful tools for creating entrepreneurial attitude, promoting the skills and identifying the opportunities. Entrepreneurship education persuades people to think about their profession in a more innovative way (Reyad et al., 2019). Through educating, the young entrepreneurs learn organizational skills such as time management and developing leadership and interpersonal skills (Stamboulis & Barlas, 2014).

A detailed study of the way entrepreneurship should be taught improves entrepreneurial activities and develops innovative ideas and consequently yields new products or services. Entrepreneurship education through blending knowledge and value is an effective way for promoting skills, general abilities as well as professional abilities (Wei et al., 2019). Effective



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educating increases individuals' motivation and abilities for creating job opportunities, and this in turn, increases their income and also their accountability (Lashgarara et al., 2014).

The rate of entrepreneurship differs across different areas. Part of this difference may be due to the differences in the attitude of people towards entrepreneurship (Samadi, 2018). Attitudes have been defined as the accumulation of people's beliefs and emotions regarding specific ideas or conditions (Reyad et al., 2019). Attitudes can be favorable or unfavorable based on different conditions. Entrepreneurship education can be considered as a prerequisite for shaping positive attitudes in people and directing them towards entrepreneurship (Ndofirepi & Rambe, 2017).

The qualifications needed for entrepreneurship include the ability to identify the opportunities and develop the skills, resources, risk acceptance and investment besides professional, financial and legal knowledge (Wei et al., 2019). Entrepreneurship education is a very important issue because it helps the individual identify his/her innate talents, flourish them, and develop entrepreneurial activities with enthusiasm and self-confidence (Liu et al., 2019) through networks and effective interaction with different professions (Samadi, 2018).

## GLOBAL ENTREPRENEURSHIP INDICES (2018)

Global Entrepreneurship Index (GEI) evaluates the entrepreneurship ecosystem of a country through measuring the quality of entrepreneurship and the rate and depth of entrepreneurial ecosystem supporters including 3 components of entrepreneurial attitude, ability and aspiration.

Attitude refers to the way the society or individuals look at entrepreneurship. Entrepreneurial attitudes are very important because they shape people's general emotions to entrepreneurs and entrepreneurship at a society (opportunities perception, becoming familiar with entrepreneurs, risk acceptance, startups skills, networking and cultural support).

The next component refers to entrepreneurs' abilities regarding their businesses. This is related to companies with average or high technologies, newly established by educated entrepreneurs in a not so much competitive environment.

The third component, aspiration, refers to the qualitative, strategic nature of the entrepreneurial activity. In fact, it relates to the initial attempts of an entrepreneur to introduce the new services or products, develop new production processes, finding access to international markets, increasing the number of the staff and providing financial resources through formal and informal risky investments (Ács & Szerb, 2009; Translation of Global Entrepreneurship Report, 2018).

## HYPOTHESES

In line with the purposes of the study, the following hypotheses were formulated.

*Major Hypothesis: Entrepreneurship education affects rural women's entrepreneurial attitude, ability, and aspiration.*

*Minor Hypothesis 1: Entrepreneurship education affects rural women's entrepreneurial attitude.*

*Minor Hypothesis 2: Entrepreneurship education affects rural women's entrepreneurial ability.*

*Minor Hypothesis 3: Entrepreneurship education affects rural women's entrepreneurial aspiration.*



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## METHODOLOGY

This quasi-experimental study made use of a two group pre-test, post-test design. The population of the study included all rural women residing in Semirom, Isfahan, Iran in 2019. First, it was announced that a workshop entitled "*entrepreneurship education to rural women*" would be held. Interested women then registered for the workshop. The 30 women who registered for the workshop were randomly assigned into the experimental or the control group. The requirement for their registration was holding the diploma (at least) and being the resident of Semirom. First, a questionnaire compatible with GEI (2018) was distributed among the members of the two groups as the pre-test. Then, the experimental group participated in general and professional educating workshops on entrepreneurship based on KAB (Know about Business) model. The intervention consisted of forty 3-hour sessions (120 hours) lasting over a period of two years. These workshops dealt with various topics including the concept of entrepreneurship and its elements, the principles of entrepreneurship, the qualifications for startups, identifying small businesses, creating new ideas, opportunity perception, start-up resources, risk-acceptance, self-management, decision-making techniques, self-employment, the role of entrepreneurship in the society, principles of negotiation and importance of interactions, innovation, marketing, managing human resources, and time management. After the intervention, the same questionnaire was distributed among both groups of participants again as the post-test.

This questionnaire, designed based on GEI (2018), included 3 major components: attitude, ability and aspiration. Attitude consisted of 5 subcomponents (opportunity perception, startup skills, risk acceptance, networking and cultural support). Ability consisted of 4 sub-components (opportunity startup, technology absorption, quality of human resources and competition). Aspiration included 4 sub-components (introduce new products; develop new production processes, high growth and internationalization). These 13 subcomponents were assessed based on a 5-item Likert scale (very low=1, low=2, average=3, high=4, very high=5). The face validity and content validity of the questionnaire were approved by the professionals in the field of educational management and entrepreneurship and its reliability was calculated using Cronbach alpha ($\alpha$=0.86). SPSS (version 22) was used in order to run some statistical analyses including ANOVA and MANCOVA.

### Entrepreneurship Education based on KAB model

As an entrepreneurship education program introducing the principles and concepts of starting a business, KAB appeared as the result of Technical and Vocational Educating Plan of the International Labor Organization in late 1980s and early 1990s. In Iran, KAB started in January, 2009 by Technical and Vocational Educating Organization (Alimiri et al., 2011). The purpose of KAB model is creating the business culture among young men and women so that entrepreneurial skills, attitudes and perceptions can be learned through interactional and participatory educational methods. Creating a positive attitude and awareness of entrepreneurship, startup opportunities, challenges, characteristics and the required skills as well as the decrease in the rate of unemployment are the expected consequences of this model (Kiyaee et al., 2013).



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## FINDINGS

First, the Cronbach alpha was calculated in order to measure the reliability of the three variables. As Table 1 reveals, α coefficient was high for all variables for both the pre-test and the post-test. Moreover, as indicated, α coefficient has an increase for the post-test. This reveals that the questionnaire enjoyed a high reliability.

**Table 1**
**CRONBACH ALPHA MEASURES SHOWING THE RELIABILITY OF THE THREE VARIABLES ON THE PRE-TEST AND POST-TEST**

| Variables | Cronbach alpha | |
|---|---|---|
| | Pre-test | Post-test |
| Entrepreneurial Attitude | 0.74 | 0.90 |
| Entrepreneurial Ability | 0.80 | 0.87 |
| Entrepreneurial Aspiration | 0.90 | 0.94 |
| Total | 0.86 | 0.96 |

The major research hypothesis was as follows:

Major Hypothesis: Entrepreneurship education affects rural women's entrepreneurial attitude, ability, and aspiration.

Table 2 demonstrates the descriptive statistics of the three variables on the pre-test and post-test.

**Table 2**
**DESCRIPTIVE STATISTICS OF THE THREE VARIABLES ON THE PRE-TEST AND POST-TEST**

| Group | Pre-test | | Post-test | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Experimental | 2.26 | 0.39 | 3.47 | 0.40 |
| Control | 2.52 | 0.34 | 2.33 | 0.31 |
| Experimental | 2.15 | 0.29 | 3.22 | 0.34 |
| Control | 2.40 | 0.62 | 2.14 | 0.38 |
| Experimental | 2.99 | 0.64 | 4.25 | 0.49 |
| Control | 2.97 | 0.55 | 2.99 | 0.58 |

As Table 2 indicates, after the intervention (entrepreneurship education), the mean scores of rural women in the experimental group considerably increased on the post-test regarding entrepreneurial attitude, ability, and aspiration (Figure 1).



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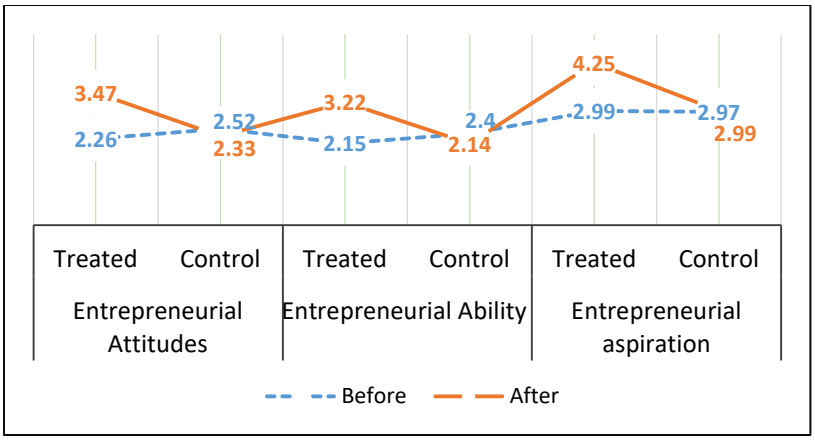


**FIGURE 1**
**COMPARING THE THREE VARIABLES ON THE PRE-TEST AND POST-TEST**

## The Presuppositions of MANCOVA

In order to examine the presuppositions of MANCOVA, the normality tests and Levene's test of equality of error variances were used as indicated in Table 3 and Table 4.

**Table 3**
**NORMAL DISTRIBUTION OF SCORES REGARDING THE THREE DEPENDENT VARIABLES**

| Variables | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | sig. | Statistic | df | sig. |
| Entrepreneurial Attitude | 0.137 | 30 | 0.158 | 0.961 | 30 | 0.320 |
| Entrepreneurial Ability | 0.119 | 30 | 0.200 | 0.958 | 30 | 0.270 |
| Entrepreneurial Aspiration | 0.112 | 30 | 0.200 | 0.968 | 30 | 0.496 |

Table 3 briefly demonstrates the results of Kolmogorov-Smirnov and Shapiro-Wilk tests. As indicated, the levels of significance for both Kolmogorov-Smirnov and Shapiro-Wilk tests are higher than the 0.01 (P>0.01); therefore, the presupposition of normal distribution of scores is confirmed.

## Levene's Test

As Table 4 indicates, the levels of significance for the Levene's test are higher than 0.05. Therefore, the presupposition of equality of error variances for the independent variables across the groups is confirmed.

**Table 4**
**LEVENE'S TEST OF EQUALITY OF ERROR VARIANCES**

| Dependent Variable | F | df1 | df2 | Sig. |
|---|---|---|---|---|
| Post -ATT | 0.038 | 1 | 28 | 0.848 |
| Post -ABI | 0.028 | 1 | 28 | 0.867 |
| Post -ASP | 0.198 | 1 | 28 | 0.660 |



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The results of Wilk's Lambda (Table 5) indicates that there is a significant difference between the experimental and the control groups in the constituents of entrepreneurship (entrepreneurial attitude, ability, and aspiration) [F(3,23)=71.395; P<0.001; Partial $\eta^2$=0.903].

**TABLE 5**
**THE RESULTS OF WILK'S LAMBDA**

| Effect | | Value | F | Hypothesis df | Error df | Sig | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Intercept | Wilks' Lambda | 0.513 | 7.29 | 3 | 23 | 0.001 | 0.487 |
| Post -ATT | Wilks' Lambda | 0.638 | 4.346 | 3 | 23 | 0.014 | 0.362 |
| Post -ABI | Wilks' Lambda | 0.864 | 1.212 | 3 | 23 | 0.328 | 0.136 |
| Post -ASP | Wilks' Lambda | 0.213 | 28.26 | 3 | 23 | 0.000 | 0.787 |
| group | Wilks' Lambda | 0.097 | 71.395 | 3 | 23 | 0.000 | 0.903 |

The results of multivariate analysis of covariance (MANCOVA) used to examine the effect of entrepreneurship education on the three constituents of entrepreneurship revealed that entrepreneurship education had a significant effect on rural women's entrepreneurial attitude [F (1,25)= 97.143 ; P<0.001; Partial $\eta^2$=0.795], entrepreneurial ability [F(1,25)=68.567; P<0.001; Partial $\eta^2$=0.733] and entrepreneurial aspiration [F(1, 25)=166.193; P<0.001; Partial $\eta^2$=0.869]. The results of Eta squared revealed that the difference in the post-test scores of the experimental and control groups regarding the variances of entrepreneurial aspiration, attitude, and ability, respectively was due to the effect of entrepreneurship education (see Table 6).

**Table 6**
**THE RESULTS OF MANCOVA SHOWING THE EFFECT OF ENTREPRENEURSHIP EDUCATION ON THE DEPENDENT VARIABLES**

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Correct Model | Post -ATT | 11.161 | 4 | 2.790 | 30.744 | 0.000 | 0.831 |
| | Post -ABI | 9.857 | 4 | 2.464 | 23.387 | 0.000 | 0.289 |
| | Post -ASP | 19.580 | 4 | 4.895 | 109.371 | 0.000 | 0.946 |
| **group** | Post -ATT | 8.816 | 1 | 8.816 | 97.143 | 0.000 | **0.795** |
| | Post -ABI | 7.228 | 1 | 7.228 | 68.567 | 0.000 | **0.733** |
| | Post -ASP | 7.438 | 1 | 7.438 | 166.193 | 0.000 | **0.869** |
| Error | Post -ATT | 2.269 | 25 | 0.091 | - | - | - |
| | Post -ABI | 2.634 | 25 | 0.105 | - | - | - |
| | Post -ASP | 1.119 | 25 | 0.045 | - | - | - |

Table 7 demonstrates the adjusted mean of participants' scores on the post-test. The results indicate that the mean of the experimental group's scores regarding the three constituents of the entrepreneurship increased after the intervention. The mean score on entrepreneurial attitude was 3.561 for the experimental group and 2.245 for the control group; the mean score on entrepreneurial abilities was 3.279 for the experimental group and 2.087 for the control group; and finally, the mean score on entrepreneurial aspiration was 4.217 for the experimental group and 3.008 for the control group. Therefore, it can be concluded that entrepreneurship education had a positive effect and increased rural women's entrepreneurial attitude, ability and aspiration.



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**Table 7**
**COMPARISON OF ADJUSTED MEANS FOR ENTREPRENEURIAL VARIABLES ACROSS THE TWO GROUPS**

| Dependent Variable | group | Mean | Std.Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| Post -ATT | Control | 2.245 | 0.087 | 2.067 | 2.423 |
| | Treated | 3.561 | 0.087 | 3.383 | 3.740 |
| Post -ABI | Control | 2.087 | 0.093 | 1.895 | 2.279 |
| | Treated | 3.279 | 0.093 | 3.087 | 3.471 |
| Post -ASP | Control | 3.008 | 0.061 | 2.883 | 3.133 |
| | Treated | 4.217 | 0.061 | 4.092 | 4.342 |

Regarding the first minor hypothesis, the results revealed that after the intervention, rural women's scores on the post-test considerably increased regarding entrepreneurial attitude and the related subcomponents.

**Table 8**
**DESCRIPTIVE STATISTICS FOR ENTREPRENEURIAL ATTITUDE**

| Variable & Subcomponent | Group | Before | | After | |
|---|---|---|---|---|---|
| | | M | SD | M | SD |
| Entrepreneurial Attitude | Treated | 2.26 | 0.39 | 3.47 | 0.40 |
| | Control | 2.52 | 0.34 | 2.33 | 0.31 |
| Opportunity Perception | Treated | 2.10 | 0.47 | 3.26 | 0.53 |
| | Control | 2.06 | 0.41 | 2.03 | 0.44 |
| Startup skills | Treated | 2.06 | 0.77 | 3.40 | 0.57 |
| | Control | 2.66 | 0.72 | 2.33 | 0.83 |
| Risk acceptance | Treated | 2.93 | 0.56 | 4.23 | 0.49 |
| | Control | 3.03 | 0.51 | 2.86 | 0.35 |
| Networking | Treated | 1.96 | 0.76 | 3.26 | 0.67 |
| | Control | 2.60 | 0.68 | 1.93 | 0.72 |
| Cultural support | Treated | 2.26 | 0.53 | 3.33 | 0.69 |
| | Control | 2.30 | 0.59 | 2.50 | 0.53 |

As indicated in Table 8 and Figure 2, Risk acceptance had the highest and Opportunity perception and Networking had the lowest means.

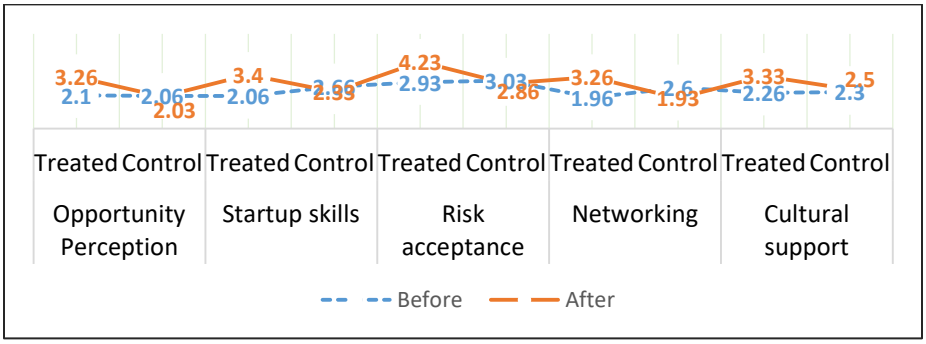


**FIGURE 2**
**COMPARISON OF THE SCORES OF THE SUB-COMPONENTS OF ENTREPRENEURIAL ATTITUDE ON THE PRE-TEST AND POST-TEST**



**Citation Information:** Moghtadaie, L., & Jamshidian, A. (2021). The effect of entrepreneurship education on the entrepreneurial attitude, ability and aspiration of rural women: A quasi-experimental study. *Journal of Entrepreneurship Education, 24*(S2).

The results of Wilk's Lambda test confirmed that the differences between the experimental and control groups' mean scores on the post-test with regard to the sub-components of entrepreneurial attitude is statistically significant [F(5,19)=27.24; P<0.001; Partial $\eta^2$=0.878]. The Eta squared (Partial $\eta^2$=0.878) also indicated that entrepreneurship education determined the variance in the subcomponents of entrepreneurial attitude (see Table 9).

**Table 9**
**THE RESULTS OF WILK'S LAMBDA TEST FOR THE SUBCOMPONENTS OF ENTREPRENEURIAL ATTITUDE**

| Effect | | Value | F | Hypothesis df | Error df | Sig | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Intercept | Wilks' Lambda | 0.44 | 4.82 | 5.00 | 19.00 | 0.005 | 0.559 |
| Opportunity Perception | Wilks' Lambda | 0.37 | 6.31 | 5.00 | 19.00 | 0.001 | 0.624 |
| Startup skills | Wilks' Lambda | 0.64 | 2.21 | 5.00 | 19.00 | 0.110 | 0.356 |
| Risk acceptance | Wilks' Lambda | 0.76 | 1.14 | 5.00 | 19.00 | 0.371 | 0.232 |
| Networking | Wilks' Lambda | 0.70 | 1.61 | 5.00 | 19.00 | 0.204 | 0.298 |
| Cultural Support | Wilks' Lambda | 0.60 | 2.48 | 5.00 | 19.00 | 0.069 | 0.395 |
| Group | Wilks' Lambda | 0.12 | 27.24 | 5.00 | 19.00 | 0.000 | **0.878** |

The results of MANCOVA revealed that entrepreneurship education had significant effect on entrepreneurial attitude and the related subcomponents (see Table 10). It had significant effect on Risk acceptance [F(1,23)=88.22; P<0.001; Partial $\eta^2$=0.793], Opportunity perception [F(1,23)=85.23; P<0.001; Partial $\eta^2$=0.787], networking [F(1,23)=42.20; P<0.001; Partial $\eta^2$=0.647], startup skills [F(1, 23)=25.48; P<0.001; Partial $\eta^2$=0.526], and cultural support [F(1,23)=10.09; P<0.001; Partial $\eta^2$=0.305]. The Eta squared coefficients indicate the differences in post-test scores between the experimental and the control groups with regard to Risk acceptance, Opportunity perception, Networking, Startup skills and cultural support have been due to the intervention (entrepreneurship education).

**Table 10**
**THE RESULTS OF MANCOVA: THE EFFECTS OF ENTREPRENEURSHIP EDUCATION ON ENTREPRENEURIAL ATTITUDE**

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Correct Model | Opportunity Perception | 16.06 | 6 | 2.67 | 30.66 | 0.000 | 0.889 |
| | Startup skills | 14.85 | 6 | 2.47 | 7.02 | 0.000 | 0.647 |
| | Risk acceptance | 16.44 | 6 | 2.74 | 23.08 | 0.000 | 0.858 |
| | Networking | 18.77 | 6 | 3.12 | 8.53 | 0.000 | 0.69 |
| | Cultural support | 8.33 | 6 | 1.38 | 4.14 | 0.000 | 0.52 |
| Group | Opportunity Perception | 7.44 | 1 | 7.44 | 85.23 | 0.000 | **0.787** |
| | Startup skills | 8.98 | 1 | 8.98 | 25.48 | 0.000 | **0.526** |
| | Risk acceptance | 10.47 | 1 | 10.47 | 88.22 | 0.000 | **0.793** |
| | Networking | 15.46 | 1 | 15.46 | 42.20 | 0.000 | **0.647** |
| | Cultural support | 3.38 | 1 | 3.38 | 10.09 | 0.004 | **0.305** |
| Error | Opportunity Perception | 2.01 | 23 | 0.08 | | | |
| | Startup skills | 8.10 | 23 | 0.25 | | | |
| | Risk acceptance | 2.73 | 23 | 0.11 | | | |
| | Networking | 8.42 | 23 | 0.36 | | | |
| | Cultural support | 7.70 | 23 | 0.33 | | | |



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Table 11 shows the adjusted means of the scores regarding entrepreneurial attitude for both the experimental and the control groups. As indicated, the mean scores of the experimental group on the post-test for the subcomponents of entrepreneurial attitude increased compared with the mean scores of the control group. Therefore, it can be concluded that entrepreneurship education had positive effects on the subcomponents of entrepreneurial attitude among rural women.

**Table 11**
**COMPARISON OF ADJUSTED MEANS REGARDING ENTREPRENEURIAL ATTITUDE FOR BOTH THE EXPERIMENTAL AND THE CONTROL GROUPS**

| Dependent Variable | group | Mean | Std.Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| Cultural support | Control | 2.05 | 0.08 | 1.87 | 2.22 |
| | Treated | 3.25 | 0.08 | 3.07 | 3.42 |
| Startup skills | Control | 2.20 | 0.17 | 1.85 | 2.55 |
| | Treated | 3.25 | 0.17 | 3.17 | 3.87 |
| Risk acceptance | Control | 2.83 | 0.09 | 2.63 | 3.04 |
| | Treated | 4.26 | 0.09 | 4.05 | 4.46 |
| Opportunity Perception | Control | 1.73 | 0.17 | 1.37 | 2.09 |
| | Treated | 3.46 | 0.17 | 3.10 | 3.82 |
| Networking | Control | 2.51 | 0.16 | 2.17 | 2.85 |
| | Treated | 3.32 | 0.16 | 2.97 | 3.64 |

Regarding the second minor hypothesis, the results revealed that after the intervention, rural women's scores on the post-test considerably increased regarding entrepreneurial ability and the related sub-components.

**Table 12**
**DESCRIPTIVE STATISTICS FOR ENTREPRENEURIAL ABILITY**

| Variable & Subcomponent | Group | Before | | After | |
|---|---|---|---|---|---|
| | | M | SD | M | SD |
| Entrepreneurial Ability | Treated | 2.15 | 0.29 | 3.22 | 0.34 |
| | Control | 2.40 | 0.62 | 2.14 | 0.38 |
| opportunity Startup | Treated | 2.40 | 0.60 | 3.50 | 0.73 |
| | Control | 2.46 | 0.51 | 2.40 | 0.43 |
| Technology absorption | Treated | 2.06 | 0.49 | 2.76 | 0.56 |
| | Control | 2.36 | 0.78 | 1.96 | 0.44 |
| Quality of human resources | Treated | 2.00 | 0.59 | 3.60 | 0.63 |
| | Control | 2.36 | 0.89 | 2.26 | 0.70 |
| Competition | Treated | 2.13 | 0.54 | 3.03 | 0.58 |
| | Control | 2.43 | 0.90 | 1.93 | 0.62 |

As indicated in Table 12 and Figure 3, Quality of human resources had the highest and Technology absorption had the lowest mean scores.



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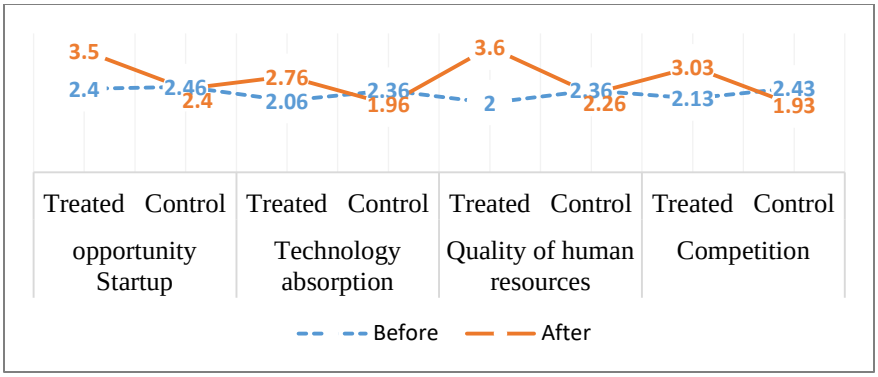


**FIGURE 3**
**COMPARISON OF THE SCORES OF THE SUB-COMPONENTS OF ENTREPRENEURIAL ABILITY ON THE PRE-TEST AND POST-TEST**

The results of Wilk's Lambda test confirmed that the differences between the experimental and control groups' mean scores on the post-test with regard to the sub-components of entrepreneurial abilities is statistically significant [$F(4,21)=28.12$; $P<0.001$; Partial $\eta^2=0.843$]. The Eta squared (Partial $\eta^2=0.843$) also indicated that entrepreneurship education determined the variance in the sub-components of entrepreneurial abilities (see Table 13).

**Table 13**
**THE RESULTS OF WILK'S LAMBDA TEST FOR THE SUB-COMPONENTS OF ENTREPRENEURIAL ABILITY**

| Effect | | Value | F | Hypothesis df | Error df | Sig | **Partial Eta Squared** |
|---|---|---|---|---|---|---|---|
| Intercept | Wilks' Lambda | 0.45 | 6.31 | 4.00 | 21.00 | 0.002 | 0.546 |
| opportunity Startup | Wilks' Lambda | 0.26 | 14.44 | 4.00 | 21.00 | 0.000 | 0.733 |
| Technology absorption | Wilks' Lambda | 0.77 | 1.55 | 4.00 | 21.00 | 0.222 | 0.229 |
| Quality of human resources | Wilks' Lambda | 0.49 | 5.39 | 4.00 | 21.00 | 0.004 | 0.507 |
| Competition | Wilks' Lambda | 0.93 | 0.35 | 4.00 | 21.00 | 0.839 | 0.063 |
| group | Wilks' Lambda | 0.15 | 28.12 | 4.00 | 21.00 | 0.000 | **0.843** |

The results of MANCOVA revealed that entrepreneurship education had significant effect on entrepreneurial abilities and the related sub-components (see Table 14). It had significant effect on Quality of human resources [$F(1,24)=61.88$; $P<0.001$; Partial $\eta^2=0.721$], Opportunity startup [$F(1,24)= 61.17$; $P<0.001$; Partial $\eta^2=0.718$], competition [$F(1, 24)=23.77$; $P<0.001$; Partial $\eta^2=0.498$], and Technology absorption [$F(1,24)=19.02$; $P<0.001$; Partial $\eta^2=0.442$]. The Eta squared coefficients indicate the differences in post-test scores between the experimental and the control groups with regard to Quality of human resources, Opportunity startup, and Competition and Technology absorption have been due to the intervention (entrepreneurship education).



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**TABLE 14**
**THE RESULTS OF MANCOVA: THE EFFECTS OF ENTREPRENEURSHIP EDUCATION ON ENTREPRENEURIAL ABILITY**

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Correct Model | opportunity Startup | 15.86 | 5 | 3.17 | 22.98 | 0.000 | 0.827 |
| | Technology absorption | 5.52 | 5 | 1.10 | 4.11 | 0.008 | 0.462 |
| | Quality of human resources | 19.68 | 5 | 3.93 | 15.27 | 0.000 | 0.761 |
| | Competition | 9.81 | 5 | 1.96 | 4.99 | 0.003 | 0.510 |
| **group** | opportunity Startup | 8.44 | 1 | 8.44 | 61.17 | 0.000 | **0.718** |
| | Technology absorption | 5.10 | 1 | 5.10 | 19.02 | 0.000 | **0.442** |
| | Quality of human resources | 15.94 | 1 | 15.94 | 61.88 | 0.000 | **0.721** |
| | Competition | 9.33 | 1 | 9.33 | 23.77 | 0.000 | **0.498** |
| Error | opportunity Startup | 3.31 | 24 | 0.13 | | | |
| | Technology absorption | 6.44 | 24 | 0.26 | | | |
| | Quality of human resources | 6.18 | 24 | 0.25 | | | |
| | Competition | 9.42 | 24 | 0.39 | | | |

Table 15 shows the adjusted means of the post-test scores regarding entrepreneurial abilities for both the experimental and the control groups. As indicated, the mean scores of the experimental group on the post-test for the subcomponents of entrepreneurial abilities increased compared with the mean scores of the control group. Therefore, it can be concluded that entrepreneurship education had positive effects on the subcomponents of entrepreneurial ability among rural women.

**Table 15**
**COMPARISON OF ADJUSTED MEANS REGARDING ENTREPRENEURIAL ABILITY FOR BOTH THE EXPERIMENTAL AND THE CONTROL GROUPS**

| Dependent Variable | group | Mean | Std.Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| opportunity Startup | Control | 2.39 | 0.09 | 2.19 | 2.59 |
| | Treated | 3.50 | 0.09 | 3.30 | 3.70 |
| Technology absorption | Control | 1.93 | 0.13 | 1.65 | 2.21 |
| | Treated | 2.79 | 0.13 | 2.51 | 3.08 |
| Quality of human resources | Control | 2.17 | 0.13 | 1.89 | 2.44 |
| | Treated | 3.69 | 0.13 | 3.41 | 3.97 |
| Competition | Control | 1.90 | 0.16 | 1.55 | 2.24 |
| | Treated | 3.06 | 0.16 | 2.72 | 3.40 |

Regarding the third minor hypothesis, the results revealed that after the intervention, rural women's scores on the post-test considerably increased regarding entrepreneurial aspiration and the related sub-components.

**Table 16**
**DESCRIPTIVE STATISTICS FOR ENTREPRENEURIAL ASPIRATION**

| Variable & Subcomponent | Group | Before | | After | |
|---|---|---|---|---|---|
| | | M | SD | M | SD |
| Entrepreneurial Aspiration | Treated | 2.99 | 0.64 | 4.25 | 0.49 |
| | Control | 2.97 | 0.55 | 2.96 | 0.58 |
| Introduce new products | Treated | 3.46 | 0.71 | 4.56 | 0.59 |
| | Control | 3.20 | 0.72 | 3.30 | 0.7 |



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| | | | | | |
|---|---|---|---|---|---|
| Develop new production processes | Treated | 3.16 | 0.85 | 4.43 | 0.59 |
| | Control | 3.23 | 0.7 | 3.20 | 0.88 |
| High growth | Treated | 2.60 | 0.66 | 4.20 | 0.62 |
| | Control | 2.70 | 0.62 | 2.60 | 0.68 |
| Internationalization | Treated | 2.73 | 0.75 | 3.83 | 0.69 |
| | Control | 2.76 | 0.67 | 2.67 | 0.65 |

As indicated in Table 16 and Figure 4, Introducing new products had the highest and Internationalization had the lowest mean scores.

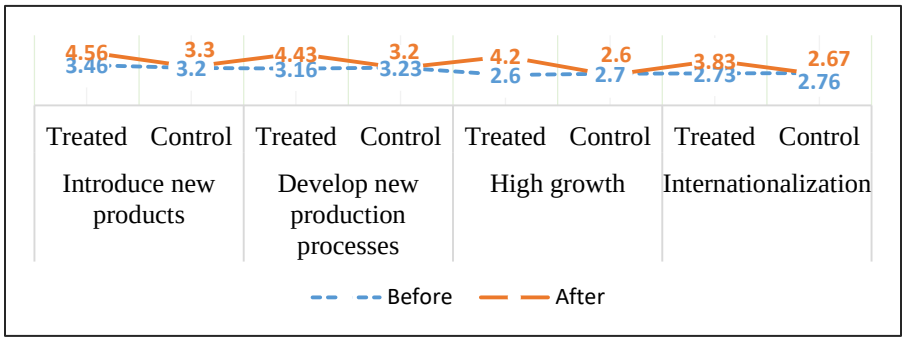


**FIGURE 4**
**COMPARISON OF THE SCORES OF THE SUB-COMPONENTS OF ENTREPRENEURIAL ASPIRATION ON THE PRE-TEST AND POST-TEST**

The results of Wilk's Lambda test confirmed that the differences between the experimental and control groups' mean scores on the post-test with regard to the sub-components of entrepreneurial aspiration are statistically significant [F(4,21)=56.81; P<0.001; Partial $\eta^2$=0.915]. The Eta squared (Partial $\eta^2$=0.915) also indicated that entrepreneurship education determined the variance in the sub-components of entrepreneurial aspiration (see Table 17).

**Table 17**
**THE RESULTS OF WILK'S LAMBDA TEST FOR THE SUB-COMPONENTS OF ENTREPRENEURIAL ASPIRATION**

| Effect | | Value | F | Hypothesis df | Error df | Sig | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Intercept | Wilks' Lambda | 0.40 | 7.88 | 4.00 | 21.11 | 0.000 | 0.600 |
| Introduce new products | Wilks' Lambda | 0.26 | 14.81 | 4.00 | 21.00 | 0.000 | 0.738 |
| Develop new production processes | Wilks' Lambda | 0.54 | 4.46 | 4.00 | 21.00 | 0.009 | 0.460 |
| High growth | Wilks' Lambda | 0.40 | 7.72 | 4.00 | 21.00 | 0.001 | 0.595 |
| Internationalization | Wilks' Lambda | 0.49 | 5.30 | 4.00 | 21.00 | 0.004 | 0.503 |
| group | Wilks' Lambda | 0.08 | 56.81 | 4.00 | 21.00 | 0.000 | **0.915** |

The results of MANCOVA revealed that entrepreneurship education had significant effect on entrepreneurial aspiration and the related sub-components (see Table 18). It had significant effect on High growth [F(1,24)=123.43; P<0.001; Partial $\eta^2$=0.837], Developing new production processes [F(1,24)=72.12; P<0.001; Partial $\eta^2$=0.750], Internationalization [F(1, 24)=69.54; P<0.001; Partial $\eta^2$=0.743], and Introducing new products [F(1, 24)=65.97; P<0.001; Partial $\eta^2$=0.733]. The Eta squared coefficients indicate the differences in post-test scores



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between the experimental and the control groups with regard to High growth, developing new production processes, Internationalization and Introducing new products have been due to the intervention (entrepreneurship education).

**TABLE 18**
**THE RESULTS OF MANCOVA: THE EFFECTS OF ENTREPRENEURSHIP EDUCATION ON ENTREPRENEURIAL ASPIRATION**

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Correct Model | Introduce new products | 21.12 | 5 | 4.22 | 36.96 | 0.000 | 0.885 |
| | Develop new production processes | 23.77 | 5 | 4.75 | 32.86 | 0.000 | 0.873 |
| | High growth | 27.63 | 5 | 5.52 | 37.16 | 0.000 | 0.886 |
| | Internationalization | 18.29 | 5 | 3.65 | 29.21 | 0.000 | 0.859 |
| Group | Introduce new products | 7.54 | 1 | 7.54 | 65.97 | 0.000 | **0.733** |
| | develop new production processes | 10.43 | 1 | 10.43 | 72.12 | 0.000 | **0.750** |
| | High growth | 18.35 | 1 | 18.35 | 123.43 | 0.000 | **0.837** |
| | Internationalization | 8.71 | 1 | 8.71 | 69.54 | 0.000 | **0.743** |
| Error | Introduce new products | 2.74 | 24 | 0.11 | | | |
| | Develop new production processes | 3.47 | 24 | 0.14 | | | |
| | High growth | 3.56 | 24 | 0.15 | | | |
| | Internationalization | 3.01 | 24 | 0.12 | | | |

Table 19 shows the adjusted means of the post-test scores regarding entrepreneurial aspiration for both the experimental and the control groups. As indicated, the mean scores of the experimental group on the post-test for the subcomponents of entrepreneurial aspiration increased compared with the mean scores of the control group. Therefore, it can be concluded that entrepreneurship education had positive effects on the subcomponents of entrepreneurial aspiration among rural women.

**Table 19**
**COMPARISON OF ADJUSTED MEANS REGARDING ENTREPRENEURIAL ASPIRATION FOR BOTH THE EXPERIMENTAL AND THE CONTROL GROUPS**

| Dependent Variable | Group | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| Introduce new products | Control | 3.40 | 0.08 | 3.22 | 3.59 |
| | Treated | 4.45 | 0.08 | 4.27 | 4.64 |
| Develop new production processes | Control | 3.19 | 0.10 | 2.99 | 3.40 |
| | Treated | 4.43 | 0.10 | 4.22 | 4.64 |
| High growth | Control | 2.58 | 0.10 | 2.37 | 2.79 |
| | Treated | 4.21 | 0.10 | 4.09 | 4.43 |
| Internationalization | Control | 2.73 | 0.09 | 2.54 | 2.92 |
| | Treated | 3.86 | 0.09 | 3.67 | 4.05 |

## DISCUSSION AND CONCLUSION

The purpose of this study was to examine the effect of entrepreneurship education on rural women's entrepreneurial attitude, ability and aspiration. The results indicated that after the intervention, rural women's mean scores on the post-test considerably increased with regard to



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entrepreneurial aspiration (4.25), attitude (3.47), and ability (3.22). It was revealed that after the intervention, rural women's mean scores on the post-test increased with regard to the entrepreneurial attitude and its subcomponents (opportunity perception, startup skills, risk acceptance, networking and cultural support). These findings were in line with those of other related studies. Liu et al., (2019) stated that entrepreneurship education helps individuals find positive attitudes entrepreneurship and it also increases their self-confidence. Similarly, Douglas (2014) affirmed that entrepreneurship education changes women's attitudes towards entrepreneurship and enhances their willingness to consider entrepreneurship as an appropriate job. In the same vein, Movahedi & Soleimanian Boroujeni (2015) found that women had positive attitudes towards entrepreneurship education. Along the same lines, Stamboulis & Barlas (2014) concluded that the implemented entrepreneurship plan considerably affected the university students' attitude. They believed entrepreneurship education persuades people to find a professional cognition and prepares them to start a new job (Reyad et al., 2019). Entrepreneurship education is the presupposition for shaping cognitive attitudes; it affects individuals' attitudes and perceived behaviors and increases their willingness to entrepreneurship (Ndofirepi & Rambe, 2017). Identifying and perceiving the opportunities through creating innovative ideas and preparing the resources required for implementing those ideas in the form of innovative startups and risky investments are all possible through entrepreneurship education (Chrisman et al., 2003). In the context of Iran, Mohammadi & Lashgarara (2013) pointed to the risk acceptance feature of entrepreneurial activities too. Sanchez (2013) also indicated that the purpose of entrepreneurship education is not just starting a new job; rather, it is to empower the individuals' intentions for startups, their self-efficacy perseverance and risk acceptance attitudes.

Regarding cultural support, Arasti (2006) found that the family support positively affected the success of the entrepreneur. In other words, the attitudes of the family members and those who are in close affinity with the entrepreneur positively affected the entrepreneur's success. This is in line with the findings of the study with regard to the positive effect of cultural support. In fact, women's entrepreneurial activities can be influenced by the contextual and cultural conditions of the country. Similarly, the results of this study related to networking are in line with those of the previous studies (Anggadwita et al., 2017; Samadi, 2018). Networking and making effective relations with others have been considered as the qualifications entrepreneurs since the entrepreneur's ability to create networks leads to effective communication with others and asking them for help or support. Samadi (2018) also mentioned networking as an effective factor in entrepreneurship. Entrepreneurship education changes people's entrepreneurial attitudes and this can persuade them to do entrepreneurial activities.

Regarding entrepreneurial ability and its sub-components (opportunity startups, technology absorption, quality of human resources and competition), it was found that entrepreneurship education remarkably affected these sub-components. It was in line with Iolanda Vodă & Florea's (2019) study who found the increase in entrepreneurial knowledge and skills can positively affect women's entrepreneurship. It was also confirmed by Lawatre (2016) who believed developing entrepreneurship among rural women can promote their personal abilities and improve their decision making at the levels of family and society. In a similar manner, Wei et al., (2019) considered entrepreneurship education as an effective way for developing general as well as professional abilities through merging knowledge and values. In other words, through entrepreneurship, the person can identify his/her talents and capabilities and attempt to empower those (Liu et al., 2019). Therefore, it can be said that based on his/her entrepreneurial abilities, the entrepreneur is looking for the discovery, creation, evaluation, and



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exploitation of the opportunities. Employing new technologies and professional people can then lead to introducing new products and services and organizing the markets, processes and raw materials.

Regarding the third dependent variable of this study, it was found that entrepreneurship education considerably increased entrepreneurial aspiration and its sub-components including introducing new products, developing new production processes, high growth and internationalization. This finding was in line with those of Suvittawat (2019) who believed entrepreneurial aspiration and the enthusiasm to introduce products and services, which are better than those already available in the market and better meet the consumers' needs, may lead to the duration and permanency of entrepreneurial activities. Similarly, Liu et al., (2019) confirmed that entrepreneurship education increased university students' entrepreneurial perception, aspiration, as well as their self-efficacy and self-confidence. Entrepreneurial aspiration has been identified as the major characteristic of an entrepreneur, which should be specifically considered in all entrepreneurship educating programs (Karimi, 2019). Similar studies confirmed the remarkable effect of entrepreneurship education on students' aspiration so that they allotted considerable amount of time and energy in order to succeed in their selected professions (Iyortsuun et al., 2020; Biraglia & Kadile, 2016). Also, Ratten & Tajeddini (2018) and Radomirova Ugrinova (2016) asserted that entrepreneurship education to women yields the improvement in the quality of entrepreneurial activities at an international level. Innovating and creating value added to the products in order to develop entrepreneurial activities, were also considered in some studies (Salehi Kakhki et al., 2019). The findings of Anggadwita et al (2017) completely support those of the present study. They pointed to the reasons of improvements in the production processes, duration, and expansion of women's entrepreneurial activities. They also emphasized that entrepreneurship education may lead to a change and innovation in production processes and products; this in turn, leads to a higher growth and more participation of entrepreneurs at the international level.

In conclusion, as indicated in this study and supported by previous research, entrepreneurship education affects rural women's entrepreneurial attitude, ability and aspiration. The presence and participation of rural women (as half of the rural population) in entrepreneurial activities will remarkably increase the multidimensional including individual's growth (discovery of his/her own talents and capabilities), family growth (an increase in the family income), rural growth (a decrease in the rate of unemployment and excessive emigration) and even the economic growth of the country. Therefore, entrepreneurship education can be considered as an important step towards empowering and self-efficacy of the young people, especially the women regarding entrepreneurial activities.

This study suggests the planning of an entrepreneurial education program based on opportunity discovery and perception, technology absorption in business, innovation in products, and holding conferences or seminars in order to persuade entrepreneurs and increase their aspiration and skills as well as using the experiences of women entrepreneurs as appropriate patterns for rural women. Due to the lack or shortage of facilities and financial resources needed for entrepreneurship, the allocation of financial resources and facilities by the government, as the o of such educating programs is in emergent need.



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