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The Impact of Psychological Factors on Entrepreneurial Willingness among Students of Agriculture

Azarmidokht Rezaei¹, Kiumars Zarafshani², Shahrzad Barani³

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ABSTRACT: The aim of the present study was to explore the impact of psychological factors on entrepreneurial willingness among students of agronomy at Islamic Azad University of Marvdasht. The population under study consisted of senior students, of whom 143 students were selected as the participants in the sample using Bartlett table. The instruments used in this study were a number of questionnaires whose validity and reliability were tested using the expert panel and structural equation modeling, respectively. The results indicated that the participants' entrepreneurial willingness was at an average level. Besides, the participants' low satisfaction with themselves and exclusion of entrepreneurship in career options were problematic for them. The results of structural modeling showed that norms, belief in self-efficacy, and attitudes have a positive impact on entrepreneurial willingness, respectively. According to the structural model, achievement motivation and subjective norms have a direct and positive effect on internal control and the latter, in turn, affects the belief in self-efficacy. Entrepreneurial internship, creative problem solving, entrepreneurial fairs emphasizing new products, self-regulated learning strategies, and development of entrepreneurial culture via producing documentary films are also discussed in detail in this study.

KEYWORDS: Entrepreneurial Willingness, Attitudes, Achievement Motivation, Locus of Control.

¹ Assistant Professor, Department of Psychology, College of education and psychology, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran. *E-mail:* rezaei.azar@yahoo.com

² Associate Professor, College of Agriculture, Razi University, Kermanshah, Iran.
E-mail: zarafshani2000@yahoo.com

³ Ph.D, College of Agriculture, Razi University, Kermanshah, Iran. *E-mail:* Barani705@yahoo.com



1. INTRODUCTION

Despite increasing development of agricultural colleges in the country, a question that arises is that why the Iranian agriculture sector has failed to undergo the development it deserves? Once it was believed that the development of the faculties of agriculture and training of educated workforce could lead to the development of agriculture. Therefore, many steps were taken to train skilled manpower. Unfortunately, the projections made were far from the reality. Besides, the unemployment of graduates in agriculture was tuned out to be another major problem. Most economists believe that the human resources are the final determinant of the characteristics of each country's economic and social development. Development in agriculture requires skilled manpower and expertise in primary and secondary areas such as generation and conversion of agricultural products, and demand and supply of manpower in agricultural work market in rural areas and industrial hubs across the country. The current situation of supply and demand is indicative of over-unemployment of graduates as outputs of the agricultural education system at different levels. One reason for this problem is the mismatch between graduates' skills with the expertise required in production and processing units in agriculture sector (Nouri Pour Oporavri, 2011) According to statistics from 2001, the employment rate for 147 thousand graduates in agronomy was reported to be 28%. This figure is twice as much as the unemployment rate among other groups and is the highest unemployment rate among the whole university graduates (Jalali, 2003).

As such, factors such as the low level of skills and expertise among graduates and the limited capacity of the labor market make it impossible to create jobs for all these graduates and this has led to the increasing unemployment rate in the country. The experiences of different countries show that the best alternative for preparing students for higher education system in general and agriculture in particular for employment in the labor market is self-employment and entrepreneurial training (TajAbadi et al., 2008).

The study of economic growth in developed countries is indicative of the importance of entrepreneurs in economic growth and job creation. Like many behaviors, the entrepreneurial behavior is influenced by factors beyond factors such as interest and socioeconomic factors; the most important of which is an individual's mental and behavioral characteristics. Therefore, entrepreneurial training in the modern age should affect these factors so that it could create interest and motivation. Such features have received special attention by many scholars throughout the world. The aim of entrepreneurship psychology is to determine the importance of these variables including personality traits, attitudes, achievement motivation, and internal locus of control. In addition, given that personality traits such as intention to set up a business, success in business and increased business set-up have a direct impact on most entrepreneurial activities (Shaver & Scott, 1991), determining students' personality traits and characteristics that can affect their willingness to become entrepreneurs is of utmost importance but it has not been seriously considered (Wei Ni et al., 2012).

On the other hand, the use of intention-based models as a good tool to explain and interpret the formation of entrepreneurial willingness and entrepreneurial behavior makes it possible to use it as an appropriate framework to measure the effectiveness of entrepreneurship training programs in higher education, and improving the design and planning associated with them as a way to solve the unemployment crisis among higher education graduates. Accordingly, this study examines the influence of psychological factors on students' entrepreneurial willingness. The results of this study can contribute to agricultural higher education institutions to direct their entrepreneurship supports with the aim of creating positive attitudes, positive mental beliefs, strengthening entrepreneurial self-efficacy among students, internal control, achievement motivation, and personality traits



affecting entrepreneurship as a logical solution to get out of the crisis of unemployment and preparing graduates for self-employment.

Since the employment of graduates of universities and institutions of higher learning is one of the essential elements of the economic growth and national development, the main institutional mechanism to develop skills and knowledge is the official educational system. Most underdeveloped countries believe that the main key to national development is the quantitative and rapid expansion of educational opportunities. The more education, the faster will be development (Todaro, 1997).

Thus, today there are only a few people who are skeptical about the role of education and human resource development in economic growth compared with physical capital. Nevertheless, there are still doubts about the economic value of education in many developing countries due to rising unemployment among university graduates, poverty, and the vast differences in wealth and opportunity despite lots of funds which are spent on education. In addition, in the advanced countries, as the education level goes up, the unemployment rate decreases. However, this trend is the other way round in Iran so that nearly half the unemployed people are graduates of universities and centers of higher education who have failed to act successfully in in the field of entrepreneurship despite passing the relevant courses and training programs. However, it should be noted that before the third program of economic and social development, entrepreneurship did not receive much attention. Due to widespread unemployment, particularly among university graduates, entrepreneurship began to be considered seriously since 2000s as a way to solve the problem of unemployment (Pouladrag & Mohammadi, 2008).

Therefore, given the government emphasis on the important role of entrepreneurship in economic recovery and thus people's mentality, there is need to examine this concept and mental and psychological factors influencing it.

2. LITERATURE REVIEW

Entrepreneurship is one of the terms for which there is no single definition of the beginning of the project in scientific circles, different definitions of those different views is provided. However, the definition of entrepreneurship on the one hand reflects the breadth and importance of which can be studied from different angles and on the other hand reflects the dynamics of the underlying model, and provides definitions and different opinions. Entrepreneurship word from centuries ago and before they come in today, was common in the French language. The equivalent French term meaning Entrepreneur ((committing)) Undertake equivalent in the English language, which in 1848 by John Stuart Mill in entrepreneurship (Entrepreneur) was translated into English. Some researchers define risk as a key factor for entrepreneurship. Although entrepreneurship has been studied from the economic, social, and political perspectives, the psychological perspectives should not be ignored.

Intentionality and forethought are acknowledged to be core features of human beings (Bandura, 2001). Intention constitutes a representation of the direction of future action. It affects individuals' choices as well as directs and maintains behavior. Research to date in areas as diverse as health-related behavior, voting behavior, spare-time activity, or job seeking demonstrates that intention is a strong predictor of behavior (see Armitage & Conner, 2001 for a review). 164 *Journal of Career Development* 39(2) Entrepreneurial intention is defined as the conscious state of mind that precedes action and directs attention toward a goal such as starting a new business (Bird, 1988; Krueger & Carsrud, 1993). Forming an intention to develop an entrepreneurial career is the first step in the often long process of venture creation (Gartner, Shaver, Gatewood, Katz, 1994). Several models aim to explain entrepreneurial intentions such as the Entrepreneurial Event Model of Shapero



(1982), the Model of Implementing Entrepreneurial Ideas (Bird, 1988) or Maximization of the Expected Utility (Douglas & Shepherd, 2002). Although these models represent a step forward in entrepreneurial behavior research, they have not been as influential as the TPB (Autio et al., 2001; Krueger et al., 2000; Tkachev & Kolvereid, 1999; van Gelderen et al., 2008). Unlike other models, the TPB offers a coherent and generally applicable theoretical framework, which enables us to understand and predict entrepreneurial intention by taking into account not only personal but also social factors (Krueger et al., 2000). As such, personal history and characteristics and skills can predispose individuals toward entrepreneurial intentions as well as the social context (social support and culture). However, according to the TPB, only the three TPB components—attitude toward behavior, subjective norms, and perceived behavioral control—predict behavioral intentions directly. All other factors are theorized to influence intentions through these three components. The attitude toward behavior within the TPB is defined as an individual's overall evaluation of a behavior (Ajzen, 1991). Previous studies on the subject of entrepreneurial intention have measured attitudes using only one item, which focuses on the personal interest in starting a business (Autio et al., 2001; Krueger et al., 2000). However, single-item measures are prone to measurement unreliability (DeVellis, 1991). According to the TPB, the attitude toward a behavior is determined by the total set of accessible behavioral beliefs linking the behavior to various outcomes and other attributes. In addition, the strength of each belief is weighted by the evaluation of the outcomes (Ajzen, 1991). Thus, two people may hold an equally strong belief that entrepreneurship involves facing new challenges, but one of them may view these challenges positively while the other may consider them unpleasant. This two-element process of attitude formation allows us to explain why persons holding different beliefs may exhibit identical attitudes, and vice versa. The second component of the TPB is the subjective norm, which is defined as the individual's perception of the social pressures to engage (or not to engage) in entrepreneurial behavior (Ajzen, 1991). The subjective norm consists of two components: normative beliefs and the motivation to comply with these beliefs (Ajzen & Fishbein, 1980). Normative beliefs concern the perceived probability that important referent individuals or groups will approve or reject a given behavior; they set the norm that specifies how the subject should behave. The second component, motivation to comply, reflects a person's willingness to conform to these norms, that is, to behave in keeping with the expectation of important referents. Depending on the social environment, these pressures can become a trigger or a barrier to the development of an entrepreneurial career (Moriano et al. 1998). The third TPB component, perceived behavioral control (PBC), refers to people's perceptions of their ability to perform a given behavior. Individuals usually choose to perform behaviors that they think they will be able to control and master. This concept is therefore very similar to self-efficacy (or even the same, see Bandura, 1982). Both concepts concerned the perceived ability to perform a behavior, for example, starting a new business. In their review of TPB, Armitage and Conner (2001) conclude that self-efficacy is more clearly defined and more strongly correlated with intentions than PCB. In fact, self-efficacy has replaced PBC in numerous studies (Kolvereid & Isaksen, 2006; Krueger et al., 2000; Moriano, 2005; van Gelderen et al., 2008), and a recent meta-analysis showed that it is strongly positively related to business creation and entrepreneurial success (Rauch & Frese, 2007). The intention to perform a given behavior constitutes the central element of TPB (Ajzen, 1991)—the stronger the intention to perform a given behavior, the greater the probability of its effective performance. Reviews of existing research show that intention accounts for approximately 30% of the variance in behavior (Armitage & Conner, 2001). Furthermore, past research shows that the individual TPB components (attitude, social norm, and PBC) in turn together explain between 21% (Autio et al., 2001) and 55% (Linan & Chen, 2009) of the variance in the intention to develop an entrepreneurial career. However, the strength of their influence on intention varies from study to study. Previous studies have identified entrepreneurial factors that contribute to the success of entrepreneurs. For example, Say (1971) proposes that a successful entrepreneur must possess



outstanding qualities, especially in decision making, while McClelland (1961) suggests that an entrepreneur should feel a need for achievement. Other outstanding qualities include an internal locus of control (Rotter, 1966), self-confidence, independence (Hisrich & Gracher, 1995) and innovativeness as well as good communication and decision-making skills (Cox & Jennings, 1995). An entrepreneur also must be able to face any possibilities effectively during the formation of a new venture. This means that he/she is a risk taker (Cox & Jennings, 1995). Risk taking is an important factor in developing strong entrepreneurial personality, which is useful for business activities (Wadhaw et al., 1998). Other characteristics of successful entrepreneurs include high self-efficacy, opportunity recognition, perseverance and social skills (Markman and Baron, 2003). Kriger and Hanson (1999) outline three important criteria, honesty, spirituality, and ethics, as good values perceived as very important by entrepreneurs in creating a healthy organisation. For example, Aker Kvaerner Company, a successful global provider of engineering and construction services operating in more than 30 countries, states that its core value is to conduct business with honesty, trust and accountability (Pollit, 2004). In contrast, rascal or rogue entrepreneurs who conduct their business without moral values can harm others (e.g., customers, consumers, competitors) as well as the economic systems of their countries (Machan, 1999). Characteristics such as being creative and having good interpersonal, mental and technical skills contribute to an entrepreneur's success (Hodgetts and Kuratko, 1992). In addition, being goal-oriented, pragmatic, determined, flexible, and self-confident are distinguished attributes that add value to entrepreneurs. Another important factor contributing to successful entrepreneurs is knowledge that is gained from various sources such as training or personal experience through formal or informal education. Being knowledgeable can help an entrepreneur to be innovative and trigger new ideas, which in turn enables entrepreneurs to seize opportunities emerging from their environment. Apart from the attributes discussed above, leadership is also another pertinent factor that contributes significantly to business success (Dafna, 2008; Jong & Hartog, 2007). Dafna (2008) suggests that entrepreneurs practice leadership skills that can lead to organisational changes and innovations in their business venture, which, according to Jong and Hartog (2007), are the ability to influence innovativeness among employees and the ability to spot market opportunities (Reijonen, 2008). Entrepreneurs need two types of leadership competencies in order to succeed, including functional and self-competencies (Swiercz and Lydon, 2002). Functional competencies consist of four performance subsystems (i.e., operations, finance, marketing, and human resources), while self-competencies include intellectual integrity, promoting the company rather than the individual leader, utilizing external advisors, and creating a sustainable organisation. Nevertheless, successful entrepreneurs are a good leaders (Cutting and Kouzmin, 2000), who have clear mission, purpose and values to be shared and sold to others. The success of entrepreneurs is influenced by support from others, which can be in the form of formal and informal support. Formal support comes in the form of financial, technology, and strategic partnerships or industrial contacts (Carrier et al, 2004). Informal support may come from personal and community-based networks (Levent et al., 2003). For example, in Wong's (1988) study, Chinese entrepreneurs in Hong Kong excelled in their businesses due to the practice of '*familism*', that involves the role of kinship ethnicity, and territorial background, which brings the entrepreneurs closer to each other, and consequently becomes barriers to entry for others who are not from the group. Finally, support for entrepreneurs can also come in the form of mentoring (Cox & Jennings, 1995). In summary, the elements and relationships integrating the entrepreneurial intention model proposed in this article are presented in Figure 1. Motivational factors

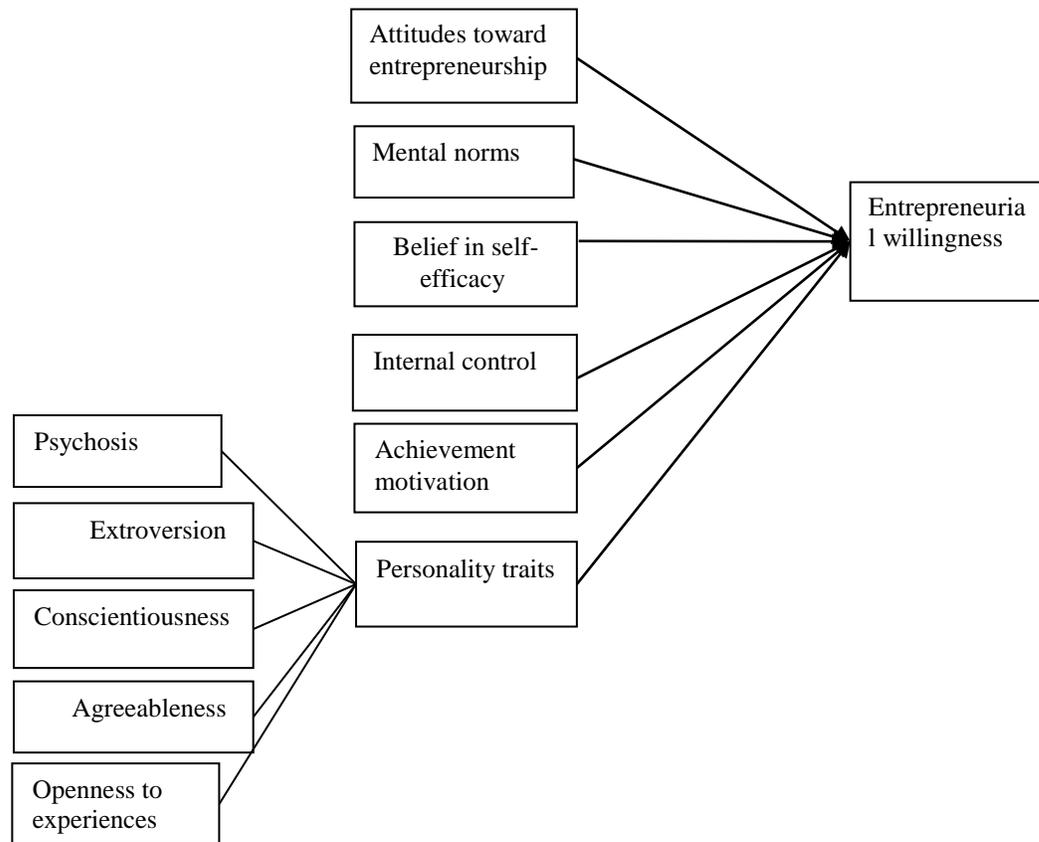


Figure1. Conceptual framework of the study

3. RESEARCH METHODS

The present study is a descriptive-correlational research. It is also considered as an applied research concerning its objectives. The population under study consisted of 273 senior students of agronomy at Islamic Azad University of Marvdasht, of whom 152 students were selected randomly as the participants in the sample using Bartlett table of sample size. Four types of standard questionnaires were used to collect field data: 1) evaluating entrepreneurial willingness, attitude towards entrepreneurship, subjective norms, and belief in self-efficacy by Moriano and Gorgievski (2007); 2) Achievement Motivation Inventory by Ray, 1979; 1980); 3) Internal Locus of Control Scale by Levenson & Miller (1976); 4) modified version of Personality Traits Inventory by Levenson & Miller (1976).. A back translation method was used to translate the scales into Persian language. To ensure face and content validity of the questionnaires, panel of experts reviewed the scales and appropriate adjustments were made as deemed important. Confirmatory factor analysis was used to test reliability of the scales. Goodness of fit indices indicated that the research instruments are truly measuring what they are suppose to measure (Chi-square = 3571.02; $P < 0.05$; RMSEA = 0.05).

4. RESULTS

4.1. Respondents' Personal Characteristics

According to the results, 76.1% of the respondents were males and 23.9% were females (142 in total). About 7% of the respondents (10 students) did not mention their gender. The respondents mean score on entrepreneurial willingness was 3.63/5. This shows that the majority of the respondents had a medium level of willingness to involve in entrepreneurial activities (SD = 0.39).

4.2. Direct and Indirect Effects of the Independent Variables on Entrepreneurial Willingness

In order to find out the relationships between the respondents' entrepreneurial willingness as the dependent variable and attitudes towards entrepreneurship, subjective norms, self-efficacy beliefs, personality traits, achievement motivation, and internal control as the independent variables; structural equation modeling was used by AMOS18 Software. The research model was a path model that is often used to explain and predict various phenomena. The correlations between the research variables are shown in Table 1:

Table 1: The correlations between the independent variables and the dependent variable

Variable	1	2	3	4	5	6
Entrepreneurial willingness	-					
Attitudes towards entrepreneurship	** 0.45	-				
Subjective norms	** 0.59	** 0.33	-			
Belief in self-efficacy	** 0.51	** 0.35	** 0.39	-		
Achievement motivation	0.09	0.12	0.08	0.04	-	
Internal control	** 0.32	** 0.34	** 0.22	** 0.49	** 0.28	-
Personality traits	** 0.25	** 0.44	0.14	** 0.22	0.15	0.17

According to the overall fit index, it can be said that the overall fit of the model is acceptable ($X^2_{(66)} = 111.347$; $P = 0.00$; $NFI = 0.83$; $IFI = 0.92$; $TLI = 0.86$; $CFI = 0.92$; $RMSEA = 0.05$). Table 2 presents the results of study concerning the direct, indirect, and total effect of predictor variables on the dependent variable (entrepreneurial willingness):

Table 2: Direct, indirect, and total effect of predictor variables on the dependent variable (entrepreneurial willingness)

Dependent variable	Predictor variable	Direct effect	Indirect effects	Total effect
Entrepreneurial willingness _{R² = 0.46}	Attitudes	** 0.22	-	0.22
	Subjective norms	** 0.42	0.02	0.44
	Self-efficacy	** 0.27	-	0.27
	Achievement motivation	-	0.03	0.03
	Internal control	-	0.10	0.10
	Openness	to -	0.09	0.09



	experience			
	Extraversion	-	0.07	0.07
	Agreeableness	-	0.04	0.04
	Conscientiousness	-	0.02	0.02
	Neurosis	-	0.00	0.00
	Openness	to	** 0.22	-
	experience			0.22
Attitudes _{R² = 0.22}	Extraversion		** 0.32	-
	Agreeableness		* 0.18	-
	Conscientiousness		0.12	-
	Neurosis		0.00	-
Achievement motivation _{R² = 0.00}	Subjective norms	08 / 0-	-	- 0.08
Internal control _{R² = 0.14}	Subjective norms	** 25/0	-0.02	0.23
	Achievement motivation	** 30/0	-	0.30
	Internal control	** 38/0	-	0.38
Self-efficacy _{R² = 0.23}	Achievement motivation	-	0.12	0.12
	Subjective norms	-	0.09	0.09
	Openness	to	* 16/0	-
	experience			0.16

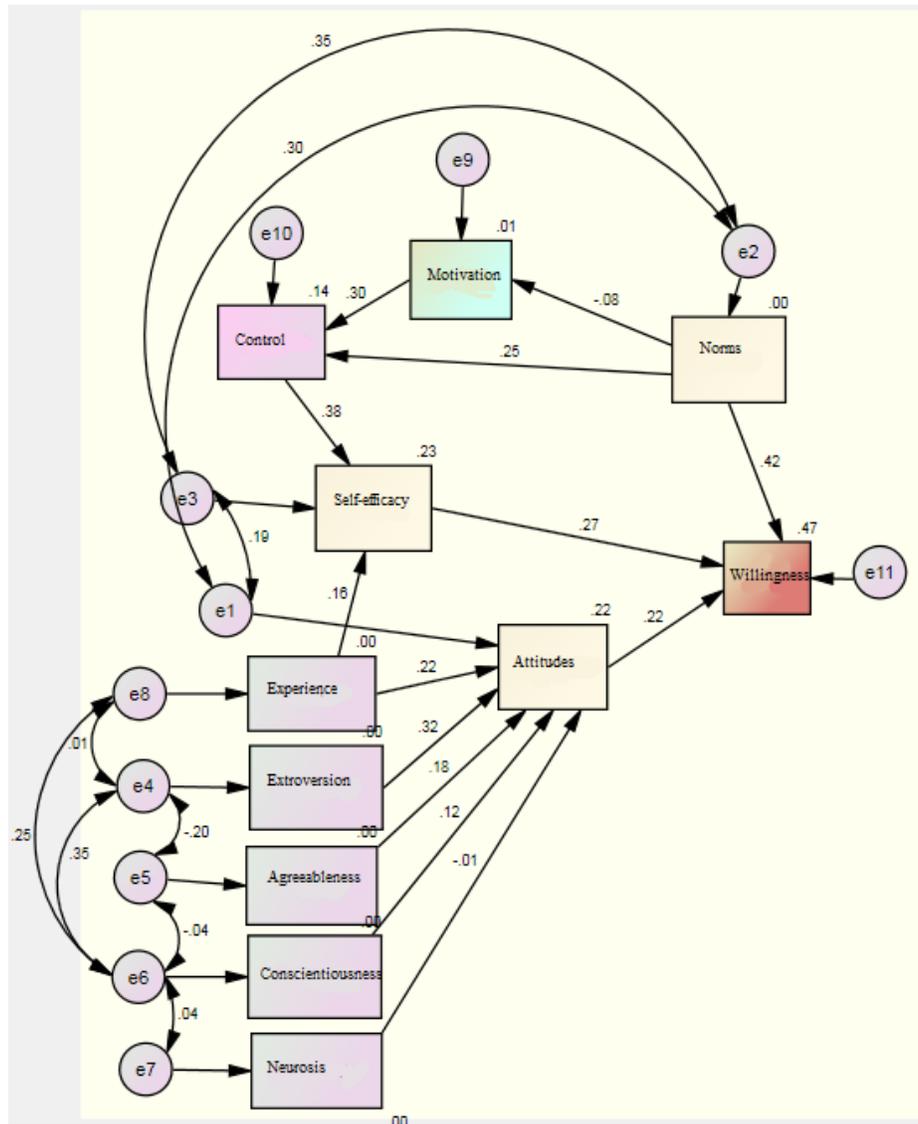


Figure 2. AMOS Output: Direct and indirect effects of the independent variables on the dependent variable (entrepreneurial willingness)

5. CONCLUSION AND DISCUSSION

According to the results, the majority of the respondents had a moderate level of interest in engaging in entrepreneurial activities, which is perhaps due to the lack of entrepreneurial support and programs at an optimal level at university. This finding is contrary to the findings of Degeorge and Fayolle (2005), Moriano et al. (2007a,b) and Naktiyok et al (2009) who observed a high level of entrepreneurial willingness among students. This finding can be explained by the fact that any process of entrepreneurship can include three phases: 1) The preliminary stage, 2) The establishment stage, and 3) The development stage. The preliminary stage itself is divided into four parts. 1) Preliminary decision-making, 2) Identification of opportunities and forming ideas, 3) Preparation of business plans, and 4) Final decision-making (SaidiKia, 2011). The respondents in



this study had a relatively moderate level of entrepreneurial willingness. Therefore, there had already one through the preliminary decision-making stage. But they were faced with serious problems regarding the other three stages. As the results show, the limitations of forming a creative idea, doubts when starting a business and even its maintenance make students face difficulties in two stages of identification of opportunities and forming creative ideas as well as preparing a business plan that is the same as regulating, integrating, and formulating a creative idea. This clearly implies that if they do not go through these two stages, they may never reach the final decision making stage. In the final stage, a person decided to start his/her own business and he is about to start up the business. This means that the translation from the two stages into the final stage requires the development of capabilities, skills and, special training programs that must be taken into account.

Concerning the direct and indirect effects of the independent variables on the respondents' entrepreneurial willingness as the dependent variable, the belief in self-efficacy, after subjective norms, was the second most important variable affecting the respondents' entrepreneurial willingness. This finding is in agreement with those of Autio et al (2001). They found strong and significant relationship between self-efficacy and intention to start an entrepreneurial activities among students across five European countries. In fact, to the extent that subjective norms as a set of personal beliefs and values affected by social norms are consistent and aligned with entrepreneurship activities, a person is more likely to start an entrepreneurial business as social norms play a significant role in individuals' perceptions of their own entrepreneurial intentions (Drnovsek & Erikson, 2005). Cultural norms are a part of the culture of the society. The culture governing the society also affects entrepreneurship. If social norms are in line with entrepreneurial activities, the environment encompassing social culture will support entrepreneurship. Therefore, people are more intended to start an entrepreneurial activity. In social psychology and cognitive theories, various perceptions of the role of beliefs and attitudes in the process of creating a new work are presented (Barbosa et al., 2006). This underlines the role played by attitudes in the intention to start an entrepreneurial business. This finding is consistent with the results of Linan et al., (2005), Degeorge and Fayolle (2005), Linan (2005), Moriano et al., (2006), and Moriano et al. (2007a,b). Other independent variables such as achievement motivation, internal control, and most of personality traits had no direct or indirect effect on the respondents' entrepreneurial willingness as the dependent variable. This result is in contrary to the results of previous studies such as Linan, (2005) who found a positive relationship between achievement motivation and orientation toward entrepreneurial businesses. According to Sagi and al-Zivar (1999), achievement motivation is the strongest psychological factor affecting entrepreneurial behavior as pointed out in many studies (MacClelland, 1961; Tong et al., 2011). However, this relationship was not significant in the present study and undoubtedly this would require further investigation. Perhaps one of the reasons for this finding is the diversity of individuals with different motivational levels who are willing to set up entrepreneurial businesses across universities. It should be mentioned that achievement motivation has a positive and significant impact on internal control but this was not confirmed in the present study. In other words, the more students are more motivated to make progress and achieve their goals, the more they are determined to plan and make progress and the more they are confident in their abilities rather than in events, social powers, or luck. In fact, achievement motivation make a person internalize his or her control in achieving his goals sooner in life rather than waiting for external events such as chance and assistance from superior or influential people. This was confirmed by other studies such as Moriano and Gorgievski (2007).

The result of this study further revealed that extraversion and agreeableness had a significant positive effect on respondents' attitudes towards entrepreneurship. Extraverted individuals are more comfortable with socializing with their peers than their introverted counterparts. Extroverts are happy when they are with others or in large groups and are more likely to be bold, active, and



talkative. Accordingly, people with higher the degree of extraversion have undoubtedly a more positive attitude with high ambitious and bold activities such as entrepreneurial activities. Agreeableness is evident in people who are helpful, honest, patient, generous, and warm. Appropriate levels of agreeableness can facilitate the reception of supports needed to start valuable risky activities. In other words, the establishment of trustful, flexible, and respectful relationships with customers results in unity with larger companies. Besides, more efficient cooperation between entrepreneurs and shareholders will lead to increased profitability and the development of new products. Of course, some studies reported a negative relationship between agreeableness and entrepreneurship (Ahmadi et al., 2011). These studies suggest that people with lower levels of agreeableness are skeptical about others and so they use a critical approach to assess business information and this paves the way for efficient identification and use of opportunities (Morianio et al., 2006a). As such, further research is needed to investigate the issue more profoundly.

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ETHICAL CONSIDERATION

Authenticity of the texts, honesty and fidelity has been observed.

AUTHOR CONTRIBUTIONS

Planning and writing of the manuscript was done by the authors.

CONFLICT OF INTEREST

Author/s confirmed no conflict of interest.

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