

Enhancing Entrepreneurial Intention and Innovativeness of University Students: The Mediating Role of Entrepreneurial Alertness

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Abstract

Entrepreneurship is a process of value creation consisting of committing time and effort, considering financial, social and other risks, resulting financial gain. The initial step of entrepreneurship is to recognize opportunities, which refers to a mechanism of intention. Empirical studies have provided evidence that entrepreneurial behavior is best predicted by intention. Intention, in turn, is associated with certain personality traits and attributes. This study aims to investigate the mediating effect of entrepreneurial alertness on the relationship between innovativeness and entrepreneurial intention of Turkish university students. The results of the study demonstrated that innovativeness has a positive effect on entrepreneurial intention, and entrepreneurial alertness fully mediates the relationship between innovativeness and entrepreneurial alertness. The present paper suggests that higher education institutions should focus on modifying personal attitudes of college students through entrepreneurship education and business incubation programs in order to foster enterprise creation and thereby economic development.

Keywords: entrepreneurship, entrepreneurial alertness, entrepreneurial intention, entrepreneurial traits, higher education, innovativeness

1. Introduction

Entrepreneurship has many contributions to economic development by promoting creativity and generating employment (Wong et al., 2005). It is defined as a process of founding a new establishment (Gartner et al., 1992). The vital part of this process is entrepreneurial intention, which is commonly considered the initial phase of such foundation (Bird, 1988).

Foundation and development of an establishment are realized through a specific mechanism called innovation. In entrepreneurial context, innovation is an ability to sense opportunities and exploit them in creative ways (Robinson et al., 1991). It is one of the major psychological traits related with entrepreneurial activities. Innovativeness is considered one of the most significant entrepreneurial traits by several scholars. Schumpeter (1934) describes innovativeness as the most critical characteristic of entrepreneurial behavior. Drucker (1985) defines innovativeness as “the specific tool of entrepreneurs ... [and] ... the means by which they exploit change ...”. Carland et al. (1984) suggest that entrepreneurs are primarily innovators. Prior research showed that entrepreneurs are more innovative individuals compared to non-entrepreneurs (Koh, 1996; Robinson et al., 1991). Multiple studies have demonstrated the relationship between innovativeness and entrepreneurial intention (Carland & Carland; 1991; Hamidi et al., 2008).

Entrepreneurial alertness, which is the ability to detect business opportunities, is another important construct underlying entrepreneurship, and first defined by Kirzner (1979). Entrepreneurial alertness refers to consciousness, evaluation and direction toward environmental ambiguity and changes, meaning an internal individual construct. Individuals with entrepreneurial alertness are associated with particular characteristics that give them the ability to discover new opportunities (Kaish & Gilad, 1991). Alert individuals can identify the changes in their environment that are ignored by other people without any need to search (Kirzner, 1979). Therefore, entrepreneurial alertness is considered one of the main elements of sensing opportunities (Kaish & Gilad, 1991; Li, 2004).

From this point of view, the present study aims to investigate how entrepreneurial alertness mediates the

relationship between innovativeness and entrepreneurial intention.

2. Entrepreneurial Intention

Entrepreneurial intention is the main antecedent of entrepreneurship (Lee & Wong, 2004). It is the expected result of a planned behavior. Entrepreneurial intention is the determination of an individual to start a new business (Krueger & Carsrud, 1993). Therefore, it is a construct worth investigating in order to establish the motives underlying entrepreneurial activities and determine the mechanisms through which certain individuals decide to engage in such activities more (Verheul et al., 2012).

Entrepreneurial intention is considered significant, as reported in the managerial literature (Sutton, 1998). Prior research has demonstrated the role of intention in predicting behaviors at the individual level (Ajzen, 1991) and outcomes at the organizational level such as development, endurance and expansion (Mitchel, 1981). This has led both entrepreneurs and managers to be interested in the ability to understand and anticipate intention (Tubbs & Ekeberg, 1991).

There are several definitions of intention. According to Bird (1988), intention is an intellectual state that motivates individuals to place their focus on a particular thing or direction as a goal for accomplishing a task as a means. Tubbs and Ekeberg (1991) describes intention as the mental image of a pursued goal and the course of action to utilize for achieving that goal. Both definitions simply highlight the goal's role and enhancing effect on intention. The present study discusses entrepreneurial intention as a mental image of behaviors that individuals have in order to create new establishments.

The mechanisms underlying entrepreneurial intention have not been fully clarified although scholars have conducted many studies in recent decades (Markman et al., 2002). Some models or theories have been developed to explain the drivers of one's intention toward entrepreneurial activities: the theory of planned behavior by Ajzen (1991), entrepreneurial event model by Shapero and Sokol (1982) and social learning theory by Bandura (1977), all of which try to describe and anticipate individual behaviors in entrepreneurial context. Among these, the prominent theory is the theory of planned behavior relating to the effect and power of intentions on predicting focal behaviors (Ajzen, 1991). According to this theory, the predictors of intentions are attitudes, subjective norms and perceived control, whereas the predictors of behaviors are intentions and perceived control (Ajzen, 1991). Attitudes refer to one's predisposition or tendency to respond positively or negatively toward a behaviour and its outcomes, subjective norms refer to one's perception about a specific behavior that is affected by his/her socially significant circle, and perceived behavioral control refers to one's perception of ease or difficulty of performing a specific behavior. According to this theory, intention is the most critical determinant of behaviors (Ajzen, 1991). The predictive role of entrepreneurial intention to entrepreneurial activities has also been demonstrated in several studies (Covin & Slevin, 1991; Krueger & Carsrud, 1993; Lumpkin & Dess, 1996; Elenurm et al., 2007).

This theory is extended through the entrepreneurial intention model of Krueger (1993), and suggests that the predictors of intentions to entrepreneurial activity are perceived feasibility and perceived desirability, whereas the antecedents of perceived desirability and perceived feasibility are social norms and perceived self-efficacy (Krueger & Brazeal, 1994).

Fishbein and Ajzen (1975) reported that intention is a subjective construct about realizing a particular action. Intention refers to a subjective sense of feasibility between self and action. Similarly, Bandura (1997) describes intention as the dedication to a specific action or the perseverance possessing the outcomes of a specific future situation. Intention is central to the self-regulation of an individual, thereby referring to a motive to act, which is an intrinsic factor. Choo and Wong (2006) also demonstrated that the main motivation of future entrepreneurs are often intrinsic factors that are related to the self, such as developing creativity by overcoming difficulties.

3. Innovativeness

Innovativeness is one of the key entrepreneurial preconditions proposed by Koh (1996). As suggested by Schumpeter (1934), an entrepreneur is "...an idea man and a man of action ...involved in identifying new opportunities". According to Carland et al. (1988), the core drivers of innovativeness observed in entrepreneurs are the intentions to develop and gain profit, and the strength of these drivers are higher in innovative entrepreneurs.

Innovation is a particular mechanism through which entrepreneurs exploit environmental changes as an opportunity toward a new business. Entrepreneurs have the desire to seek innovative resources, environmental changes and the signs suggestive of opportunities for innovation. Innovativeness, in turn, is the ability to do something in a creative and improved way. In entrepreneurial context, innovativeness means the ability to

exploit business opportunities.

Innovation has increasingly gained significance in entrepreneurship, resulting in more studies with respect to its role and nature (Drazin & Schoonhoven, 1996). In the entrepreneurship literature, innovation is a construct representing the creation of new ventures and growth of current enterprises. Robinson et al. (1991) describes innovation as the ability to recognize opportunities and respond to such opportunities creatively, thereby providing consumers with innovative products and services. West and Farr (1990) defines innovation as “the intentional introduction and application of ideas, process, products or procedures, new to the relevant unit of adoption”. Schumpeter (1990) further explains innovation as a significant entrepreneurial precursor and entrepreneur as an innovator. Mueller and Thomas (2001) have a similar description of innovativeness as a significant precursor of entrepreneurial behavior. Finally, Carland et al. (1984) suggest that the most important element of an entrepreneurial personality is innovativeness.

The extant literature suggests that innovativeness is positively correlated with entrepreneurial intention (Gurol & Atsan, 2006; Robinson et al., 1991). Covin and Miles (1999) state that an entrepreneur is an innovator targeting market needs by presenting novel methods, products and utilities. In parallel with this, the available literature suggests that people who are entrepreneurs are more innovative than those who are not (Gurol & Atsan, 2006; Koh, 1996; Robinson et al., 1991). The study by Ahmed et al. (2010) investigated the determinants of entrepreneurial intention, and demonstrated that innovativeness was one of the factors with a positive influence on intentions to entrepreneurial behaviors. There are several studies investigating the connection between innovation and entrepreneurship. The study by Carland et al. (1984, 1988) was conducted with two groups to investigate differences in choosing innovation, and found that entrepreneurs with high innovativeness mainly aimed at profit and development, whereas those who were less innovative considered business as a way to maintain individual goals and/or to provide family income. The study by Smith and Miner (1983) determined that entrepreneurs stated a desire to produce creative and innovative solutions. Likewise, Koh (1996), and Gurol and Atsan (2006) reported a positive correlation between entrepreneurial intention and innovativeness. Based on this theoretical background, the first hypothesis of this study is formulated as follows:

Hypothesis 1: Innovativeness has a positive effect on entrepreneurial intention.

4. Entrepreneurial Alertness

The primary subjects examined in researches on entrepreneurship is why particular individuals are able to sense new opportunities and why particular individuals are engaged in behavior toward such opportunities (Shane & Venkataraman, 2000; Venkataraman, 1997). This ability constitutes the beginning of entrepreneurship process. However, this ability and its drivers are still unclear. At this point, the entrepreneurial alertness construct proposed by Kirzner (1979) may help illuminate this process. Kirzner (1979) has claimed that the crucial driver of an entrepreneurial process, which is highly competitive and dynamic in nature, is entrepreneurial alertness. It is a state of awareness of certain circumstances. Kirzner defines entrepreneurial alertness as “the ability to notice without search opportunities that have hitherto been overlooked” (1979), “a motivated propensity of man to formulate an image of the future” (1985), “an attitude of receptiveness to available, but hitherto overlooked, opportunities (1997) or “a sense of what might be ‘around the corner’, i.e., the sense to notice that which has hitherto not been suspected of existing at all” (2008). Although these definitions provide a perceptive description, they do not provide a clear theoretical ground. Nevertheless, it is suggested that entrepreneurial alertness is a different concept from the subsequent opportunity progress and from the actions toward opportunity realization. Besides, entrepreneurial alertness is mostly considered as a psychological state which is continually open to new opportunities, although it is obviously guided by behaviors of seeking information from the environment (Busenitz, 1996).

Kirzner (1979) and other scholars (e.g. Gaglio, 2004) stated that opportunity recognition results from an instability of a usual daily process which is identified through alertness. Profit expectation or creation of value are considered as the motivators of this alertness (Hitt & Ireland, 2000). Early studies proposed that entrepreneurial alertness is potentially determined by the entrepreneur’s psychological or cognitive constructs including psychological propensity (Minniti, 2004), psychological traits and social circle (Ardichvili et al., 2003), perceived behavioral control (Tang, 2008), and locus of control (Harper, 1998). Nevertheless, there is limited research about the mechanisms through which these psychological constructs have an effect on entrepreneurship (Yu, 2001).

Entrepreneurial alertness leads individuals to pursue opportunities and modify their way of thinking according to new conditions (Gaglio & Katz, 2001). Alert individuals have a sensor “that permits recognition of gaps with limited clues”, which consists of imagination and creativity (Tang et al., 2012). According to Kaish and Gilad

(1991), alert individuals have specific characteristics making them prepared and available for opportunity exploration. Alertness enables opportunity identification since it causes individuals to “identify new solutions to market and customer needs in existing information, and to imagine new products and services that do not currently exist” (Baron & Ensley, 2006). Individuals’ entrepreneurial behaviors essentially result from the alertness to information rather than acquiring that information (Kirzner, 1973). Individuals with great entrepreneurial alertness have a disposition to seek and recognize environmental changes, and modify their intellectual structure in line with the available knowledge (Gaglio & Katz, 2001). The intellectual structure of these individuals is also highly flexible and complicated (Baron, 2004). In this regard, entrepreneurial alertness is considered as one of the core elements for recognizing new opportunities (Kaish & Gilad, 1991; Gaglio & Katz, 2001; Li, 2004).

A positive relationship is demonstrated between entrepreneurial alertness and entrepreneurial intention in the literature (Kaish & Gilad, 1991; Busenitz, 1996; Propstmeier & Häußinger, 2009). The study by Hills et al. (1997) investigated how 171 entrepreneurs perceive and behave regarding opportunity identification and found that entrepreneurs have a strong belief that they are entrepreneurially alert and they have a specific alertness to business opportunities. A recent study by Lim et al. (2015) examined the mediating role of entrepreneurial alertness in affecting entrepreneurial intention and found that entrepreneurial intention has a significant relationship with entrepreneurial alertness.

Entrepreneurial alertness has been also suggested to have a positive correlation with innovation (Yu, 2001; Tang et al., 2002). Entrepreneurial alertness causes individuals to seek opportunities, even with limited hints (Gaglio & Katz, 2001). Innovativeness is about identifying new opportunities. Therefore, entrepreneurial alertness is expected to have a positive effect on innovativeness, as was reported by Tang et al. (2012) who expressed a positive association between alertness and innovativeness at an organizational level. The survey of Ko and Butler (2003) also reported a positive relationship between alertness to business ideas and opportunity discovery.

From this point of view, the second hypothesis of this study is formulated as follows:

Hypothesis 2: Entrepreneurial alertness mediates the relationship between innovativeness and entrepreneurial intention.

5. Methodology

5.1 Research Goal

This study aims to determine how entrepreneurial alertness mediates the relationship between innovativeness and entrepreneurial intention of undergraduate students. According to the model developed for this purpose, it is assumed that innovativeness affects entrepreneurial intention and this effect is explained partially or fully through entrepreneurial alertness. Two different models were used to measure the mediating effect of entrepreneurial alertness in the study.

5.2 Questionnaire Design

The first group of questions covered demographic variables such as age and gender, as well as questions determining whether there are entrepreneurs among the students’ family. In the second group, the respondents were asked about how they perceive entrepreneurial intentions, innovativeness and entrepreneurial alertness.

Entrepreneurial Intention was measured based on the work of Liñán and Chen (2009), and Van Gelderen et al. (2008), through statements such as “I have considered becoming an entrepreneur one day” and “I have never given the start-up of an enterprise much thought”. Respondents were specifically asked whether they had any intention to establish their own businesses or not. The Cronbach’s alpha of the scale was 0.87.

In this study, innovativeness was measured through eight items adapted from the Jackson Personality Inventory Manual (JPI) as used by Mueller and Thomas (2001) (e.g. “I often surprise people with my novel ideas” and “People often ask me for help in creative activities”). As reported by Mueller (2004), the Cronbach’s alpha of the scale was acceptable.

Entrepreneurial Alertness was measured using four items based on the work of Kaish and Gilad (1991) (e.g. “I think about work-related matters in my free time to start my own business” and “I think about work-related matters even during my holidays to start my own business”). The Cronbach’s alpha of the scale was 0.80.

In the questionnaire, all items were measured using a five-point Likert-type scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”).

5.3 Data Collection and Descriptive Statistics

The study sample consisted of undergraduate students from a foundation university in Istanbul, Turkey. In the study, 226 respondents were selected randomly. The collected data were analyzed through SPSS 21.0 and LISREL 8.51. According to the results, 57% of respondents were female, mean age was 21.8 years, 65% of respondents had an entrepreneur father or mother, and 54% of respondents took an entrepreneurship course.

5.4 Result of Analyses

5.4.1 Factor Analysis and Reliability Analysis

The explanatory factor analysis of the data was performed by principal components analysis with the extraction of the factors having eigenvalues over one, varimax rotation and the suppression of the items with factor loadings smaller than |0.5|. The missing values were replaced with the mean. KMO value was 0.761, and Bartlett's test value was significant (Chi-Square: 666.245, df: 36, Sig. 0.000). A KMO value > 70% suggests that factor analysis can be applied to the data (Nakip, 2006; Orhunbilge, 2010). There are three factors emerging that can explain 66.244% of total variance. Model is considered reliable if the reliability of factors is greater than 0.7 and the variance explained is greater than 2/3 (Nunnally, 1978). Table 1 presents the results of explanatory factor analysis along with their reliability analysis results.

Table 1. Results of the explanatory factor and reliability analyses

Factors	Item	Factor loading
Entrepreneurial Alertness		
Factor's Cronbach's Alpha Value: 0.83 Variance explained: 25.823%	I think about work-related matters in my free time to start my own business	0.851
	I think about work-related matters even during my holidays to start my own business	0.791
	I create new business ideas in my free time to start my own business	0.788
Entrepreneurial Intention		
Factor's Cronbach's Alpha Value: 0.75 Variance explained: 22.072%	I have considered becoming an entrepreneur one day.	0.845
	I have never given the start-up of an enterprise much thought.	0.738
	When the opportunity arises, I will become an entrepreneur.	0.694
Innovativeness		
Factor's Cronbach's Alpha Value: 0.58 Variance explained: 18.350%	I often surprise people with my novel ideas.	0.835
	People often ask me for help in creative activities.	0.761
	I prefer work that requires original thinking.	0.569
Cronbach's Alpha Value: 0.80 Total Variance Explained: 66.244		

5.4.2 Structural Equation Models

Structural equation modelling (SEM) was conducted using LISREL 8.5 (Joreskog & Sorbom, 1993) to test the fit of the data to the proposed model. The Maximum Likelihood Estimation Method was used as it has been shown to result in fit indices that are less likely than other estimation methods to be influenced by sample size and distribution (Hu & Bentler, 1998).

The proposed model for Hypothesis 2 assuming that entrepreneurial alertness is a mediator variable in the relationship between innovativeness and entrepreneurial intention is presented in Figure 1.

The method developed by Baron and Kenny (1986) was used to explicitly demonstrate the effect of the mediator variable. According to Baron and Kenny's method (BKM), a four-step approach is needed to support a mediation condition. First, there should be a statistically significant association between independent and dependent variables. Second, the independent variable should be correlated significantly with the mediator variable(s). Third, the mediator variable(s) should have a statistically significant association with the dependent variable(s). Finally, full mediation is considered to exist if the statistically significant correlation between the independent variable (innovativeness) and the dependent variable (entrepreneurial intention) becomes non-significant when the mediator variable (entrepreneurial alertness) is included in the equation.

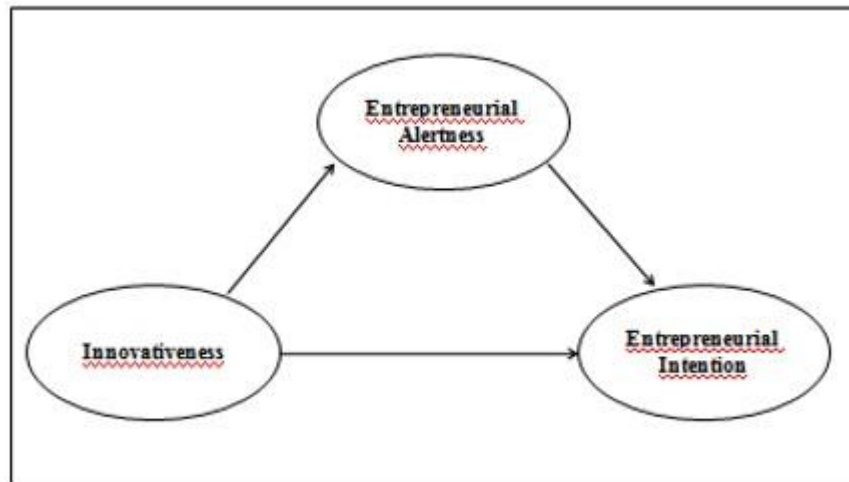


Figure 1. Proposed model

Correlations among the latent variables indicated by the measurement model are given in Table 2. All latent variables were found to be moderately correlated with each other. A moderate correlation was found between innovativeness and entrepreneurial intention, which supports Hypothesis 1 and confirms the first step of mediation according to Barron and Kenny (1986). Moderate correlations were also found between the independent variable and mediator variables and between the mediator variables and the dependent variable, confirming Baron and Kenny's second and third prerequisites.

Table 2. Correlation matrix

	A	I	EI
A:	1		
I:	0.234**	1	
EI:	0.479**	0.234**	1

Note. **Correlation is significant at the 0.01 level (2-tailed).

N=226, A= Entrepreneurial Alertness, I= Innovativeness, EI= Entrepreneurial Intention.

When the goodness of fit indexes of Model 1 provided in Table 3 were analysed, the study data and Model 1 exhibited a good fit. Figure 3 shows the graphic of Model 2 that was developed by adding a path from innovativeness (I) to entrepreneurial intention (EI). This path was added to confirm the last step of BKM. Indeed, a chi-square difference test (Chi-Square Difference with 1 Degree of Freedom = 10.00 (P = 0.0016)) showed that addition of this path had an insignificant effect and did not improve the model (Figure 3). As is seen from the graphic, this new path added to Model 1 (from I to EI) did not produce significance and therefore, it can be said that entrepreneurial alertness has a full mediating effect on the relationship between innovativeness and entrepreneurial intention according to the fourth step of Baron and Kenny's method. The results obtained using these different strategies all indicated the relationship between innovativeness and entrepreneurial intention to be fully mediated by entrepreneurial alertness. The fit indexes of Figure 3 are presented in Table 4.

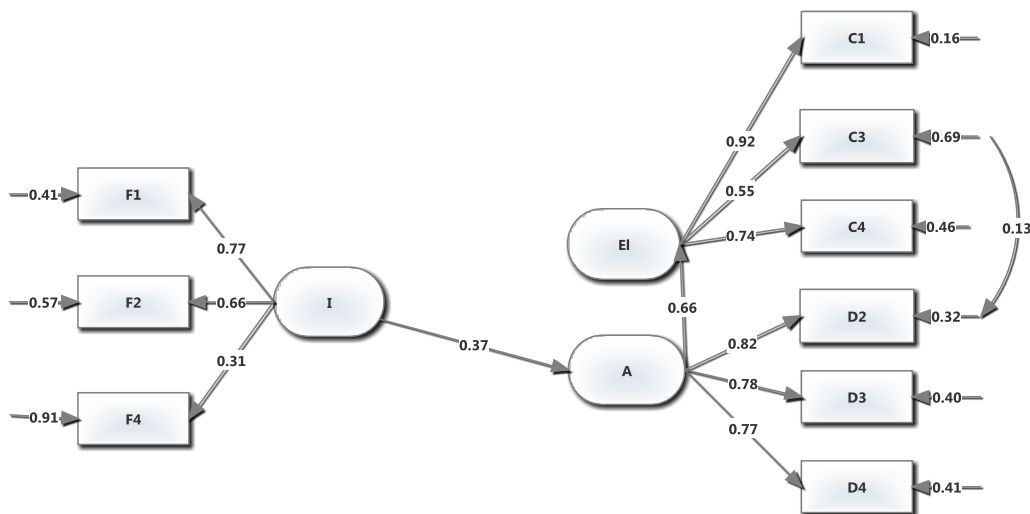


Figure 2. Model 1

I= Innovativeness, A= Entrepreneurial Alertness, EI=Entrepreneurial Intention

Table 3. The fit indexes

Fit Indexes	Good Index	Acceptable Index	Model
Normal Theory Weighted Least Squares Chi-Square			37.5
Chi-square (χ^2) value			24
Degrees of Freedom (df)			0.036
p value	$0.05 < p \leq 1.00$	$0.01 \leq p \leq 0.05$	1.573
χ^2 / df	$0 \leq \chi^2 / df \leq 2$	$2 \leq \chi^2 / df \leq 3$	0.05
Root Mean Square Error of Approximation (RMSEA)	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.10$	(0.013; 0.08)
90 Percent Confidence Interval for RMSEA			0.96
Normed Fit Index (NFI)	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	0.99
Comparative Fit Index (CFI)	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$	0.96
Goodness of Fit Index (GFI)	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$	0.93
Adjusted Goodness of Fit Index (AGFI)	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$	

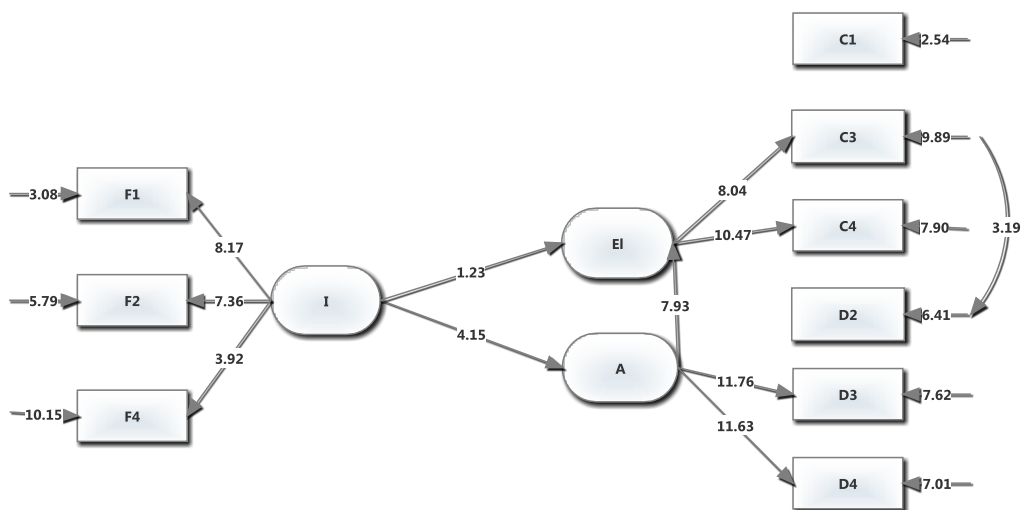


Figure 3. Model 2

I= Innovativeness, A= Entrepreneurial Alertness, EI=Entrepreneurial Intention

Table 4. The fit indexes

Fit Indexes	Good Index	Acceptable Index	Model
Normal Theory Weighted Least Squares Chi-Square			36.51
Chi-square (χ^2) value			23
Degrees of Freedom (df)			0.037
p value	$0.05 < p \leq 1.00$	$0.01 \leq p \leq 0.05$	1.587
χ^2 / df	$0 \leq \chi^2 / df \leq 2$	$2 \leq \chi^2 / df \leq 3$	0.051
Root Mean Square Error of Approximation (RMSEA)	$0 \leq RMSEA \leq 0,05$	$0,05 \leq RMSEA \leq 0,10$	(0.013; 0.08)
90 Percent Confidence Interval for RMSEA			
Normed Fit Index (NFI)	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	0.96
Comparative Fit Index (CFI)	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$	0.99
Goodness of Fit Index (GFI)	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$	0.97
Adjusted Goodness of Fit Index (AGFI)	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$	0.93

6. Discussion

This study evaluated the mediating effect of entrepreneurial alertness on the relationship between innovativeness and entrepreneurial intention. A preliminary analysis was conducted to review the internal consistency of the scales used to collect data during the study and revealed that reliability was at an adequate level for all scales. Structural equation modelling was used for analysis and the respective variables were found to have moderate relationships. According to the mediation analyses, the relationship between innovativeness and entrepreneurial intention was fully mediated by entrepreneurial alertness.

The primary contribution of this study to the entrepreneurship literature is the attempt to advance the available literature on the psychological approaches to entrepreneurial intention by demonstrating the significant influence of psychological traits on entrepreneurial activities. Since entrepreneurship involves opportunity recognition, evaluation and exploitation, this significant impact of psychological qualities may enlighten the decision process of entrepreneurs.

Intention is a subjective feeling about the feasibility between self and action. Intention is an individual's motive to act by means of self-regulation. As proposed by Choo and Wong (2006), intrinsic factors, which are constructs associated with the self, constitute the primary motivation of potential entrepreneurs. In this regard, innovativeness is considered as one of the main psychological traits related with entrepreneurial behaviours (Drucker, 1985). Innovativeness is a result of intentional actions, referring to an active approach of innovation (Drucker, 1985). The finding of this study suggests that innovativeness has a positive influence on entrepreneurial intention. This finding is consistent with the studies by Koh, (1996) and Robinson et al. (1991) who have compared entrepreneurs with non-entrepreneurs and found a greater level of innovativeness in entrepreneurs. This result may contribute to the development of a scale or methodology more specific to entrepreneurial qualities that would help distinguishing between entrepreneurs and other people such as executives, which is commonly confused with entrepreneurship.

Based on the study results, the positive effect of innovativeness on entrepreneurial intention is enhanced by entrepreneurial alertness, another psychological trait. Accordingly, innovative individuals would have greater entrepreneurial intention to carry out entrepreneurial activities. Alertness is regarded as a unique characteristic of entrepreneurs. Entrepreneurial alertness, which is a construct first introduced by Kirzner (1979), can explain the ability of certain individuals to recognize business opportunities and their behaviours to exploit such opportunities. The finding of the study on the mediating effect of entrepreneurial alertness is in agreement with the study by Hills et al. (1997) who reported that entrepreneurs have a specific alertness to business-related opportunities. This result is of special significance because it contributes to the limited research on entrepreneurial alertness in entrepreneurship literature.

In light of these findings, we believe that educational institutions should focus on modifying personal attitudes and place more importance on entrepreneurship education in order to boost enterprise creation and thereby economic development. Since entrepreneurship is the key driver of an economic wealth, a strong entrepreneurial culture would increase both individual and collective socioeconomic success at the national, regional and international levels. Such culture can be created through entrepreneurship education. Entrepreneurship education has been reported to enhance entrepreneurial intention (Gözükara Yıldız & Çolakoğlu, 2015; Souitaris et al., 2007), Entrepreneurship education is a lifelong process of learning and therefore, it would provide the maximum

benefit if provided throughout the higher education. Entrepreneurial education improves subject-learning capacity and basic skills of individuals. It also helps developing personal attitudes such as innovativeness, creativity, self-esteem and ability to take risks. Entrepreneurial education causes students to develop ability to recognize and exploit opportunities and learn business development and management. We believe that entrepreneurial education should include not only theory, but also practice. For this purpose, higher education institutions may provide or increase case and project studies, and even internship opportunities to help students experience the actual process. Universities may organize lectures or seminars of successful entrepreneurs to inform and inspire students.

We recommend developing a national policy on entrepreneurship including also the higher education system to create an entrepreneurial culture. Such national policy may invest in establishing business incubators at colleges and universities to support students with intent to entrepreneurial activities. Business incubation programs can be used to provide support resources and services including manufacturing space, guidance, funding, technical conditions and equipment. Such programs would encourage university students to be more involved in entrepreneurial activities. This may be the key to be a financially strong country, which is full of entrepreneurially minded individuals.

7. Study Limitations and Future Research

The present study included university students only from Turkey. Cross-national studies would be beneficial in order to establish the differences in entrepreneurial intention between countries. Additionally, future studies may include university students with specific majors such as business administration and management in order to reveal the effect of universities' current educational approaches to entrepreneurship in respective fields.

Second, this study investigated only two of the psychological traits, innovativeness and entrepreneurial alertness. Future research may include other psychological qualities such as self-efficacy, locus of control and need for achievement to determine their influence on intention to entrepreneurial activities and their relation with the variables of this study. Future studies may also investigate the extent to which environmental conditions have an impact on such traits in order to reveal the relation between cognitive and behavioural factors contributing to entrepreneurship.

Besides, future studies may investigate what causes alertness to entrepreneurship and innovativeness using different instruments for measurement. This can provide a valuable insight for the psychological content of entrepreneurial activities and reveal the underlying cognitive mechanisms resulting in entrepreneurship.

Based on the findings of the present study, we recommend higher educational institutions to review their educational approach so that their courses would allow students to discover their talents toward entrepreneurship and acquire knowledge on how to become an entrepreneur. Such courses may also be included in the programs of other, either state or private, educational institutions. Moreover, periodic activities may be organized in schools to direct students toward innovation and creation, which are known to result in entrepreneurial intention. Finally, universities, foundations or non-governmental organizations may grant entrepreneurs financial support during their initial steps to encourage young individuals. This would also provide huge contributions to the national economy by pioneering an increased number of entrepreneurs.

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