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## A comparison study on personality traits based on the attitudes of university students toward entrepreneurship

Nurdan Çolakoğlu<sup>a</sup>, İzlem Gözükara<sup>b</sup>, a \*<sup>a,b</sup> *Istanbul Arel University, Istanbul, 34537, Turkey*

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### Abstract

Particular personality traits motivate individuals to act entrepreneurially and to exercise entrepreneurial activities, which include but not limited to high need for achievement, innovativeness, propensity to risk-taking, tolerance to ambiguity and internal locus of control (Thomas & Mueller, 2000; Utsch & Rauch, 2000). Therefore, the present study aimed to compare personality traits based on the attitudes of university students toward entrepreneurship. This study was conducted in a foundation university in Turkey. The study data was collected using questionnaires. According to the study results, students with entrepreneurial intention are more innovative, have higher need for achievement and greater internal locus of control than those who do not have such intention.

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*Keywords:* Entrepreneurship, Entrepreneurial Attitude, Innovativeness, Need for Achievement, Locus of Control, Personality Traits

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### 1. Introduction

Today, countries face great economic problems and this makes entrepreneurship critical in fostering economic development and innovation. According to Mueller and Thomas (2001), entrepreneurial behaviors of individuals are motivated and/or stimulated by their personality traits and socio-cultural history. In other words, personality factors play a significant role in entrepreneurial activities. As demonstrated by Liñán and Chen (2009), the most relevant factors used to explain entrepreneurial intention are perceived behavioral control and personality traits. Furthermore, a recent study has proposed a subjectivist entrepreneurship theory regarding individuals, individual knowledge, individual resources and individual abilities as well as the exploration and innovativeness, all of which constitute the basis of entrepreneurship (Kor et al., 2007).

Behaviors and attitudes toward entrepreneurship can be explained through personality traits, which have been frequently discussed in recent years. Personality traits are the constructs describing behavioral patterns in individuals' lives. Personality differences have been investigated by several researchers by including entrepreneurs and non-

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\* Corresponding author. Tel. + 90-212-850-27-35 fax. +90-860-04-81  
E-mail address: [nurdancolakoglu@arel.edu.tr](mailto:nurdancolakoglu@arel.edu.tr)

entrepreneurs, and particular personality traits have been shown to be prerequisite characteristics for entrepreneurship (Utsch & Rauch, 2000). Such prerequisites were defined by Koh (1996) as internal locus of control, strong need for achievement, moderate level of risk taking, innovativeness, high levels of self-confidence and high levels of tolerance to ambiguity. There is a wide range of traits analyzed in previous studies. For instance, Timmons et al.'s (1977) description of personal traits toward entrepreneurial behaviors include more than twenty characteristics. Therefore, the present study included a certain number of personality traits, which are locus of control, innovativeness, entrepreneurial alertness and need for achievement, since these personality traits are known to have strong effects on entrepreneurial intentions of individuals (Krueger & Carsrud, 1993; Thomas & Mueller, 2000).

From this point of view, the present study aims to compare personality traits based on the entrepreneurial attitudes of university students.

## 2. Literature Review and Hypotheses

### 2.1. Entrepreneurial Attitude

An attitude is a disposition or a feeling toward a person or a thing. It is an expression of favor or disfavor with regard to the relative object. It can be considered as the behavior precursor with an emotional intention to direct goals. It is well established that attitudes affect behaviors, and behaviors of individuals can be anticipated by attitudes.

Entrepreneurial attitude refers to the positive or negative intention of an individual toward creating a new business. Therefore, entrepreneurial intention is the base of entrepreneurial actions. Entrepreneurship is a complex phenomenon, which has led multiple disciplines such as business management, economics and psychology to investigate this concept.

Entrepreneurial action is considered a planned behavior, referring to an intention, which is often influenced by attitudes (Krueger & Carsrud, 1993). Intention is associated with cognition including beliefs, perceptions and actions (Ajzen, 1991). As reported by Shapero and Sokol (1982), entrepreneurial intention is closely related with attitudes. Despite the potential changes in an attitude in time, future behaviors of individuals can still be predicted or explained by their attitudes (Carlson, 1985). If the intentions and attitudes of students are known better, a more efficacious and solid education on entrepreneurship can be designed (Gibson et al., 2011).

In entrepreneurial context, entrepreneurial intention is a significant construct that determines the process of creating ventures. Such process is significantly related with personality traits (Zhao & Seibert, 2006, Zhao et al., 2005). It has been proven that personality traits are imperfect but remarkable in predicting entrepreneurial process including intention to start-up and venture creation (Shaver & Scott, 1991). Thus, the present study discusses innovativeness, need for achievement, locus of control and entrepreneurial alertness as personality traits for comparing entrepreneurial attitudes of university students.

### 2.2. Personality Traits

#### 2.2.1. Innovativeness

The basis of several studies on entrepreneurship has been specific personality traits of entrepreneurs and such studies have attempted to identify these traits to determine the entrepreneurial potential (Lachman, 1980; Carland & Carland, 1996). Innovativeness is likely to be the most specific entrepreneurial characteristic among these traits.

Innovation is described as “the development and implementation of new ideas by people who over time engage in transactions with others within an institutional context” (Van de Ven, 1986: p. 604). Innovativeness represents a disposition to engage in new ideas and create new things that are different from the existing practice (Wiklund & Shepard, 2005; Lumpkin & Dess, 1996). Although there are diversified definitions of innovation, it is agreed that innovation reflects the new (Gronhaug & Kaufmann, 1988). An entrepreneur is both an innovative thinker and doer. Entrepreneurs sense opportunities for a new product or a way of problem solving, and implement it. The realization of such innovative thinking is usually one of the factors distinguishing entrepreneurs from non-entrepreneurs. Furthermore, the innovative attitude is regarded as a part of strategic orientation and environmental perception of entrepreneurs (O'Regan & Ghobadian, 2005).

Reimers-Hild et al. (2005) defined successful entrepreneurs as innovative. According to CAFRAD (2000), entrepreneurship cannot achieve success without innovation. Mueller (2004) also described innovativeness as a

significant component of entrepreneurship.

Innovation is the process of making new ideas a reality, resulting in creative ideas and thereby induces innovative events. Innovation is about creating a new value. This process involves both ideas and knowledge. Innovation is the key to survive for organizations. It enables generating new demand and eventually leads to wealth (Schumpeter, 1934). In this sense, entrepreneurs are closely associated with innovation, and they are considered innovative.

The literature includes several studies demonstrating a relationship between innovativeness and entrepreneurial intention. The study by Smith and Miner (1983) reported that entrepreneurs desire to produce innovative solutions. Likewise, Koh (1996), and Gurol and Atsan (2006) found that entrepreneurial intention is positively correlated with innovativeness. From this point of view, the first hypothesis of the present study is developed as follows:

*H1: Students with entrepreneurial intention are more innovative compared to students with no intention.*

### 2.2.2. Need for Achievement

Need for achievement is a behavioral disposition enabling individuals to proceed particular activities. An excellence standard is needed for this kind of activities so that individuals become able to make a self-evaluation in face of a challenging event demanding capabilities and desire for accomplishment. People with strong need for achievement wish to solve issues on their own, they establish some goals and then make personal efforts to achieve these goals, and perform better when tasks are challenging, and they find creative approaches toward better performance (Utsch & Rauch, 2000).

Need for achievement involves expectations to perform better than others or than one's own previous performances (Hansemark, 2003). Such achievement motivation is a characteristic that can be learned and developed in line with the competition between the current reference structure and the achievement desire of an individual (McClelland, 1990). Therefore, the achievement motivation can be considered as an excellence process with planning. In this context, need for achievement has been shown to change and develop over time, referring to a learned characteristic (Hansemark, 1998; McClelland, 1990; Miron & McClelland, 1979).

In the entrepreneurship context, need for achievement is a driving motive determining the extent of entrepreneurial activities. Entrepreneurs have high need for achievement, driving them to strive for fulfilling this need through success in business. Entrepreneurship is a complex process that require an emotional devotion besides capital, knowledge and dynamism. Such devotion refers to passion, endurance, and confidence in the business. The achievement need motivates entrepreneur to be engaged in entrepreneurial behaviors for a successful business.

Prior research shows a positive correlation between need for achievement and entrepreneurial intention (Gurol & Atsan, 2006; Robinson et al., 1991). The study by Hull et al. (1980) with 307 graduates of Oregon University concluded that the possibility of planning to create a venture in the next three years was positively correlated with the level of need for achievement. In a similar vein, Lee and Tsang (2001), and Robinson et al. (1991) conducted studies on executives and found a positive relationship between internal control and entrepreneurial intentions. Such relationship was also reported by Koh (1996). In light of this theoretical background, the second hypothesis of this study is as follows:

*H2: Students with entrepreneurial intention have higher need for achievement compared to students with no intention.*

### 2.2.3. Locus of Control

Locus of control is considered as one of the core personality traits in entrepreneurial activities (Venkatapathy, 1984). It is described as the ability perceived by an individual to control events in his/her life (Begley & Boyd, 1987). It can be internal or external in nature. People who have internal locus of control believe that they are able to control everything in their life, whereas people with external locus of control believe that there is an external power controlling their life. This belief has significant effects on entrepreneurial behaviors. People with a higher internal focus of control are more likely to exercise entrepreneurial behaviors and to have a higher need for achievement compared to those with a lower internal locus of control (Diaz & Rodriguez, 2003).

However, there are inconsistent results reported by empirical studies analyzing the effect of locus of control on entrepreneurial activities, especially the entrepreneurial intention. For instance, Koh (1996) analyzed intentions to start

a new business in a small group of MBA students, and suggested that there was no difference between students with and without entrepreneurial intention in this sense. Similarly, Gurel et al. (2010) investigated the intentions to create a new business in a group of 409 Turkish and British students, and concluded that there was no statistically significant relationship between locus of control and entrepreneurial intention.

Contrary to these studies, the study by Ang and Hong (2000) was conducted with higher education students in Singapore, and the authors proposed that internal locus of control could determine entrepreneurial intention. In a similar vein, the study by Gurol and Atsan (2006) also reported a significant correlation between higher locus of control and entrepreneurial intention. Finally, the study by Khanka (2009) investigated entrepreneurial performance and reported a higher performance in entrepreneurs who had an internal locus of control, which was measured using profitability, compared to those who had an external locus of control. Consequently, the third hypothesis of the present study is developed as follows:

*H3: Students with entrepreneurial intention have greater locus of control compared to students with no intention.*

#### 2.2.4. Entrepreneurial Alertness

First introduced by Kirzner (1973), entrepreneurial alertness refers to a specific skill or ability of entrepreneurs to identify entrepreneurial opportunities for profit. It consists of a number of unique skills to perceive and process information, and it is considered as the cognitive driver of opportunity recognition (Gaglio & Katz, 2001). Kirzner (1973) expressed that “the entrepreneurial element in the economic behavior of market participants consists ... in their alertness to previously unnoticed changes in circumstances which may make it possible to get far more in exchange for whatever they have to offer than was hitherto possible”.

Alertness directs individuals toward discoveries which are beneficial to human desires. In entrepreneurial context, alertness means a distinguished attentiveness to information on entrepreneurship, an enhanced receptivity to overall information and the ability to merge information from various resources (Ardichvilli et al., 2003).

According to Kirzner (1997), entrepreneurial alertness is “an attitude of receptiveness to available, but hitherto overlooked, opportunities”. An entrepreneur has a unique antenna that senses opportunities. Entrepreneurship is about a constant observation toward unnoticed environmental changes that are associated with an inspiration to a potential activity (Kirzner, 1997). Thus, the basis of entrepreneurship is the alertness to opportunities even in the case of profitable circumstances and such alertness enables individuals to become an entrepreneur.

Although there is relatively limited research, there are studies reporting a positive correlation between entrepreneurial alertness and entrepreneurial intention (Kaish & Gilad, 1991; Busenitz, 1996; Propstmeier & Häußinger, 2009). Hills et al. (1997) reported a specific alertness in entrepreneurs to business opportunities in their study. Lim et al. (2015) established the mediating effect of entrepreneurial alertness on entrepreneurial intention and a significant relationship between intention and alertness. Thus, the fourth hypothesis of the present study is developed as follows:

*H4: Students with entrepreneurial intention are more alert compared to students with no intention.*

### 3. Methodology

#### 3.1. Research Goal

This study aims to compare personality traits based on the attitudes of university students toward entrepreneurship. The traits included in this study are locus of control, innovativeness, entrepreneurial alertness and need for achievement.

#### 3.2. Sample and Data Collection

A convenience sampling method was used in the present study. The study included 226 vocational school students (female: 57%, male: 43%) who take entrepreneurship courses in foundation university in İstanbul, Turkey. The mean age was 21.8 years with a standard deviation of 2.54.

### 3.3. Instruments

Entrepreneurial Intention was measured using a four-item instrument based on the studies by Liñán and Chen (2009) and Van Gelderen et al. (2008) (e.g. “I have considered becoming an entrepreneur one day”). The items are measured using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The Cronbach’s alpha of the instrument was 0.87.

Innovativeness was measured through eight items adapted from the Jackson Personality Inventory Manual (JPI) as utilized 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 0.42.

Need for Achievement was measured using a four-item instrument based on Kristiansen and Indarti’s (2004) index of nAch (e.g. “I will do very well in fairly difficult task relating to my study and my work”). The items are measured using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The Cronbach’s alpha of the instrument was 0.76.

Internal Locus of Control was measured using Mueller and Thomas’s (2001) modified version of Rotter’s (1996) I-E Scale consisting of ten items (e.g. “My success depends on whether I am lucky enough to be in the right place at the right time”). The instrument was originally designed to measure the respondents’ belief in their abilities to control external forces. The items are measured using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The Cronbach’s alpha of the instrument was acceptable as reported by Mueller (2004).

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 0.86.

### 3.4. Analyses and Results

Regarding the instruments used in the research, the Cronbach’s alpha coefficient was found 0.87 for Entrepreneurial Intention, 0.42 for Innovativeness, 0.76 for Need for Achievement and 0.86 for Entrepreneurial Alertness. The arithmetic means and standard deviations of the instruments are presented in Table 1.

Table 1: Study Instruments

ENTREPRENEURIAL INTENTION	MEAN	STD. DEVIATION
I never see myself becoming an entrepreneur.	3.8933	1.31223
I have considered becoming an entrepreneur one day.	3.7911	1.27049
When the opportunity arises, I will become an entrepreneur.	3.8578	1.19154
I have never given the start-up of an enterprise much thought.	4.0089	1.28233
INNOVATIVENESS		
I often surprise people with my novel ideas.	3.7477	0.89907
People often ask me for help in creative activities.	3.5721	1.05903
I obtain more satisfaction from mastering a skill than coming up with a new idea.	2.3620	0.93105
I prefer work that requires original thinking.	3.8514	0.83292
I usually continue doing a new job in exactly the way it was taught to me.	2.5721	1.19322
I like a job which demands skill and practice rather than inventiveness	2.4725	1.11448
I am not a very creative person.	3.6179	1.20946
I like to experiment with various ways of doing the same thing.	3.8528	0.96180
NEED FOR ACHIEVEMENT		
I will do very well in fairly difficult task relating to my study and my work.	3.5333	1.17379
I will try hard to pass work performance.	4.0089	1.07493
I will seek added responsibilities in jobs assigned to me.	3.7143	1.19947
I will try to perform better than my friends.	4.3511	0.97812
ALERTNESS		

I read news, magazines, or trade publications regularly to start my own business.	2.7723	1.33897
I think about work-related matters in my free time to start my own business.	3.2311	1.38240
I think about work-related matters even during my holidays to start my own business.	2.6400	1.38217
I think about new business ideas in my free time to start my own business.	3.1689	1.37854
<b>LOCUS OF CONTROL</b>		
My success depends on whether I am lucky enough to be in the right place at the right time.	2.5740	1.18983
To a great extent my life is controlled by accidental happenings.	3.7156	1.09503
When I get what I want, it is usually because I am lucky.	3.6036	1.16832
My life is determined by my own actions.	4.2444	0.89828
When I get what I want, it is usually because I worked hard for it.	4.1351	0.93320
It is not wise for me to plan too far ahead, because things turn out to be a matter of bad fortune.	3.3378	1.22625
Whether or not I am successful in life depends mostly on my ability.	3.7220	1.01272
I feel that what happens in my life is mostly determined by people in powerful positions.	3.0628	1.28776
I feel in control of my life.	3.8610	1.04284
Success in business is mostly a matter of luck.	3.3956	1.20701

A high score from the scale used to measure the entrepreneurial intention (the highest score=20) indicates that the individual has a high level of entrepreneurial intention, whereas a low score (the lowest score=4) indicates that the individual does not have any entrepreneurial intention. Based on the data collected from 226 students were classified into two groups. These two groups with and without entrepreneurial intention were compared for personality traits to determine whether entrepreneurial intention differed according to innovativeness, need for achievement, entrepreneurial alertness and locus of control. The results of the t-test in Table 2 showed that students with entrepreneurial intention were open to innovativeness, had greater need for achievement, they were more alert and had greater locus of control.

Table 2: Entrepreneurial Intention According to Personality Traits

	ENTREPRENEURIAL INTENTION	N	MEAN	STD. DEVIATION	T	DF	SIG. (2-TAILED)
INNOVATIVENESS	Yes	134	26.8367	3.92744	4.014	224	0.000
	No	92	24.9003	2.94917			
NEED FOR ACHIEVEMENT	Yes	134	16.3582	3.15371	4.149	224	0.000
	No	92	14.5144	3.46190			
ALERTNESS	Yes	134	13.3640	4.03905	6.704	224	0.000
	No	92	9.5523	4.42253			
LOCUS OF CONTROL	Yes	134	36.5056	5.67826	2.839	224	0.005
	No	92	34.4082	5.11451			

#### 4. Conclusion

The present study compared personality traits based on the entrepreneurial attitudes of university students. It was conducted in a foundation university in İstanbul, Turkey. The study data was collected using questionnaires. SPSS (Statistical Package for the Social Sciences) was used to evaluate the data.

The study results demonstrate that the students who have entrepreneurial intention are more innovative, have higher need for achievement, greater locus of control and they are more alert compared to the students who do not

have such intention. Accordingly, all hypotheses of the present study were confirmed. These findings suggest that entrepreneurial intention is significantly related with certain personality traits. This may contribute to the cognitive approaches to entrepreneurship in entrepreneurial literature. Furthermore, higher education institutions may benefit from this research to improve their content of entrepreneurial education considering the significance of personality traits. Entrepreneurial education may concentrate on modification of attitudes and development of basic skills to encourage entrepreneurship for creating an economically strong country.

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