

Investigating the factors affecting total entrepreneurial activities in Turkey¹

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Abstract

This study investigates the effects of demographic characteristics of individuals (age, gender, income level, education level, and work status) and their perceptions about themselves (networking, fear of failure, alertness to opportunities, self-confidence) on their involvement to the total entrepreneurial activities of Turkey. Data are collected through using the standard questionnaire of Global Entrepreneurship Monitor (GEM) project. The results show that being male, having higher income and education level, being self-confident, being alert to opportunities, and networking positively affect the likelihood of being an entrepreneur. However, contradictory to the literature and our expectations, fear of failure is not found to be a significant factor that influences the likelihood of being involved in the total entrepreneurial activities of Turkey.

Key words: Entrepreneurship, Turkey, GEM data.

1. Introduction

Entrepreneurial behaviour within existing organizations is mostly taken in the literature as activities that individuals use innovative resources to generate opportunities (Mair, 2002, p.1). The focus on innovativeness for such behaviour makes entrepreneurship an important factor for economic and social development in most previous research (e.g., Acs and Audretsch, 1993; Drnovsek, 2004; Tang and Koveos, 2004; Wennekers et al., 2005). The important contributions of entrepreneurs to accelerate the economic growth of a developing country like Turkey go hand-in-hand with the contributions of small and medium-sized enterprises (SMEs), where SMEs

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represent more than 99.8 percent of the total number of Turkish enterprises in the manufacturing sector (Bayhan and Ozdemir, 2009).

“The entrepreneur; being a founder, a transformer, a producer, and a reproducer of the organization with its norms and values”, is a central and vital factor of SMEs (Yetim and Yetim, 2006). The success of a small business depends on the initiatives of the individual entrepreneur to create a viable business. There are at least three important contributions of an entrepreneurial activity to a nation (Reynolds, et al. 2004): (1) the absolute scope of effort devoted to entrepreneurial initiatives which mobilize resources for change and growth in a country, (2) the impact on job creation provided by new firms which increase national economic well-being, and (3) the positive relationship between entrepreneurial activity and national economic growth. Therefore, a nationwide study on discovering the general entrepreneurial activities that the members of the society involve is very useful for the international traders in the world to understand their prospective business partners better.

In fact, interest in the determinants of entrepreneurship has grown over the last decade. It becomes crucial to understand the determinants of entrepreneurial activities that is found to boost up the economy (e.g., Wennekers and Thurik, 1999). Previous studies examine the entrepreneurship taking into account the socio-economic variables (e.g. Arenius and Minniti, M., 2005; Bosma and Harding, 2007; Grilo and Irigoyen, 2005; Smallbone and Welter, 2001; Arenius and De Clercq, 2005) and the perceptual variables (e.g., Gatewood et al., 1995; Shane and Venkataraman, 2000; Landier, 2004). Yet, they have found some mixed results about the relationships between some socio-economic factors and the entrepreneurial activities. For example, Blanchflower (2004) finds education level and self-employment to be positively correlated in U.S. and negatively in Europe. The contradictory findings are also seen in some of the perceptual variables as well. While entrepreneurial failure is highly dishonored in Europe (European Commission, 2003). Failure is considered to be a part of the learning process in USA (Saxenian, 1994). These mixed results ask for further research about the relationship between socioeconomic-perceptual variables and entrepreneurship activities. In addition, most of these studies have taken some of the variables, not all of them together and also considerable number of them has used the data from a developed country.

The aim of the current study is to investigate the effects of both demographic characteristics of individuals (such as age, gender, income level, education level, and work status) and their perceptions (such as networking, fear of failure, alertness to opportunities, self-confidence) on their involvement to the total entrepreneurial activities (TEA hereafter) of an emerging country, Turkey. The current study differs from the previous work through examining the effects of both socioeconomic and perceptual factors together on TEA and using a developing country's data to do this,

further, it also contributes the entrepreneurship literature of Turkey in many aspects. There are a few studies on Turkish small businesses at the firm-level (e.g., Alpan et al., 2007; Kozan et al., 2006; Muslumov et al., 2005; Ozcan, 1995) and at individual-level (Akcomak and Taymaz, 2004; Seker and Correa, 2010). However, as a distinguishing feature, current study uses a world-wide used standard questionnaire designed by the Global Entrepreneurship Monitor (GEM) research program. GEM is an on-going academic project designed to collect data annually from 59 countries to study the entrepreneurial behaviour across nations. Turkey has joined the GEM project for the first time in 2006², which makes the data used in the current study original and exceptionally well suited to make international comparisons. Since its inception in 2006, a sizeable set of data which is a representative sample of total population, has been generated. This contains 9601 interviews with the adult-age individuals living in Turkey. So the present study can be considered to be the first attempt that identifies the determinants of entrepreneurship activities in Turkey using this much big representative sample of Turkish population.

Among all GEM project participant countries, Turkey turns out to be one of the least entrepreneurial countries for all four years. For example, even for 2010 which the entrepreneurial activity participation rate is found to be the highest among 4 years, the number of individuals that is actively looking for and taking advantage of business opportunities in Turkey is found to be 8.6%, while the average rate is 11.7% for GEM efficiency-driven economies. This benchmarking empirical evidence necessitates examining the factors that may affect individual's decision to become entrepreneurs in Turkey.

The paper proceeds in the following manner. First, we overview the related literature, then explain the research design and the data collection methods in details. Finally, we present the research findings and discuss their implications.

2. Literature review

Entrepreneurship is a multidimensional phenomenon spanning different units of observation ranging from the individual to the nation (Wennekers and Thurink, 1999). Due to this, the conceptual and theoretical approaches have built on a variety of disciplines such as economics, sociology, and psychology to understand why some individuals start a new business. According to Verheul et al. (2002), psychology has studied motives and characteristics of potential entrepreneurs, sociology has focused on collective background of entrepreneurs, and economics has emphasized the impact of economic climate.

² Turkey has taken part in the GEM project in 2006, 2007, 2008, and 2010.

The researchers also often view the entrepreneurship process at different levels of analysis: individual, market, and environment (Thornton, 1999). Hence, previous works have been mainly taken three levels: micro, meso and macro (Verheul, et al., 2002). Studies at micro level focus on the individuals' decision-making progresses and their motives to become business owners/self-employed. The primary analyses at this level have been on personal factors, such as personality traits, education levels, family background, and previous work experience. Research on meso levels, however, has focused on market determinants of entrepreneurship (that can be considered as industry level). Research at this level has studies on what an industry can offer and whether an industry presents any opportunities for entrepreneurs. The third level of analysis, which is the macro level, studies how and why different countries have different patterns of entrepreneurial growth. The main focus in that case is on the external environment influencing the venture creation process.

The three levels of analyses to some extent correspond to the development of entrepreneurship studies. Verheul et al. (2002) develop an "eclectic" framework for the determinants of entrepreneurship distinguishing between the demand and supply side of entrepreneurship. The demand side perspective focuses on the opportunities available to enterprising individuals such as technology and the level of economic development. The supply side of entrepreneurship is dominated by the characteristics of the population i.e. the demographic composition, the available resources, the abilities of individuals, and attitudes towards entrepreneurship. More specifically, Arenius and Minniti (2005) classify those characteristics as "socio demographic, perceptual, and contextual factors". The current paper investigates those factors that influence the total entrepreneurship activities in Turkey within the eclectic framework at micro level. Thus, we focus on examining the determinants of entrepreneurship categorized as: demographic factors (such as gender, age, and education), economic factors (such as income level and work status), and perceptual factors based on subjective judgments of the individuals (such as alertness to opportunities, self-confidence, networking, and fear of failure). In the rest of this section we review existing literature for each of these three groups of factors.

Several linkages have been acknowledged between entrepreneurship and demographic factors such as age, education level, and gender. Many studies have shown that there is a significant difference in the participation rate of male and female into the entrepreneurial activities; male participation being higher than the female participation (e.g., Allen et al., 2007; Minniti, 2005; Arenius and Minniti, 2005; Arenius and De Clercq, 2005). According to Reynolds et al. (2002), men are about twice as likely involved in entrepreneurship activities than women.

According to the literature, age of an entrepreneur has direct and indirect effect on the level of entrepreneurship. The direct effect entails that

people in certain age groups are often more likely to be involved in entrepreneurship activities. The indirect effect can be explained as that the factors such as social characteristics and behaviors of individuals, financial resources, and networking available are closely related to the age of the entrepreneur, which also has an impact on entrepreneurship activities (Peters, et al., 1999). It has been well-accepted that the likelihood of becoming self-employed varies with age. Many business owners in general are found to be within the age category of 25 to 45 years old (Storey, 1994; Grilo and Thurink, 2005).

In addition, the importance of education on entrepreneurship has been excessively mentioned in the literature; however, the impact of education on entrepreneurship has not been clear yet (Storey, 1994). Education equips people with sense autonomy, independence, and self-confidence which are important factors for starting a new business (Reynolds et al., 1999). Moreover, education may help people perceive opportunities and develop new ones. As stated by Delmar and Davidson (2000) and Davidson and Hong (2003), education is found to be an important factor for fostering the entrepreneurship in some countries such as The People's Republic of China (Chow, 2006), Belgium, and Finland (Arenius and Minniti, 2005). On the contrary, Uhlaner and Thurik (2004) show that people with higher level of education in a country is accompanied by lower self-employment. Even more confusing, Blanchflower (2004) finds the correlation between education and self-employment positive in U.S. and negative in Europe. Nevertheless, Grilo and Irigoyen (2005) show U-shape relationship between education and entrepreneurship. As a result, these mixed results necessitate for clarification and further empirical research.

The entrepreneurial decision is positively related to individuals' incomes, because the availability of income weakens financial constraints to start a new business (Evans and Javanovic, 1989; Smallbone and Welter, 2001). People with an active work status however may have more opportunities to build up more contacts than people who are not involved in labor market (such as retired, students, and unemployed). Therefore, individuals who have an active work status are more likely involved in entrepreneurial activity (Arenius and De Clercq, 2005; Arenius and Minniti, 2005). It is important to note that work status is defined in terms of whether individual involves an active role (e.g., an employee or an employer) in the labor market or not (Arenius and De Clercq, 2005).

It is apparent that perceptual variables have a major influence on the likelihood that a particular individual may become involved in entrepreneurial activity (Gatewood et al., 1995). These relate to individuals' perceptions about opportunities within their environment, beliefs in their skills, having recent entrepreneurs as role models within their personal network, and reduced reluctance to become involved in entrepreneurial activity through fear of failure (Arenius and Minniti, 2005; Koellinger et al., 2005).

Opportunity recognition represents the most distinctive and fundamental entrepreneurial behavior according to many scholars (e.g., Eckhardt and Shane, 2003; Shane and Venkataraman, 2000) that confirms the entrepreneurship definition of Kirzner (1973). Entrepreneurs more likely identify and exploit profit opportunities than non-entrepreneurs do.

In addition, it is found that confidence in one's own skill, knowledge, and ability to start new business influences the development of both entrepreneurial intentions and/or behaviors positively and therefore leads to the creation of more new businesses (Verheul, Uhlander and Thurik, 2003). Markman et al. (2002) conclude that entrepreneurs are significantly more self-confident than non-entrepreneurs are. Individual self-confidence, defined as individuals' belief in their capability to perform a task, influences the development of both entrepreneurial intentions and actions or behaviors (Byod and Vozikis, 1994).

The formal and informal networking with other businessmen (Aldrich and Martinez, 2001) and influential role models (Wagner and Sternberg, 2004) are significant factors for entrepreneurial decisions. Networking is crucial for entrepreneurs to get information and to obtain other resources to facilitate the opportunities they pursue (Light and Robenstein, 1995). Social networks create favorable conditions for the exchange of knowledge and also for the creation of new knowledge (Nahapiet and Ghoshal, 1998).

The fear of failure has been found to have contradictory effects on an individual's propensity to start a business. The probability that an individual will start a new business increases when he/she has more positive perception for the likelihood of failure (Weber and Milliman, 1997). Landier (2004) shows that the stigma associated with failure is an important determinant of entrepreneurial activity. He states that in cultures which there exists relatively greater tolerance and/or acceptance of failure of small businesses, far larger proportion of the adult population tends to engage and become involved in entrepreneurial activities. He also notes that entrepreneurial failure is highly dishonored in Europe (European Commission, 2003). Those who go bankrupt tend to be considered as 'losers'. However, in U.S.A., the fear of failure is perceived to be less deterrent factor that affects one's starting a new business, because failure is considered to be a part of the learning process (Saxenian, 1994). All of these studies indicate the necessity of further investigation of both demographic and perceptual variables on the likelihood of being involved in entrepreneurial activity in an emerging country.

3. Methodology

The data used in this paper are collected by means of the national adult population survey (APS) from the Global Entrepreneurship monitor (GEM) project (Reynolds et al., 2005) conducted in Turkey covering years 2006-2007-2008 and 2010. The combined dataset consist of 9601

interviews with a representative sample of adults living in Turkey (18-64 years old). Random Sampling Method has been used and CATI (Computer Assisted Telephone Interview) has been conducted by the vendor company³.

According to the GEM's standard questionnaire used in the current study, the variables related to the research question are measured as follows:

Dependent variable:

- Total Entrepreneurial Activity (TEA): Respondents are asked whether they are either involved in the process of starting-up a business or are active as owner-managers of enterprises less than 42 months old. More specifically, whether they have taken any action to create a new business in the past year, or they expect to share ownership of a new firm. A firm is considered a new firm in case salaries and wages are paid for more than three months but less than 42 months (Reynolds et al., 2002, p.38). Respondents are asked whether they have the above criteria. It is YES/NO Answers question.

Independent variables:

- Gender (GENDER): Respondents are asked to state their gender: Male (1), Female (2).
- Age (AGE): Respondents are asked to provide their year of birth.
- Education Level (GEMEDU): Respondents are asked to state their highest degree of education as: No education (0), Some secondary (1); Secondary degree (2); Post-secondary degree (3); University and post graduate experience (4)
- Household Income Level (GEMHHINC): Respondents are asked to state their household income as: Lower 33 % (1); Middle 33 % (2); Upper 33 % (3).
- Work Status (GEMWORK): Respondents are asked to state whether they are: working (1), not working (2), or retired/student (3).
- Knowing entrepreneurs (KNOWEN): Respondents are asked whether they know a person who has started a business in the past 2 years. YES/NO Answers.
- Opportunity perception (OPPORT): Respondents are asked whether they see good opportunities for starting a business in the next 6 months. YES/NO Answers.

³ The vendor company is Akademetre which has ISO 9000-2001 quality certification, member of European Society of Opinion and Marketing Researchers (ESOMAR) and Turkish Association of Marketing and Opinion Researchers and has honour agreement with Association of Researchers was founded in 2000.

- Self Confidence (SUSKILL): Respondents are asked whether they have the required knowledge/skills to start a business. YES/NO Answers.
- Fear of Failure (FEARFAIL): Respondents are asked whether fear of failure would prevent them from starting a business. YES/NO Answers.

We use binary logistic regression models for our analysis, because the dependent variable in the models have binary (0 and 1) values. The three models are used in our analysis. Each model investigate the TEA participation rate, the dependent variable, by including (1) only socio-economic variables, (2) both socio-economic and perceptual variables, and (3) only perceptual variables as independent variables. In assessing the overall adequacy of the models, we report Nagelkerke-statistic that indicates the variance explained with the rate of correct classification of the models. We use Wald test for examining the significance of each coefficient and report the odds ratios that approximates how much more likely it is for the independent variable to be present among those respondents with a dependent variable value equal to one compared to respondents with a dependent variable value equal to zero.

4. Results

Table 1 report the descriptive statistics of our data in general. Accordingly, 54% of the respondents are female, the average age is around 38, almost half of the respondents have middle 33% income level, and only 40% of the respondents are working. While 9% of the respondents have no education, another 9% of them have graduate degree (meaning university degree or more). It is important to note that the participation rate of TEA for the four-year pooled data is only 5.8%. So, only 559 of 9601 respondents are involved in TEA. Through using cross-tabulation, we find that out of this 559, 27% are female. Only 6% have no education and 12% have graduate level education (university or higher), the rest 82% have primary or high school education level. This is contrary to Grilo and Irigoyen (2005) finding stating that entrepreneurship and education level have a U-shaped relation. Further, 86% of them state their work status as “working” and almost 70% are between 25-45 years old, which is consistent with the results of Storey (1994), and Grilo and Thurink (2005).

Table 2 presents the correlation between variables. When we look at the correlation matrix, all independent variables have significant but weak correlation with TEA. More specifically, male respondents are shown to be more likely to involve in entrepreneurial activity ($r = -0.133$). There is a negative correlation between age and TEA ($r = -0.063$). As expected,

Table 1
Descriptive Statistics of the Variables

	Descriptive Statistics for the Total Sample n= 9601	Descriptive Statistics for TEA participants n= 559
Gender		
Female Frequency (%)	54	27
Age		
Minimum	18	18
Maximum	64	64
Mean	37.74	34.48
Std.dev.	12.859	10.535
Work status		
Minimum	1	1
Maximum	3	3
Frequency (%)		
1=working	40.1	85.9
2=not working	40.1	10.2
3= retired/student	19.8	3.9
Income Level		
Minimum	1	1
Maximum	3	3
Frequency (%)		
1=lower 33%	31.7	22.6
2=middle 33%	44.7	37.0
3=upper 33%;	23.6	40.4
Education Level		
Minimum	0	0
Maximum	4	4
Frequency (%)		
0=no education	8.8	6.38
1=some secondary	29.1	20.6
2= secondary	29.6	28.8
3= postsecondary	23.3	32.0
4= graduate	9.2	12.3
Knowing entrepreneurs		
Frequency (%)		
0 = No	67.4	35.8
1 = Yes	32.6	64.2
Opportunity perception		
Frequency (%)		
0 = No	64.3	43.7
1 = Yes	35.7	56.3
Self Confidence		
Frequency (%)		
0 = No	49.9	12.8
1 = Yes	50.1	87.2
Fear of Failure		
Frequency (%)		
0 = No	67	79.4
1 = Yes	33	26.6
Total entrepreneurship activity		
Frequency (%)	94.2	
0 = No	5.8	
1 = Yes		

Table 2
Correlation Matrix

	Gender	Age	Income	Work status	Education	Knowing entrepreneurs	Opportunity perception	Self Confidence	Fear of Failure	TEA
Gender	1									
Age	-0.019 0.063	1								
Income	-0.048 0.000	-0.041 0.000	1							
Work Status	0.237 0.000	0.092 0.000	-0.099 0.000	1						
Education	-0.167 0.000	-0.234 0.000	0.159 0.000	-0.023 0.024	1					
Knowing entrepreneurs	-0.179 0.000	-0.163 0.000	0.142 0.000	-0.148 0.000	0.182 0.000	1				
Opportunity perception	-0.093 0.000	-0.113 0.000	0.079 0.000	-0.087 0.000	0.097 0.000	0.200 0.000	1			
Self Confidence	-0.257 0.000	-0.087 0.000	0.129 0.000	-0.231 0.000	0.147 0.000	0.259 0.000	0.211 0.000	1		
Fear of Failure	0.102 0.000	0.048 0.000	-0.041 0.000	0.037 0.004	-0.045 0.001	-0.083 0.000	-0.071 0.000	-0.219 0.000	1	
Total entrepreneurship activity (TEA)	-0.133 0.000	-0.063 0.000	0.098 0.000	-0.206 0.000	0.060 0.000	0.179 0.000	0.122 0.000	0.197 0.000	-0.070 0.000	1

For all correlations except the one for gender and age, the p-values (presented as the second number in the cell) are smaller than 0.05, indicating statistical significance at 0.05 level.

Table 3
Results of the logistic regression analysis: Dependent variable: Total Entrepreneurial Activity in Turkey

Variables	Variable Categories	Model 1 Coefficient (std. error)	Wald	Exp(β)	Model 2 Coefficient (std. error)	Wald	Exp(β)	Model 3 Coefficient (std. error)	Wald	Exp (β)
Age		-.022*** (.005)	21.190	.978	-.020*** (.007)	8.349	.981			
Gender	Male	.365*** (.122)	8.918	1.440	.422** (.176)	5.707	1.524			
	Working Not Working	-1.823*** (.176)	187.976***	.161	-1.158*** (.229)	55.240***	.314			
Work status	Retired or Student	-2.388*** (.239)	107.456	.092	-1.936*** (.321)	25.604	.144			
	Upper 33 % Lower 33 %	-.420*** (.135)	26.557***	.657	-.036 (.187)	6.911**	.965			
Household Income	Middle 33 %	-.589*** (.116)	9.675	.555	-.405** (.162)	25.757	.667			
	Undergraduate & graduate degree None	.132 (.244)	7.383 *	1.142	.267 (.332)	2.96	1.305			
Education	Some secondary	-.029 (.181)	.025	.971	.130 (.290)	.202	1.139			
	Secondary degree	.025 (.169)	.023	1.026	.313 (.263)	1.414	1.367			
	Post secondary	.305 * (.168)	3.288	1.357	.636** (.261)	5.952	1.889			
Knowing entrepreneurs	1= yes 2=no				.711*** (.149)	22.769	.491	.841*** (.127)	43.877	.431
	1= yes 2=no				.401*** (.142)	8.029	.670	.551*** (.124)	19.660	.576
Confidence in one's skill	1= yes 2=no				1.258*** (.210)	35.928	.284	1.636*** (.184)	79.211	.195
	1= yes 2=no				-.278 (.175)	2.525	1.321	-.270* (.154)	3.075	1.310
Percentage Correct		94.3%			92.5%			92.5%		
Nagelkerke R Square		.167			.244			.151		

**** significant at p≤ 0.001; *** significant at p≤ 0.01**; significant at p≤ 0.05; * significant at p≤ 0.10

education and income are positively correlated with TEA ($r = 0.06$, $r = 0.098$). In terms of perceptual variables, knowing other entrepreneurs, the opportunity perception, confidence in one's skill are all positively correlated with TEA, indicating the importance of networking, self-confidence, and seeing opportunities around on being an entrepreneur in Turkey. The fear of failure is negatively correlated with TEA; the less is the belief that the fear of failure will prevent one to start a new business, the more likelihood that that person will be involved in TEA. When we look at the correlation between perceptual variables, knowing other entrepreneurs (networking), seeing opportunities, and having self-confidence (believing that one has required knowledge/skills to start a business) are positively correlated with each other and further they are all negatively correlated with fear of failure (one's belief that fear of failure would prevent him/her from starting a business). Note that these correlations are statistically significant at 0.05 levels, yet not very strong (r values are around 0.2). The correlations between the demographic- economic variables and perceptual variables have some interesting indications. As the number of individuals that states their gender as "male", their age as younger, and their income and education level as relatively higher increases, the number of individuals that knows other entrepreneurs, sees other opportunities, and feels self-confident increases; however, fear of failure decreases.

The further investigation of the effects of demographic and perceptual variables on TEA is done by conducting three binary logistic regression analyses. The results are presented in Table 3. Model 1 takes only demographic variables as the independent variables and tests their effects on the individual's likelihood of being in TEA. It predicts 94.3 % of the responses correctly and explains 16.7% (Nagelkerke R square=0.167) of the variance in the probability of being involved in TEA. Accordingly, men are approximately 1.5 times more likely involved in TEA relative to women ($B = 0.365$, p -value= 0.003) which is consistent to the results of several previous studies (Arenius and Minniti, 2005; Arenius and De Clercq, 2005). In fact, Turkey's entrepreneurs are mostly men and according to male/female ratio, men are about twice as likely involved in entrepreneurship activity than women. Gender is found to be a strong significant factor affecting the likelihood to become an entrepreneur. Age has negative and significant effect on the likelihood of being involved in entrepreneurial activity ($B = -0.022$, p -value = 0.000). This finding is consistent with many previous studies' (e.g., Delmar and Davidson, 2000; Arenius and Minniti, 2005; Levesque and Minniti, 2006), which state that people start a business at a younger age. However, education is found to influence the likelihood of involving in TEA only for post-secondary degree level ($B = 0.305$, p -value= 0.07) at 0.10 statistical significance level. The individuals who have post-secondary degree (that have graduated from a vocational school) are more likely to be involved in TEA than the individuals with holding graduate degree (university degree or higher). In

addition, the higher the income level for the individual, the higher the likelihood for that person being involved in TEA ($B = -0.420$, $p\text{-value} = 0.002$ for lower 33%; $B = -0.589$, $p\text{-value} = 0.000$ for middle 33%)⁴. In terms of the role of work status, individuals with an active work status are more likely to involve entrepreneurial activity compared to those that are unemployed or students and retired ($B = -1.823$, $p\text{-value} = 0.000$ for not working, $B = -2.388$, $p\text{-value} = 0.000$ for retired/student)⁵.

In Model 2, both demographic variables and perceptual variables are included as independent variables in the model. The model predicts 92.8% of the responses correctly and explains 24% of the variance in the likelihood of being involved in TEA (Nagelkerke R square = 0.244). Males are more likely involved in TEA than females ($B = 0.422$, $p\text{-value} = 0.017$) and younger individuals are found to be more likely involved in TEA ($B = -0.020$, $p\text{-value} = 0.004$). Income level also affects the likelihood of being in TEA; individuals that have upper 33% income level are more likely involved in TEA than the individuals that have middle 33% income level ($B = -0.405$, $p\text{-value} = 0.012$) and the lower 33% income level seems to have no significant effect on being in TEA ($p\text{-value} = 0.847$). As for education, only post-secondary level (university or higher degree education level) is found to be statistically significant ($B = 0.636$, $p\text{-value} = 0.015$). That is individuals holding vocational school degree are more likely to be involved in TEA than the individuals with no education. Work status is found to be significant at all categories that is working individuals are more likely be in TEA than both not working and student/retired individuals ($B = -1.158$, $p\text{-value} = 0.000$ for not working, $B = -1.936$, $p\text{-value} = 0.000$ for retired/student). For the perceptual variables, we find that believing to have the required knowledge/skill to start a business ($B = 1.258$, $p = 0.000$), knowing someone who has started a business in the 24 months ($B = 0.711$, $p = 0.000$), and seeing good opportunities for starting a business in the next 6 months ($B = 0.401$, $p = 0.005$) are statistically significant factors that positively influence being involved in TEA. However, interestingly, perceiving that fear of failure would prevent someone from starting a new business is not found to be a statistically significant explanatory variable ($B = -0.278$, $p = 0.112$).

Model 3 includes only perceptual variables as the independent variables to explain the individual's likelihood of being in TEA. The model predicts 92.5% of the responses correctly and explains 15% of the variance in the likelihood of being involved in TEA (Nagelkerke R square = 0.151). As in model 2, believing to have the required knowledge/skill to start a business ($B = 1.636$, $p = 0.000$), knowing someone who has started a business

⁴ The base is "upper 33%" so middle and lower 33% are compared with upper 33%, that makes the coefficients negative.

⁵ The base is "working" so not working and retired/student are compared with working that makes the coefficients negative.

in the 24 months ($B= 0.841, p=0.000$), and seeing good opportunities for starting a business in the next 6 months ($B= 0.551, p= 0.005$) are statistically significant factors that positively influence being involved in TEA. However, interestingly, perceiving that fear of failure would prevent someone from starting a new business is not found to be a statistically significant explanatory variable ($B= -0.270, p=0.079$) at 0.05 significance level (which can be considered to be significant at 0.10 significance level and interpreted as a perceptual factor that has a weaker effect than the other three).

Finally, it is important to note that when we examine the interaction effects between the demographic and perceptual variables, the most interesting finding is about the interaction between gender and fear of failure. Thus, the fear of failure has a larger and negative effect on being involved in TEA when it interacts with gender. In fact, when we look at the fear of failure effect on TEA separately for females and males (through dividing the data into two according to gender classification), while fear of failure is a significant factor that affects the likelihood of being involved in TEA for males, it has no statistically significant effect on the likelihood of being involved in TEA for females.

5. Conclusion and discussion

This paper examines the effects of the demographic variables (such as age, gender, income level, education level, and work status) and the perceptual variables (such as networking, fear of failure, alertness to opportunities, self-confidence) on total entrepreneurial activities (TEA) in Turkey. For this aim, the combined GEM data of Turkey for 2006, 2007, 2008, and 2010 is used which makes the results of this study original and comparable with the other studies' results that use the data of other GEM participating countries'.

The results confirm that gender is an important factor that affects the number of individuals participating in entrepreneurial activities. Supporting the several previous studies' findings, males are found to be more involved in entrepreneurship than females (e.g., Reynolds et al., 2002; Minitti et al, 2006). Further results also somehow are consistent with the literature, thus, being younger, mainly within the age category of 25 to 45 years old (e.g., Storey, 1994; Grilo and Thurink, 2005), having a work status "working" and having higher income level (Arenius and De Clercq, 2005; Arenius and Minniti, 2005) increases the likelihood of being involved in TEA. The lack of favorable sources of finance has been one of the biggest problems facing Turkish business (Karadeniz, 2008). In order to increase entrepreneurial activity in Turkey, financial instruments must be improved.

Contrary to Grilo and Irigoyen (2005), TEA participation level is very low for the individuals with no education and the ones holding university or more degree. Moreover, only post-secondary (vocational school) education

level is found to significantly positively affect the likelihood of being involved in TEA. Turkish government should stimulate education system which do promote the necessary creativity, self-sufficiency and personal initiative skills which are prerequisites for entrepreneurship. In fact, we find that as the education level increases, networking, self-confidence, and opportunity awareness increase. The government should also improve and expand vocational training programs to both equip students with technical skills and foster entrepreneurial attitudes in young minds.

The formal and informal networking (Aldrich and Martinez, 2001) and the role models (Wagner and Sternberg, 2004) are found to be important to incline people towards entrepreneurship. Also the current study's results confirm the entrepreneurship definition of Kirzner (1973) that entrepreneurs are individuals who are more likely than others to be *alert* to identification and exploitation of profit opportunities. Consistent with the findings of the studies done for other GEM participating countries, in Turkey also the confidence in one's own skill, knowledge, and ability to start a new business is found to increase the creation of more businesses (Verheul, Uhlaner and Thurik, 2003, Araenis and Minniti, 2005). Therefore, policymakers aiming to increase the number of entrepreneurs in their country should give priority to structure the education system in such a way that stimulates self-confidence, opportunity recognition, and networking with the industry.

Contradictory to the literature and our expectations, fear of failure is not found to be a significant factor that influences the likelihood of being an entrepreneur in Turkey. There can be several possible reasons behind this finding. Turkish people generally can be used to their country's economic instability/uncertainty, which may force them to become overwhelmingly brave or which normalizes any business failure and makes people more tolerant about it. According to the literature, some cultures have greater tolerance for entrepreneurial failure which may increase the involvement in entrepreneurial activities. For example in U.S. failure is considered to be a part of the learning process (Saxenian, 1994), on the other hand, in Europe it is dishonored (European Commission, 2003). So is the Turkish culture more tolerant for failure or is the entrepreneurial environment extremely uncertain because of the inconsistent macroeconomic indicators that also make the failure perceived to be normal or is it because there are some other behavioral factors that may influence entrepreneurs' fear of failure? These finding needs to be examined in details for the further research through conducting path analysis and can be replicated for another country that is similar to Turkey in terms of unstable economic conditions. Another interesting finding about the fear of failure is that while fear of failure is found to be an important factor affecting the likelihood to become an entrepreneur for males, it has no effect on the females' possibility of being involved in an entrepreneurial activity. This may be because men see "failure" as something that is dishonored and perceive the fear of failure as

an emotion that prevents them from starting a new business. Most probably, they see failure as a weakness and a reduction from their masculine power. However, women may perceive “failure” as a learning process and so the fear of failure becomes not much deterrent factor to start a new business. This finding needs further investigation. In addition, a longitudinal study is necessary to understand the behaviors of entrepreneurs better and to explore the relationship between economic growth and entrepreneurship.

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Özet

Türkiye'deki toplam girişimcilik aktivitelerini etkileyen faktörlerin incelenmesi

Bu çalışma kişilerin demografik özelliklerinin (yaş, gelir seviyesi, eğitim seviyesi ve çalışma statüsü) ve kendilerine karşı algılarının (ağ oluşturma, başarısızlık korkusu, fırsatlara karşı uyanıklık, kendine güven) Türkiye'deki girişimcilik aktivitelerine ilgilerine/katılımlarına olan etkisini incelemektedir. Veriler Küresel Girişimcilik İzleme (KGI) projesinin standart anketini kullanarak toplanmıştır. Sonuçlar erkek olmanın, daha yüksek gelir ve eğitim düzeyinde olmanın, kendine güvenli olmanın, fırsatlara karşı uyanık olmanın ve sosyal ağ oluşturabilmenin girişimci olma olasılığını pozitif etkilediğini göstermektedir. Fakat literatüre ve beklentilerimize aykırı olarak, başarısızlığa karşı korkunun Türkiye'deki girişimcilik aktivitelerine ilgi/katılımı etkileyen önemli bir faktör olmadığı bulunmuştur.

Anahtar kelimeler: Girişimcilik, Türkiye, KGI Verisi.