Tomori Pál Főiskola

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A fenntarthatóság ismert és kevésbé ismert aspektusai

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Rektori köszöntő

Tisztelt Olvasó!

„*A fenntarthatóság ismert és kevésbé ismert aspektusai*" címmel a Tomori Pál Főiskola *Tudományos Mozaik* című sorozatának 22. kötetét ajánlom figyelmébe.

Főiskolánk 2022 novemberében immár tizenkilencedik alkalommal rendezte meg hagyományos éves konferenciáját és tárja az érdeklődő olvasó elé annak tanulmánykötetbe rendezett anyagát. A kötetben a fenntarthatóság tágan értelmezett témakörében, több tudományterületet érintve olvashatnak tanulmányokat.

A Magyar Tudományos Akadémia által kezdeményezett ünnep alkalmat ad az oktatók, kutatók és egyéb tudományos szakemberek találkozására, új kutatási eredményeik bemutatására és disszeminációjára, de ugyanakkor fórumot teremt az ismeretszerzés számára is.

Bízom abban, hogy a jelen kötet hitelesen tükrözi a Főiskolánkon folyó tudományos munka minőségét, valamint azt a folyamatot is, amely által intézményünk bekapcsolódik a nemzetközi felsőoktatási hálózatba.

Minden érdeklődő számára ebben az évben is jó szívvel ajánlom színvonalas tanulmánykötetünket.

Dr. Meszlényi Rózsa
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THE MODERATOR ROLE OF PERCEIVED CAPABILITIES AND FEAR OF FAILURE AS COGNITIVE FACTORSON THE EFFECT OF PERCEIVEDOPPORTUNITIES ON ENTREPRENEURIAL ACTIVITY

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Abstract

Although it is known that cognitive factors have a significant role on entrepreneurial activity, in this article, we tried to understand the moderator role of cognitive factors in the effect of entrepreneurs, who are known to be responsible for seeing opportunities, on their entrepreneurial activities. The data of this study is based on the Adult Population Survey Individual Level Data of the Global Entrepreneurship Monitor (GEM) for Turkey in 2016. The sample of this study consists of 2411 people who participated in the Adult Population Survey in Turkey. The hypotheses we designed based on the moderator effect of the cognitive factors, which we used as "Perceived Capabilities" and

"Fear of Failure", in the relationship between Perceived Opportunities and Entrepreneurial Activity, were confirmed within the scope of the research.

Keywords: Entrepreneurship, Cognitive Factors, Fear of Failure, Perceived Capabilities, Perceived Opportunities, Global Entrepreneurship Monitor (GEM).

1. Introduction

Among the many definitions of entrepreneurship, Kirzner and Drucker define entrepreneurship as "perceiving new opportunities" (Drucker, 1985; Kirzner, 1973). Understanding the nature of perceiving new opportunities is therefore a notable area for entrepreneurship studies. In the past studies, the concepts of entrepreneurship and opportunity are commonly used together (Drucker, 1985; Kirzner, 1973), everyone can recognize opportunities(Shane, 2000), opportunities can be a critical factor in business startup (Kelley, Brush, Greene, & Litovsky, 2013), the entrepreneurial situation is on the alert to detect opportunities(Chowdhury, Terjesen, & Audretsch, 2014). Therefore, the development of new opportunities is at the heart of entrepreneurship (Tang, Kacmar & Busenitz, 2012).

To understand how the entrepreneur sees opportunities, it is necessary to investigate cognitive factors. These factors have the potential to influence the perception of opportunity (Shane, 2000). Research in recent years has shown that cognitive factors have the potential to influence perceived opportunities (Tsai, Chang, & Peng, 2016). In addition, considering the learnability of entrepreneurship over time (Drucker, P.F. 1985), the skills that an entrepreneur should have come to the fore (Lazear, 2004). These factors are seen as factors that have the potential to influence entrepreneurial behavior (Shane, Locke, & Collins, 2003).The development of these factors can affect the perception of opportunity (Tsai, Chang, & Peng, 2016). Opportunities can be determined by cognitive factors (Al Mamari, Mondal, Al Shukaili, & Kassim, 2020) and it feeds the potential to create new and creative business ideas increases with prior knowledge (Ward, 2004).

Amongst the cognitive factors, one of the potential variables affecting entrepreneurial behavior is "fear of failure". Studies show that fear of failure has the potential to be effective on entrepreneurship potential (Sidharta & Kohardinata, 2020; Ng & Jenkins, 2018). One example of the effect of fear of failure is its effect on risk assessment when generating the business idea (Arenius & Minniti, 2005).Another example fear of failure's role on entrepreneurship isthat it can reduce the entrepreneurial intentions by affecting risk attitudes (Alon, Yeheskel, Lerner, & Zhang, 2013).

Researchshows that also self-perceived cognitive factors play a vital role in the development of entrepreneurial activities (Al Mamari et al. 2020; Baron, 2007;

Gatewood, Shaver, & Gartner, 1995). Individuals who develop their cognitive factors, to name it "Perceived Capabilities" in this study, are potentially ahead in perceiving opportunities (Tsai et al. 2016).

Although it is known that cognitive factors have a significant role on entrepreneurial activity, the moderator role of self-perceived cognitive factors on entrepreneurial activity is fairly less studied. Therefore, the aim of this study is to examine the moderator role of fear of failure and perceived capabilities as cognitive factors in the relation between entrepreneurs' perception of opportunities around them and their involvement in entrepreneurial activity. By doing so, the contribution of this study willbe disclosing the reflection of perceived capabilities and fear of failure in the perception of opportunity and entrepreneurial activities in Turkey.

2. Theoretical development and hypotheses

Entrepreneurship is one of the concepts that has existed since the 12th century and was born in French (Landström, 2005).Since those years, it is known that entrepreneurship exists even if it is not fully conceptual. It is stated that the period of feudalism slowed down the modernization of entrepreneurship (Bloch, Manyon, & Koziol, 2014). Looking at the modern entrepreneurship literature, entrepreneurship has become a worldwide movement since the 1980s (Kirby, 2002). The concept of entrepreneurship, which developed from the 12th century to the 1980s and until today, has been defined in many different ways.

In addition to the conceptualization of entrepreneurship, its relationship with the variables affecting it is one of the important fields of study. In the literature, it is emphasized that the entrepreneur should have various skills that will make her/him successful such as basic literacy and mathematics (Kolstad & Wiig, 2015; Lazear, 2004). If the entrepreneur needs to have certain knowledge, skills and experience, then it must be learned. Drucker was one of the first to argue that entrepreneurship can be learned. According to Drucker: "Entrepreneurship is a lesson and can be learned like any other lesson" (Drucker, 1985; Do Paço, Ferreira, Raposo, Rodrigues, & Dinis, 2013).

According to the European Commission: "Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects to achieve goals" (Communities, 2021). The variables that affect the process of transforming into action, which we have underlined in this definition, are examined under different headings. In this study, we will examine the moderating role of perceived-capabilities and fear of failure as cognitive factors, onthe causality of perceived opportunities and entrepreneurial activity, by using Turkey's GEM (Global Entrepreneurship Monitor) data in 2016.

In the literature, the concepts of entrepreneurship and opportunity have been explored together from time to time. Opportunity, literally, is defined as: "A situation or situation that makes it possible for you to do something you want or have to do, or

the opportunity to do something, a chance to find a job" (Dictionary, 2021). In particular, the definition of opportunity took its place in the literature with Schumpeter's metaphor of "gap filler" and after 50 years, Kirzner transformed this definition. Kirzner conceptualizes the entrepreneur as someone on alert to perceive opportunities (Chowdhury et al. 2014; Kirzner, 1973). Shane and Venkataraman consider entrepreneurship as "why, when and how opportunities arise for the creation of goods and services; why, when and how some people discover these opportunities and others not, and why, when and how different forms of action are used to take advantage of entrepreneurial opportunities" (2000). Some studies have found that perceiving business opportunities as opportunities have a significant and positive effect on the development of entrepreneurial activities (Al Mamari et al. 2020). Studies showing that personal perceived opportunities and innovations affect the desire to start one's own business are important (Kelley et al. 2013). According to Baron, there is a need to identify the opportunity to generate a business idea for a product or service (2007). Austrian economists, on the other hand, are very interested in transforming opportunity into behavior. They stated that the opportunity for entrepreneurship cannot be sought because, the existence of the opportunity cannot be known without being aware of it and cannot be transformed into a behavior (Shane, 2000).

Past studies show that, it has been suggested that perceptions are the main cognitive factors that can affect entrepreneurial activity (Arafat, 2020; Boudreaux, Nikolaev and Klein, 2019; Nikolaev & Boudreaux; 2020, Grégoire & Corbett, 2011). Perceptions are not about reality itself, but how a person interprets reality. Two cognitive-perceptual factors, "fear of failure" and "perceived capabilities", taken responsible for influencing "Opportunity-Based Entrepreneurship Activities" were included in this study. These perceptions will likely help to understand why entrepreneurs start or avoid new businesses in the relation of perceiving opportunities.

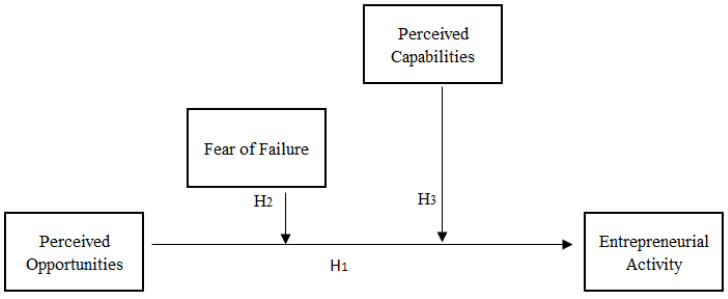


Figure 1. Research Model

In order to ensure methodological consistency, we obtained all our data from the GEM database. Therefore, the definition of our dependent variable, Entrepreneurial Activity, is "18-64 (age) population who are either a nascent entrepreneur or owner-manager of a new business" and "18-64 (age) population (individuals involved in any stage of entrepreneurial activity excluded) who see good opportunities to start a firm

in the area where they live" is the definition of our independent variable, Perceived Opportunities, according to GEM database. In accordance with these definitions, we used the survey responses from the database shared by GEM as our dependent and independent variables. The content and methodology of our moderator variables will be given below.

Considering all the past studies, it can be thought that perceived opportunities are one of the important variables that affect entrepreneurial activity. Therefore, **Hypothesis 1** is that Perceived Opportunities have a significant effect on Entrepreneurial Activity. Detailed research model with other hypotheses can be seen in Figure 1; Hypothesis 2. and Hypothesis 3. will be given in detail in the following sections.

2.1. Moderating role of Perceived Capabilities

Cognitive factors that are effective in recognizing and perceiving opportunities and having a positive effect on entrepreneurial activity is well studied topic on entrepreneurship studies. According to Shane, Locke, and Collins (2003), the cognitive factors include *knowledge*, *skills,* and *experience*. In the GEM (Global Entrepreneurship Monitor) data, the data set where we can observe the cognitive factors, these factors are also expressed as knowledge, skills, and experience. One of the vital self-perceived cognitive factor in GEM dataset is perceived capabilities of entrepreneur's himself, which will be used "perceived capabilities" as a moderator variable in this study.

Cognitive factors have the potential to affect individuals' awareness of entrepreneurial opportunities. Variables such as entrepreneurial personality, attitude towards risk-taking, autonomy, innovativeness, competitiveness, proactiveness, socio-economic status, and entrepreneurial experience have gained intellectual spotlight here (Dheer, 2016). Kirzner's understanding of the determinants of entrepreneurship at the individual level is again remarkable here (1973). Therefore, we argue, self-perceived cognitive factors have its role on entrepreneurial activity as well.

Looking at the *behavioral approach*, it is stated that entrepreneurship is different from individual skills. For example, behaviorists like Gartner define individuals with entrepreneurial behavior, regardless of personal skills(1988). According to the behavioral approach, behaviors can be learned, through both formal and informal processes (Do Paço et al. 2013). This is where "entrepreneurship education plays a critical role in orienting and developing future entrepreneurs, by providing them with the requisite mix of knowledge, skills and aptitude to launch and operate new business ventures" (Dutta , Li, & Merenda, 2010). According to the behavioral approach, entrepreneurship is a supported process. It can be learned, developed and transformed. When individuals think that they have sufficient knowledge, skills, and experience, the possibility of applying entrepreneurial action increases(Sánchez, 2010). Individuals who perceive that they have the knowledge, skills, and experience to get into the entrepreneurship are more likely to perceive opportunities and thus have a

high tendency for risk-taking (Krueger & Dickson, 1994). The study of Ward examines the relationship between prior knowledge and its ability to create a novel or creative business activities (Al Mamari et al. 2020; Ward, 2004). Considering the effects of cognitive factors on entrepreneurial activity, we use the "perceived capabilities" variable as a self-perceived cognitive factor.

Hence, **Hypothesis 2** in this study is "Perceived Capabilities have a moderator effect on the relationship between Perceived Opportunities and Entrepreneurial Activity".

2.2. Moderating role of fear of failure

Frank Knight (1885-1972) argued that entrepreneurship is mainly characterized by "genuine uncertainty". Opportunities arise from the uncertainty surrounding change, and if change can be predicted, there is no opportunity for profit (Landström, 2005). However, uncertainty is not suitable for everyone. This situation reminds the studies in the entrepreneurship literature that show that entrepreneurs have certain character traits (Brockhaus, 1976; Carland, Hoy, & Carland, 1988). Khilstrom and Laffont's (1979) model suggests that people who enjoy uncertainty more will choose to be entrepreneurs, and people who enjoy uncertainty less will choose to be employees (2000). However, research have made the variables of entrepreneurship other than character remarkable. In the studies, the motivation of individuals has been accepted as a variable in terms of being able to carry out the entrepreneurial activity(Mueller & Dato-on, 2008). There can be many influences that provide this motivation. Some entrepreneurs are motivated when they perceive opportunities, while others are motivated when they receive training. However, it may not always be a source of motivation for entrepreneur candidates to receive training and information at a stage where they are not yet engaged in entrepreneurial activity. Sometimes these trainings may cause individuals to fear about starting a new business (Oosterbeek, Praag, & Ijsselstein, 2010).

The effect of culture is also seen among the variables examined. Culture can make entrepreneurial candidates more fearful. In addition, regional differences also affect the degree of this fear (Bosma & Schutjens, 2010; Dheer, 2016; Davidsson & Honig, 2003).

We observethat there is a common point revealed by all these variables. This common point can also be expressed as "fear of failure". Fear is negative emotions such as a lack of confidence or a sense of threat that can affect decision-making power and create confusion about whether to start a new business (Al Mamari et al. 2020; McKenzie & Woodruff, 2013).

Fear of failure as another cognitive factor is an emotional reaction associated with the decision to start a business (Tsai et al. 2016). Starting a new venture is not just about having the intention, knowledge, and equipment; it also requires taking risks (Laguna, 2013). In the literature, it is seen that the fear of failure that individuals have

for various reasons (incomplete knowledge, culture, family influence, character, etc.) affects the process of creating a new venture (Arenius & Minniti, 2005; Ng & Jenkins, 2018; Wennberg, Pathak, & Autio, 2013). Starting a business is a risky process, aspiring entrepreneurs who want to start a new business may fear failure (Chua & Bedford, 2015). In the study of Ng and Jenkins, it was observed that the fear of failure reduces the intentions of individuals with high entrepreneurial self-efficacy (2018). Besides perceived opportunity, fear of failure is another important cognitive perception factor that influences the development of a new business venture.

The Global Entrepreneurship Monitor (GEM) reported that fear of failure is the critical factor associated with a person's willingness to start a business (Kelley et al. 2013). Therefore, we use the fear of failure as a cognitive factor.

Following this, **Hypothesis 3** of this study is that "Fear of Failure has a moderating effect on the relationship between Perceived Opportunities and Entrepreneurial Activity".

3. Methodology

3.1. Sample, Data and Methods

There are institutions that conduct national and international research on entrepreneurship and entrepreneurship ecosystems. One of these institutions, the Global Entrepreneurship Monitor (GEM), has been conducting survey-based research on entrepreneurship and entrepreneurship ecosystems on a regular basis since 1999. There are two studies that GEM conducts annually on a national basis: National Expert Survey (NES), and Adult Population Survey (APS). In line with the methodology it has developed, it publishes detailed reports and rankings on entrepreneurship and entrepreneurship ecosystems in the countries where research is carried out. GEM regularly shares the data set and reports with researchers on an individual and national basis in both surveys (https://www.gemconsortium.org/data).

According to GEM, entrepreneurship doesn't take place in a vacuum and all entrepreneurs are different. GEM's National Expert Survey (NES) considers the conditions of the country in which individuals engage in entrepreneurial activities and defines this context as "entrepreneurial framework conditions". Conditions such as financing, taxes and bureaucracy, governmental, programs support and policies, R&D transfer, cultural and social norms, physical and services infrastructure determine the entrepreneurial framework conditions in the national context. The Adult Population Survey (APS), another research conducted by GEM examines the social attitudes towards entrepreneurship as well as the characteristics, motivations and aspirations of individuals who start a business.

In the model of this study, the variables are Entrepreneurial Activity, Perceived Opportunities, Perceived Capabilities and Fear of Failure. These variables are covered in GEM's Adult Population Survey. Within the scope of this study, it is aimed to examine the sample of Turkey. Although GEM has started to conduct thisresearch in

Turkey since 2006, these researches could not be carried out regularly every year. As per GEM's data sharing policy, full datasets are only made available to the public 3 years after data collection. Unfortunately, since the GEM Adult Population Survey could not be conducted in Turkey in 2017, data for 2016 will be used within the scope of this research. Considering all these facts, the data ofthis study is based on the Adult Population Survey Individual Level Data of the Global Entrepreneurship Monitor (GEM) for Turkey in 2016. Accordingly, the sample of this study consists of 2411 people who participated in the Adult Population Survey in Turkey. Demographic characteristics of the sample are given in Table 1.

Table 1. Frequency analysis

		Frequency	**Valid Percent**
Gender	Male	1292	53,6
	Female	1119	46,4
Current age	18-24	511	21,2
	25-34	610	25,3
	35-44	621	25,8
	45-54	387	16,1
	55-64	282	11,7
Income	Lowest	1002	41,6
	Middle	411	17
	Upper	634	26,3
	Missing/cannot code	364	15,1
Work status	Full: full or part time	1294	54,7
	Part time only	56	2,4
	Self-employed	159	6,6
	Retired, disabled	116	4,8
	Homemaker	378	15,7
	Student	44	1,8
	Not working	319	13,2
	Missing/cannot code	45	1,9
Employed in a private business		1033	42,8
Employed by the government		176	7,4
Employed in non-for-profit or voluntary sector		134	5,6
Seeking employment		594	24,9
Total			2411

Source: GEM Adult Population Survey (APS) 2016

3.2. Research Model and Hypotheses

The model considered within the scope of the research is given in Figure 1. Entrepreneurial Activity is the dependent variable of the study. Entrepreneurial Activity in the GEM's methodology is defined according to the ventures' life cycle phases (nascent, new venture, established venture, discontinuation), the types of activity (high growth, innovation, internationalization) and the sector of the activity (Total Early-stage Entrepreneurial Activity—TEA, Social Entrepreneurial Activity—SEA, Employee Entrepreneurial Activity—EEA). In this study, Opportunity-driven early-stage entrepreneur (TEAyyOPP) in GEM data is taken as a dependent variable. Other variables used in this study is given in the table below.

Table 2. Description of Variables

Variable	Label	Description
Dependent	Entrepreneurial Activity	Involved in Opportunity early-stage Entrepreneurial Activity. The answers for this variable were coded as 0 "no" and 1 "yes".
Independent	Perceived Opportunities	This variable is defined in GEM's methodology as, "In the next six months, will there be good opportunities for starting a business in the area where you live?" seeks an answer to the question. 0 is coded as "no" and 1 as "yes". In the binary logistic regression analysis, the first category was selected as reference.
Moderators	Perceived Capabilities	This variable, "Do you have the knowledge, skill and experience required to start a new business?" is looking for an answer to the question and 0 is coded as "no", 1 as "yes". In the binary logistic regression analysis, the first category was selected as reference.
	Fear of Failure	This variable, "Would fear of failure would prevent you from starting a business?" is looking for an answer to the question and 0 is coded as "no", 1 as "yes". In the binary logistic regression analysis, the first category was selected as reference.

As discussed, the hypotheses developed within the scope of the research are as follows:

Hypothesis 1. Perceived Opportunities has a significant effect on Entrepreneurial Activity.

Hypothesis 2. Perceived Capabilities has a moderator effect on the relationship between Perceived Opportunities and Entrepreneurial Activity.

Hypothesis 3. Fear of Failure has a moderator effect on the relationship between Perceived Opportunities and Entrepreneurial Activity.

3.3. Analyses and Results

In this empirical study, frequency analysis was applied to obtain descriptive statistics. Correlation analysis was applied to determine whether there is a relationship between the variables and, if so, its degree. Finally, binary logistic regression analysis was applied to test the hypotheses. Logistic regression analysis was preferred because the dependent variable was binary, and the independent variables were binary or categorical.

According to the frequency analysis results, 38,7 % of the participants think that there will be good opportunities to start a business in Turkey in the next six months, while 38,2 % of the participants think that there will not be good opportunities. Those who say that "Ido not know whether there will be good opportunities or not", constitute 23,1% of the participants. Despite this, the frequency of those who think that they have the knowledge, skill, and experience required to start a new business is higher (54,2 %). Similarly, the frequency of those who do not think that the fear of failure will prevent them from starting a business is high (62,7%). The frequencies, minimum and maximum values, mean and standard deviation values of the variables are given in table 3 in detail.

Table 3. Descriptive statistics

		N	Min	Max	Mean	SD
1.	Entrepreneurial activity	2411	0	1	0,12	0,33
2.	Perceived opportunities	1853	0	1	0,50	0,50
3.	Perceived capabilities	2363	0	1	0,55	0,49
4.	Fear of failure	2363	0	1	0,36	0,48

The correlation table (Table 4) shows that all variables are significantly correlated with entrepreneurial activity. According to the results of the correlation analysis, there is a positive correlation between Entrepreneurial Activity and Perceived Opportunities (r:

.150, p: 0.00<0.05) and Perceived Capabilities (r: .231, p: 0.00<0.05). A positive correlation was found between Perceived Opportunities and Perceived Capabilities (r: .200, p: 0.00<0.05).

According to other findings, a negative correlation was found between Fear of Failure and Entrepreneurial Activity (r: -.098, p: 0.00<0.05), Perceived Opportunities (r: -.083, p: 0.00<0.05), and Perceived Capabilities (r: -.191, p: 0.00<0.05).

Table 4. Correlation Table

	1	2	3	4
1. Entrepreneurial Activity	1			
2. Perceived Opportunities	,150**	1		
3. Perceived Capabilities	,231**	,200**	1	
4. Fear of Failure	-,098**	-,083**	-,191**	1

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

As can be seen in table 5, which includes the binary logistic regression analysis results, Binary logistic regression analysis results in Model 1 support Hypothesis 1. Perceived Opportunities have asignificant effect on Entrepreneurial Activity.

Table 5. Binary logistics analysis (Model 1)

	Model 1					95% C.I.for EXP(B)	
	B	S.E.	Wald	Sig.	Exp(B)	Lower	Upper
Perceived Opportunities	-0,882	0,140	39,854	0,000	0,414	0,315	0,545
Constant	-1,393	0,083	284,509	0,000	0,248		

As can be seen in table 6, binary logistic regression analysis results in Model 2 support Hypothesis 2. According to these results, Perceived Capabilities have a moderator effect on the relationship between Perceived Opportunities and Entrepreneurial Activity.

Table 6. Binary logistics analysis (Model 2)

	Model 2					95% C.I.for EXP(B)	
	B	S.E.	Wald	Sig.	Exp(B)	Lower	Upper
Perceived Opportunities	-0,802	0,152	27,944	0,000	0,448	0,333	0,604

Perceived Capabilities	-1,439	0,186	59,930	0,000	0,237	0,165	0,341
Int. (Opp x Cap)	0,607	0,216	7,919	0,005	1,835	1,202	2,801
Constant	-1,534	0,196	61,066	0,000	0,216		

As can be seen in table 7, binary logistic regression analysis results in Model 3 partially support Hypothesis 3. According to these results, Perceived Capabilities have a moderator effect on the relationship between Perceived Opportunities and Entrepreneurial Activity.

Table 7. Binary logistics analysis (Model 3)

	Model 3					95% C.I.for EXP(B)	
	B	S.E.	Wald	Sig.	Exp(B)	Lower	Upper
Perceived Opportunities	-1,003	0,167	35,969	0,000	0,367	0,264	0,509
Fear of Failure	0,255	0,238	1,142	0,285	1,290	0,809	2,058
Int. (Opp x Fear)	0,628	0,317	3,912	0,048	1,874	1,006	3,491
Constant	-2,048	0,188	118,843	0,000	0,129		

Table 8. Goodness-of-fit statistics

	Model 1	**Model 2**	**Model 3**
Omnibus test (sig. level)	0,000	0,000	0,000
-2 Log likelihood	1496,39	1378,95	1466,05
Cox and Snell pseudo-R^2	0,023	0,071	0,034
Nagelkerke pseudo-R^2	0,040	0,126	0,059
% correct	85,43	85,35	85,32

As can be seen in Table 8, the goodness-of-fit of the models is examined by the Omnibus test, Cox and Snell pseudo-R2, Nagelkerke pseudo-R2 and the rate of correct classification. Omnibus test is significant for all 3 models ($p<0,0005$). This result can be interpreted as the prediction models that include independent and moderator variables are more successful models than the initial model consisting of only constant terms. It is seen that the -2 Log likelihood value in Model 1 is higher than the -2 Log likelihood values obtained with the inclusion of moderator variables in Model 2 and Model 3. These results show that the unexplained variance is lower than Model 2 and Model 3 where moderator variables are included.

Cox and Snell pseudo-R2 and Nagelkerke pseudo-R2 statistics show the amount of explanation of the variance of entrepreneurial activity of the variables included in the models. It can be stated that the estimation model established with the Perceived Opportunities in Model 1 explains a part of the between 2% and 4% of the variance in

entrepreneurial activity. In Model 2, with the inclusion of the Perceived Capabilities as moderator variable, it is observed that the explained variance in entrepreneurial activity increased a value of the between 7% and 12% in the estimation model established. In Model 3, on the other hand, it is observed that the explained variance in entrepreneurial activity increased a value of the between 3% to 6% in the estimation model established with the inclusion of the Fear of Failure as moderator variable. It is observed that the variance explained regarding entrepreneurial activity in Model 2 and Model 3 has increased. Since the aim of the study is to examine the relationship between entrepreneurial activity and cognitive factors, to name them "fear of failure" and "perceived capabilities" in this research, the results of pseudo-R2 statistics should be interpreted within this framework. Variables related to cognitive factors explain a limited part of the variance in entrepreneurial activity, but new variables can be added to the model in future research. According to the results in Table 8, it is possible to state that the performance of all 3 models is sufficient and significant.

4. Discussion, limitations, and future research

Studies to understand entrepreneurship at both institutional and individual levels are a research topic in the entrepreneurship literature. While at the institutional level, economic, legal, and cultural institutions were the main area of study, at the individual level, this area was more concerned with the cognitive structure. Entrepreneurship is a multi-level phenomenon that depends on critical conditions in which entrepreneurs evaluate potential business opportunities while using their psychological and physical resources. This study followed a quantitative method that focused on the relationship between cognitive factors as well as examining the effects of socio-cognitive factors on opportunity-based entrepreneurship at the individual level.

Findings of this study show that perceived opportunities have a significant positive effect on entrepreneurial activity. Perceived opportunity is defined in GEM methodology as follows: "In the next six months, will there be good opportunities for starting a business in the area where you live?" This result of the first hypothesis shows that potential or active entrepreneurs' perceptions of the opportunities around them go in parallel with the actual entrepreneurial activities.

Other findings, which form the main intention of this research, are on cognitive factors that influence potential or active entrepreneurs' perceptions of opportunity. Findings show that the "perceived capabilities" variable, which specifically questions entrepreneurs' own knowledge and abilities on entrepreneurship by questioning themselves, play a positive moderator role on perceived opportunities. This result, which includes the validation of Hypothesis 2, provides quantitative evidence that the cognitive factors of entrepreneurs in Turkey influence their perceptions of opportunity when the institutional level is excluded.

Another evidence that cognitive factors affect entrepreneurs' perception of opportunity is supported by the confirmation of Hypothesis 3, that is, the finding that

the fear of failure variable affects perceived opportunities negatively, albeit partially. This partial mediating role of the fear of failure also provides evidence that the perception of opportunity, which is the most fundamental perceptual factor of entrepreneurship, is affected by cognitive factors.

However, the primary limitation of the GEM dataset is that it provides snapshots when it comes to individuals' entrepreneurial characteristics, intentions, and behavior. When entrepreneurship is defined as a dynamic and uncertain process that takes place over time and involves making decisions about the future, what this limitation means can be better understood. In particular, to test the validity of our results, which is reached only with GEM data from 2016, will be possible by repeating similar studies for both Turkey and other countries too. In this way, a space will be opened for discussion of potential differences in findings that may arise.

Recommendation for future research is to examine the cognitive factors in-depth, as well as the institutional factors that surround, direct, provide the ground or affect the entrepreneurs' perception of opportunity. For example, variables such as the rule of law in the country, the level of freedom of expression, the institutionalization of the free market, the state of the regulations can be included in the research. Thus, a contribution can be made to the field needed by the literature for meso-level theories on entrepreneurship, which are already being studied.

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