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Entrepreneurial Intentions of Generation-Z: Compare of Social Sciences and Natural Sciences Undergraduate Students at Bahçeşehir University

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Abstract

Researchers have studied on why individuals choose to be entrepreneur, and one of the theories used to explain the reason to be an entrepreneur is Theory of Planned Behaviour (TPB). In this respect, the aim of this research was determined as how well TPB would predict entrepreneurial intention (EI) and whether or not social sciences and natural sciences undergraduate students differentiate in terms of their entrepreneurial intentions. The universe of the study consists of social sciences and natural sciences undergraduates studying at Bahçeşehir University. In this regard, a survey was conducted with 391 undergraduate students via using random sampling method. 200 participants were from Economics, Administrative and Social Sciences Faculty, and 191 were from Engineering and Natural Sciences Faculty. In this research, Entrepreneurial Intention Questionnaire (EIQ) developed by Linan and Chen (2009) was used to measure EI and to determine the factors affecting EI. This scale has three independent variables as Personal Attitudes (PA), Subjective Norm (SN) and Perceived Behavioural Control (PBC). For data analysis, SPSS 22.0 computer program was used. According to the results, for social sciences students, natural sciences students and total number of students, PA and PBC affect EI positively. Moreover, for natural sciences students, SN also influences EI. Furthermore, for social sciences students, natural sciences students and total number of students, SN affects PA and PBC positively.

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1. Introduction

Entrepreneurship is an important issue about economic developments of countries. Especially when considered that there are lots of young people in countries like Turkey, entrepreneurship is thought as a social and economic solution for employment problem. In this regard, especially developing countries have tried to develop entrepreneurship and entrepreneurial activities via increasing entrepreneurship classes at schools, universities and courses, and making incentives to become an entrepreneur.

When considered that the significance of entrepreneurship has increased due to the reasons stated above, the importance of measuring entrepreneurial intention and determining the factors affecting entrepreneurial intention has emerged. In this respect, it was aimed to determine the factors influencing entrepreneurial intention of university students in Turkey within the scope of Theory of Planned Behaviour (TPB). In the research, the effect of motivational factors as personal attitudes, subjective norms and perceived behavioural control on emergence of the entrepreneurial intention were analysed.

Entrepreneurial intention of students is an important topic which is required to be investigated. Thus, this study will contribute into the literature via measuring the effect of planned behaviour factors on entrepreneurial intention for Bahçeşehir University students.

2. Theory and hypothesis development

Entrepreneurial intention is aiming at starting a new enterprise or creating new values for current enterprises [1]. Moreover it is individual's commitment to the activities about making entrepreneurial efforts towards setting up own business [2]. Predicting an individual's decision about engaging in an entrepreneurial activity can be made via determining his/her entrepreneurial intention [3]. In this regard, determining entrepreneurial intention has been accepted as a frequently used and proven method to predict an individual's whether or not to establish a new venture [4]. It can be said that the first and most important step of entrepreneurship is to have intention for establishing an enterprise. In this regard, forecasting an individual's decision about founding an enterprise can be performed via determining individual's entrepreneurship intention [3-5]. Entrepreneurial intention which means an individual's activities about making entrepreneurial efforts to establish own venture, contains also reasoning about entrepreneurial activities towards establishing and developing the venture [2].

One of the main models used for the analysis of entrepreneurial intention is TPB [5-6]. According to TBP, attitudes and subjective norms determine the intention to display individual's behaviour. TPB which supposes individuals generally behave reasonably, considers existing information and evaluates the possible results of their behaviours, advocates that individual's intention to display a behaviour is the most important factor determining this behaviour [7]. TBP is so important in terms of entrepreneurship for some reasons. Firstly, entrepreneurship is generally a planned behaviour and does not emerge nu itself. Secondly, the effects of unofficial institutions are also measured in the theory. Thirdly, the theory's to be influential in terms of a series of behaviours was corrected empirically [8]. According to TBP, there are mainly three motivators/factors affecting entrepreneurial intention as subjective norm, personal attitudes and perceived behavioural control.

Personal attitude specifies a person's degree to evaluate a certain behaviour positively or negatively [9]. Attitude towards behaviour affect behaviour-oriented goal, that is, intention [10]. In this respect, behaviour-oriented goal is an individual's positive or negative feelings and evaluations towards a certain behaviour, and attitudes towards behaviour are affected by behavioural beliefs and output evaluations [11]. In terms of entrepreneurship, personal attitudes are about whether positive or negative evaluations emerge for entrepreneurship. These attitudes do not emerge only based on individuals' feelings, but also comprise the opinions that were reached as the result of logical evaluations [12]. The increase in the personal attitude towards behaviour influences individual's desire to set up own business and to achieve the goal to be an entrepreneur positively. Positive attitudes towards entrepreneurship would increase the appeal to work in own business and this would provide intention to transform into behaviour [6].

According to a research in five countries, it was determined that attitudes affect entrepreneurial intention [13]. One another research determined that autonomy and challenge as appealing aspects, and financial security and lack of workload as unappealing aspects are stated in the literature the most about the determination of attitudes towards entrepreneurship [14]. Moreover, some studies [15-16] determined that attitudes directly affect entrepreneurial intention. A research on Indonesian undergraduate students determined that personal attitudes influences

entrepreneurial intention on the subjects of challenge and achievement, attitude towards autonomy, and risk [17].

In displaying a behaviour, the fact that who are the important people for the participants and these people's thoughts about this behaviour is significant [18]. In this respect, subjective norm is defined as the perceived social pressure whether or not to display a certain behaviour [9]. In TPB, it is assumed that subjective norms are shaped by normative beliefs and individual's motivations to adapt into these norms [19]. Subjective norms are the function of beliefs like attitudes towards behaviour. However, these beliefs are different from behavioural beliefs that are the beliefs the individual have on other people or groups' whether or not to expect that the individual display any behaviour [9]. Some researchers found that subjective norm has significant effect on entrepreneurial intention [20-21]. One another determined that Chinese participants' intentions are influenced by subjective norms [13]. Subjective norm affects self-employment according to the research conducted on business administration students in the U.S. [15].

Individuals develop beliefs about behaviours' actualisation processes and opportunities based on previous experiences and observations. These beliefs are defined as control beliefs in TPB, and influence the PBC. For example, if someone thinks that he/she has enough resources and opportunities, his/her perceived control about the behaviour would be strong in linear dimension [9]. PBC is about an individual's perceptions related to his/her skills and possibilities towards his/her behaviour's whether or not to be under his/her control. PBC level is evaluated via is being graded according to the existence frequency of factors facilitating or repressing performance of the behaviour. These factors are comprised by internal control as information, personal inefficacies, skills, emotions, and external control as opportunities, dependence to others, barriers [19]. PBC is a concept which is similar to the self-efficacy and perceived feasibility concept developed by Bandura [12]. It states personal perception about how easy or hard will be the person's to display the behaviour. According to TPB, PBC can be used with behavioural intention in forecasting behavioural success directly [9]. One study in universities Finland, Sweden, U.S.A. and England, and found that PBC is a significant factor in predicting entrepreneurial intention [22]. One other research about students' ideas on entrepreneurial intention determined that two items come into prominence in terms of behavioural control as creativity and resolution [14]. Some other researches [16-17-23] found that PBC predicts entrepreneurial intention.

Given these points, the following hypotheses are proposed:

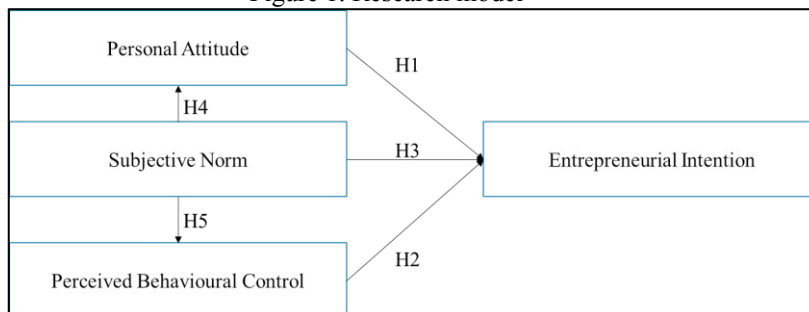
- H1: Personal attitude influence entrepreneurial intention.
- H2: Perceived behavioural control influence entrepreneurial intention.
- H3: Subjective norm influence entrepreneurial intention.
- H4: Subjective norm influence personal attitude.
- H5: Subjective norm influence perceived behavioural control.

3. Methodology

3.1. Measures and model

In this research, Entrepreneurial Intention Questionnaire (EIQ) developed by Linan and Chen (2009) [12] was used. The scale has 20 items to measure personal attitude, subjective norm, perceived behavioural control and entrepreneurial intention. Personal attitude includes 5 items, subjective norm includes 3 items, perceived behavioural control includes 6 items and entrepreneur intention includes 6 items. Entrepreneurial intention model developed by Linan and Chen (2009) [12] can be shown in Figure 1.

Figure 1. Research model



3.2. Participants

This study was made on Bahçeşehir University social sciences and natural sciences students in Istanbul. The universe of the study consists of 1215 students. 610 are in social sciences faculty and 615 are in natural sciences faculty. The selection of the respondents was random. The survey form was delivered to the students by researchers via visiting all the classes between 25th February of 2019 and 5th April of 2019. The sample size is 391 students, 200 of them are in social sciences faculty, and 191 are in natural sciences faculty. 139 students are female and 252 are male. Moreover, 308 students are Turkish, and 83 are non-Turkish. In terms of social sciences students, 80 students are female, and 120 are male. Moreover, 151 are Turkish and 49 are non-Turkish. In terms of natural sciences students, 59 students are female and 132 are male. Furthermore, 157 students are Turkish and 34 are non-Turkish.

4. Results

In this section, findings about the conducted research were presented. First of all, factor and reliability analyses were made for both EI which is dependent variable, and PA, PBC and SN which are independent variables separately for all students, social sciences students and natural sciences students. In Table 1, factor and reliability analysis results for independent variables can be shown. According to the results, all three structure are suitable with the original structure in TPB. Furthermore, sample sizes are adequate for factor analysis according to KMO and Bartlett Test results. Moreover, total explained variances for these three structures are more than %70. Also, all reliability results of dimensions in all of three structures are more than 0,800 which are enough and high.

Table 1. Factor and reliability results for independent variables

	University			Social Sciences			Natural Sciences		
	PA	PBC	SN	PA	PBC	SN	PA	PBC	SN
PA4	,865			0,857			0,874		
PA2	,814			0,784			0,821		
PA3	,799			0,821			0,776		
PA1	,785			0,790			0,760		
PA5	,767			0,734			0,811		
PBC4		,856			0,882			0,825	
PBC2		,814			0,785			0,835	
PBC5		,753			0,822			0,687	
PBC3		,752			0,745			0,757	
PBC1		,683			0,677			0,676	
PBC6		,611			0,584			0,634	
SN2			,842			0,824			0,848
SN3			,835			0,886			0,780
SN1			,723			0,736			0,730
Cumulative									
Exp.	27,56%	53,63%	71,33%	28,29%	54,64%	72,56%	26,93%	52,29%	70,71%
Variance									
KMO and	KMO: 0,906; Chi-Square:			KMO: 0,895; Chi-Square:			KMO: 0,898; Chi-Square:		
Bartlett Tests	3482,997; df: 91; Sig.: 0,000			1851,499; df: 91; Sig.: 0,000			1674,550; df: 91; Sig.: 0,000		
Reliability	0,914	0,867	0,872	0,904	0,880	0,885	0,920	0,852	0,860

In Table 2, factor and reliability analysis results for dependent variable can be shown. According to the results, the structure is suitable with the original structure in TPB. Furthermore, sample size is adequate for factor analysis

according to KMO and Bartlett Test results. Moreover, total explained variances for three structures are more than %70. Also, all reliability results of dimensions in all of three structures are more than 0,900 which are enough and so high.

Table 2. Factor and reliability results for dependent variable

	University	Social Sciences	Natural Sciences
	EI	EI	EI
EI5	,906	0,918	0,894
EI4	,905	0,912	0,899
EI6	,862	0,892	0,829
EI2	,834	0,864	0,798
EI3	,832	0,842	0,821
EI1	,796	0,816	0,777
Cumulative Exp. Variance	73,44%	76,52%	70,15%
KMO and Bartlett Tests	KMO: 0,882; Chi-Square: 1900,170; df: 15; Sig.: 0,000	KMO: 0,890; Chi-Square: 1072,035; df: 15; Sig.: 0,000	KMO: 0,863; Chi-Square: 840,423; df: 15; Sig.: 0,000
Reliability	0,927	0,938	0,914

After factor and reliability analyses, regression analyses were made to test the research hypotheses. In order to test “H1: Personal attitude influence entrepreneurial intention.”, “H2: Perceived behavioural control influence entrepreneurial intention.” and “H3: Subjective norm influence entrepreneurial intention.” stepwise regression analyses were carried out for all of three structures. The results can be shown in Table 3. According to the results, for the 1st structure in terms of all students, PA (0,567) and PBC (0,353) have positive and significant effects on EI, and the model explains EI in the rate of %61,90. Thus, H1 and H2 were accepted, but H3 was rejected for all students.

For the 2nd structure in terms of social sciences students, PA (0,545) and PBC (0,396) have positive and significant effects on EI, and the model explains EI in the rate of %65,30. Thus, H1 and H2 were accepted, but H3 was rejected for social sciences students.

For the 3rd structure in terms of natural sciences students, PA (0,699) and PBC (0,307) have positive and significant effects, but SN (-0,154) has negative and significant effect on EI, and the model explains EI in the rate of %60,00. Thus, H1, H2 and H3 were accepted for natural sciences students.

Table 3. Regression analysis results for the effect of PA, PBC and SN on EI

	Model	Dependent: EI	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
All Students	Model-1	Constant		3,781	0,000	52,00%	422,708	0,000
		PA	0,722	20,560	0,000			
	Model-2	Constant		-1,159	0,247	61,90%	318,371	0,000
		PA	0,567	16,296	0,000			
		PBC	0,353	10,153	0,000			
Social Sciences Students	Model	Dependent: EI	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
	Model-1	Constant		0,682	0,496	53,30%	227,725	0,000
		PA	0,731	15,091	0,000			

Natural Sciences Students	Model-2	Constant		-2,507	0,013			
		PA	0,545	11,503	0,000	65,30%	188,526	0,000
		PBC	0,396	8,366	0,000			
	Model	Dependent: EI	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
	Model-1	Constant		4,421	0,000			
		PA	0,721	14,319	0,000	51,80%	205,038	0,000
	Model-2	Constant		0,724	0,470			
		PA	0,601	11,830	0,000	58,90%	137,317	0,000
		PBC	0,296	5,823	0,000			
	Model-3	Constant		1,435	0,153			
		PA	0,699	10,975	0,000	60,00%	96,139	0,000
		PBC	0,307	6,099	0,000			
		SN	-0,154	-2,489	0,014			

In order to test “H4: Subjective norm influences personal attitude.” linear regression analyses were carried out for all of three structures. The results can be shown in Table 4. According to the results, for the 1st structure in terms of all students, SN (0,654) has positive and significant effect on PA, and the model explains PA in the rate of %42,60. Thus, H4 was accepted for all students.

For the 2nd structure in terms of social sciences students, SN (0,632) has positive and significant effect on PA, and the model explains PA in the rate of %39,70. Thus, H4 was accepted for social sciences students.

For the 3rd structure in terms of all students, SN (0,666) has positive and significant effect on PA, and the model explains PA in the rate of %44,00. Thus, H4 was accepted for natural sciences students.

Table 4. Regression analysis results for the effect of SN on PA

All Students	Dependent: PA	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
	Constant		8,521	0,000			
	SN	0,654	17,036	0,000	42,60%	290,225	0,000
Social Sciences Students	Dependent: PA	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
	Constant		6,216	0,000			
	SN	0,632	11,489	0,000	39,70%	132,004	0,000
Natural Sciences Students	Dependent: PA	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
	Constant		5,971	0,000			
	SN	0,666	12,269	0,000	44,00%	150,540	0,000

In order to test “H5: Subjective norm influence perceived behavioural control.” linear regression analyses were carried out for all of three structures. The results can be shown in Table 5. According to the results, for the 1st structure in terms of all students, SN (0,363) has positive and significant effect on PBC, and the model explains PBC in the rate of %13,00. Thus, H5 was accepted for all students.

For the 2nd structure in terms of social sciences students, SN (0,397) has positive and significant effect on PBC, and the model explains PBC in the rate of %15,30. Thus, H5 was accepted for social sciences students.

For the 3rd structure in terms of all students, SN (0,330) has positive and significant effect on PBC, and the model explains PBC in the rate of %10,40. Thus, H5 was accepted for natural sciences students.

Table 5. Regression analysis results for the effect of SN on PBC

	Dependent: PBC	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
All Students	Constant		11,819	0,000	13,00%	59,065	0,000
	SN	0,363	7,685	0,000			
	Dependent: PBC	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
Social Sciences Students	Constant		6,588	0,000	15,30%	36,978	0,000
	SN	0,397	6,081	0,000			
	Dependent: PBC	Beta	t-value	Sig.	Adj. R ²	F-value	Sig.
Natural Sciences Students	Constant		10,040	0,000	10,40%	23,055	0,000
	SN	0,330	4,802	0,000			

5. Conclusion

In this research, the effect of TPB factors on EI was measured. According to the results, both PA and PBC have effects on EI in terms of all students, social sciences students and natural sciences students. However, only for natural sciences students SN has (negative) effect on EI. It can be said that natural sciences students give importance others' opinions about being an entrepreneur in negative way, but social sciences students do not give any significant importance. Moreover, according to regression coefficients, the effect of both PA and PBC is higher in terms of natural sciences students than social sciences students. In this regard, it can be said that social sciences students and natural sciences students are differently affected by TPB factors to be an entrepreneur, and natural sciences students are affected by these factors more.

This study has some limitations. Firstly, this study was limited with entrepreneurial intention and Theory of Planned Behaviour topics. Moreover, the study is limited with the survey questionnaire including Entrepreneurial Intention Questionnaire with 20 items developed by Linan and Chen (2009) [12]. Furthermore, this study has time limitation, since the researchers have to finish the research in certain time period, and also the research was made between 25th February of 2019 and 5th April of 2019.

For further studies, researchers can make studies in different universities and cities similar researches. Moreover, there can be made more researches on natural sciences students at universities to learn whether or not these students are affected by TPB factors in terms of entrepreneurial intention more than other students in different faculties.

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