

The Role of Theory of Planned Behavior on Entrepreneurial Intention of Greek Business Students

Charitomeni Tsordia, MBA, Ph.D. Candidate,
University of Patras, Greece

Dimitra Papadimitriou, Ph.D.
University of Patras, Greece

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

Abstract

Purpose – The main purpose of this study is twofold: (1) to measure and compare the entrepreneurial intention of business students attending the first and the fourth year of Business studies in a Greek university in order to determine the impact of curriculum and (2) to explore the role of the Theory of Planned Behavior (TPB) in explaining students' entrepreneurial intention.

Design/methodology/approach – A questionnaire was distributed to a sample of 186 students attending the 1st (108) and the 4th (78) year of studies at Business Management. Besides descriptive statistics, T-test, correlations, and multiple linear regressions were estimated to test hypotheses.

Findings – The three components of the Theory of Planned Behavior seem to play a differentiated role in the formation of the entrepreneurship intentions of business student, with subjective norms proved to be insignificant in the process of intention formation. Furthermore, the role of entrepreneurial curriculum and content was insignificant in influencing the rather weak intentions of business students to pursue a self-employed career. Fourth year students after attending a number of business, related courses were found to report on average less strong entrepreneurship intentions compared to the first year students.

Originality/value – This study represents a first systematic quantitative effort to measure and compare the entrepreneurship intentions of the first and fourth year students of a Greek university and explore the effect of the components of TPB.

Keywords – entrepreneurial intention, Theory of planned behavior, attitudes, entrepreneurial curriculum and content, business students, Greece.

1. Introduction

Thereafter 1970's, big established businesses in many western countries are unable to generate a net increase in employment resulting in constantly high levels of unemployment and creating the subsequent need to resolve the problem through the creation of small and new businesses (Davidsson, 1995). Entrepreneurship is supposed to be "the creation of new independent firms" (Davidsson, 1995, p. 2). It is a dominant concept in everyday discussion by policymakers, economists, academics and even students (Keat, Selvarajah and Meyer, 2011).

Europe and United States are dependent on higher levels of entrepreneurship in order to achieve economic growth and innovation (Oosterbeek, Praag and Ijsselstein, 2010). As such, entrepreneurship is seen as an important motivating force of countries'

economic welfare (Iakovleva and Kolvereid, 2009) and as one of the most appropriate strategies to meet the increasing needs of globalization (Keat *et al.*, 2011). Employment provision, new markets and income generation for a region are signs of the important role of business venture in any local economy (Piperopoulos, 2012). Therefore, entrepreneurship is rapidly becoming one of the most popular areas of academic research in terms of studying its importance and its contribution (Keat *et al.*, 2011).

There is increasing evidence that job opportunities are limited in today's competitive job environment (Keat *et al.*, 2011) and that the so-called job security is not valid anymore in the contemporary employment environment (Ferreira, Raposo, Rodrigues, Dinis and Paco, 2012). As a result, graduates search for entrepreneurship education, capable of equipping them with the required entrepreneurial skills and knowledge in order to succeed in running a business or creating a job taking advantage of the existing entrepreneurial opportunities (Keat *et al.*, 2011). Similarly, universities and colleges, in various countries, have introduced entrepreneurial courses in their curriculum as a response to the increasing demand and to the request to promote entrepreneurship and entrepreneurial career (Postigo and Tamborini, 2002).

The above evidence indicates that understanding the entrepreneurial activity is tied to a few factors including attitudes. Therefore, more research is needed to identify factors that distinguish students with strong intention to develop entrepreneurship from those who have not developed a strong entrepreneurial intention (Ismail, Khalid, Othman, Jusoff, Rahman, Kassim, Zain, 2009).

Entrepreneurial intention is defined as "a state of mind directing a person's attention and action towards self-employment as opposed to organizational employment" (Souitaris, Zerbiniati and Al-Laham, 2007, p. 570, based on Bird, 1988). A strong intention for self-employment is the first step in the process of setting up a business (Liñán and Chen, 2006) and the most frequently studied factor of enterprise creation (Ferreira *et al.*, 2012).

Today, literature is scarce in entrepreneurship which focuses in countries that deal with major socio-economic and political changes. Only one study (Piperopoulos, 2012) is available in the case of Greece, a country that has been in serious financial and economic crisis since 2009. In this country, economy has suffered from a prolonged period of deep recession which led to a total decrease of country's GDP of 25% over a period of five years. Furthermore, unemployment is rapidly increasing from 9.5% in 2009 to 25.5% in 2014 (Bank of Greece Eurosystem, 2014). The culture and the economic development of a country affect the entrepreneurial activities and most importantly the interest of young people in relevant education at a university level (Piperopoulos, 2012). Based on the above, the main purpose of this study is twofold: (1) to explore the role of the TPB in explaining students' entrepreneurial intention and (2) to measure and compare the entrepreneurial intention of business students attending the first and the fourth year of Business studies in a Greek university in order to determine the impact of curriculum.

2. Literature review

2.1. Theory of planned behavior and entrepreneurial intentions

According to Theory of Planned Behavior (TPB), individuals engage in an activity (such as starting a business) as a deliberate action which is reflected on their intention to this

behavior (Ajzen, 1991). With this theory, Ajzen (1991) argues that a person's attitude towards behavior, subjective norm, and perceived behavioral control are the significant factors that determine his intentions. In simple terms, these components are claimed to capture "how hard people are willing to try and of how much an effort they are planning to exert, in order to perform the behavior" (Ajzen, 1991, p. 181). TPB has been proposed as an antecedent of entrepreneurial behavior (Ferreira *et al.*, 2012).

Attitude towards behavior is conceptualized as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question", in this case self-employment (Ajzen, 2002, p. 5). *Attitude towards entrepreneurship behavior* refers to the difference between the concepts of a personal desire to become self-employed and the desire to work as an employee (Souitaris *et al.*, 2007). *Subjective norm* refers to "the perceived social pressure to perform the action of being monitored" (Solesvik, Westhead, Kolvereid and Matlay, 2012, p. 448). The opinion of significant others (i.e. members of the family, close friends, and other important people, such as teachers, successful entrepreneurs, business consultants, etc.) about whether a person will choose to follow a career as an entrepreneur seems to affect the formation of entrepreneurial intention (Ajzen, 2001; Solesvik *et al.*, 2012; Liñán and Chen, 2006). *Perceived behavioral control* reflects the extent to which an individual controls beliefs about the activity being studied (Solesvik *et al.*, 2012), i.e. entrepreneurship. Liñán and Chen (2006, p. 4) defined the term as "the perception of the easiness or difficulty in the fulfillment of the behavior of interest".

The interplay between the components of TPB and entrepreneurial intention has attracted a considerable amount of research (Kolvereid, 1996; Tkachev and Kolvereid, 1999; Solesvik *et al.*, 2012; Souitaris *et al.*, 2007) but the findings are yet inconclusive. A few researchers have found a direct and significant relationship between the three indicators of TPB and entrepreneurial intention (Kolvereid, 1996; Tkachev and Kolvereid, 1999; Souitaris *et al.*, 2007).

More specifically, Solesvik *et al.* (2012) surveyed third, fourth and fifth year students of economics and business administration studying in three universities in Ukraine. The sample also consisted of students who participated in entrepreneurship courses during their second year of studies. The scholars found that students with high attitude towards self-employment are more likely to demonstrate increased intention for developing entrepreneurial activities. Furthermore, a direct and significant relationship between subjective norm and entrepreneurial intention has been observed by Tkachev and Kolvereid (1999) who surveyed Russian students from one medical and two technical universities in St. Petersburg and Souitaris *et al.* (2007) who surveyed science and engineering students from two European universities London-UK and Grenoble-France. However, another research failed to associate subjective norm with entrepreneurial intention in a sample of Chinese students in Shanghai (Wu and Wu, 2008). Additionally, the results of Solesvik *et al.* (2012) suggested that this factor did not impact significantly the entrepreneurial intention of students. Similarly, results presented in a study by Liñán and Chen (2006), where they collected data from students from two quite different countries: one European (Spain) and the other South Asian (Taiwan) showed that subjective norm does not play at least a direct role in determining entrepreneurial intention. Concerning the third factor of TPB, Solesvik *et al.* (2012)

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

found that students with high perceived behavioral control are more likely to report strong entrepreneurial intention.

The abovementioned controversial results reflecting the relevant literature, renders the particular subject open for further research as far as it concerns the TPB factors contributing to the formation of entrepreneurial intention of students. Based on the above discussion the following hypotheses have been articulated:

H1a. Higher levels of attitude towards entrepreneurship behavior lead to higher entrepreneurial intention.

H1b. Higher levels of subjective norm lead to higher entrepreneurial intention.

H1c. Higher levels of perceived behavioral control lead to higher entrepreneurial intention.

2.2. Entrepreneurial curriculum and entrepreneurial intention

Binks (2005, p. 2) defined entrepreneurship education as “a pedagogical process involved in the encouragement of entrepreneurial activities behaviors and mindsets”. Shigeru Fuji was the first who introduced entrepreneurship in education in 1938 at Kobe University in Japan (Keat *et al.*, 2011; Piperopoulos, 2012). Today, universities in North America are leaders in offering courses and programs related to entrepreneurship (Keat *et al.*, 2011). This is because education in entrepreneurship has been praised for its potential to increase awareness towards self-employment and promote career options for youth (Keat *et al.*, 2011). A few researchers in USA and UK found that education tailored to entrepreneurship can create a higher tendency towards the development of a new business venture (Robinson and Sexton, 1994; Bates, 1995).

Higher education can affect students in three different ways. It can change their attitudes and values, improve their abilities and affect their social status (Wu and Wu, 2008). The later suggests that these dimensions are quite similar with the components of TPB. Souitaris *et al.* (2007) implemented a 5-month entrepreneurship education program in science and engineering students into two European universities (London, UK, Grenoble, France) and showed that students reported increased entrepreneurial intention as a result of the program. Furthermore, Keat *et al.* (2011) examined final year students in business, engineering and computing and IT programs at three public universities in the northern region of the Peninsular Malaysia and demonstrated that the entrepreneurial curriculum and content had a strong and positive effect on the likelihood of students to express interest in entrepreneurship.

Another study explored the entrepreneurial intention of students in the case of Greece, a small country which is suffering from severe recession. More specifically, the study involved a number of in-depth and semi-structured interviews of first and fourth year students in business and management from two Greek universities. The qualitative data collected indicated that business and management curricula that have not a clear entrepreneurial orientation can stifle the intention of students to follow a self-employment career (Piperopoulos, 2012). The above findings raise the interest for exploring the role of education and curricula in countries with different levels of economic development. The present study follows a quantitative orientation and is set to investigate the entrepreneurship education effects in a sample of business students from Greece. Hence:

H2a. Fourth year students after having taught entrepreneurship courses are intended to express a higher entrepreneurial intention compared with the first-year ones.

H2b. The entrepreneurial curriculum and content affect the likelihood of students to report entrepreneurial intention.

3. Methodology

3.1. Sample

The survey population consists of all 413 undergraduate students enrolled in the 1st (264 students) and 4th (149 students) year of the Business Management Department of University of Patras, Greece, in the academic year 2013–2014, 186 of which responded (108 from the first year – response rate 40.91% – and 78 from the fourth – response rate 52.25%) and constitute the sample of the study.

Among the respondents 45.7% (85) were male and 51.6% (96) female (see Table 1). The distribution of men and women is approximately the same for both years. In addition, 41.4% of students have self-employed parents. Concerning the average annual family income most students did not answer (34.9%). Most of those who answered belong to economic status with income «10.001–25.000 €» (20.4%) and «25.001–45.000 €» (19.9%). Just a 3.8% of the total sample reported that it belonged to the highest economic status of «70.000 € +», which is in the first year of studies.

		1 st year		4 th year		TOTAL	
		(f)	%	(f)	%	(f)	%
Gender	Male	50	46.3	35	44.9	85	45.7
	Female	53	49.1	43	55.1	96	51.6
	Total	103	95.4	78	100	181	97.3
Self-employed parents	No	63	58.3	46	59	109	58.6
	Yes	45	41.7	32	41	77	41.4
	Total	108	100	78	100	186	100
Average annual family income	I don't know	49	45.4	16	20.5	65	34.9
	up to 10.000 €	8	7.4	14	17.9	22	11.8
	10.001–25.000 €	17	15.7	21	26.9	38	20.4
	25.001–45.000 €	17	15.7	20	25.6	37	19.9
	45.001–70.000 €	9	8.3	7	9.0	16	8.6
	70.001 € +	7	6.5	0	0	7	3.8
	Total	107	99.1	78	100	185	99.5
Previous work experience	No	70	64.8	24	30.8	94	50.5
	Yes	36	33.3	54	69.2	90	48.4
	Total	106	98.1	78	100	184	98.9
Total		108		78		186	

Table 1.
Student profile and entrepreneurship

The Role of Theory of Planned Behavior on Entrepreneurial Intention of Greek Business Students

Finally, 48.4% of the students of the sample reported long previous work experience. There was a significant differentiation between the first and the fourth year students in respect of the previous experience. Specifically, compared with first-year students where just a 33.3% have work experience, a significant larger percentage of fourth year students (69.2%) reported experience.

3.2. Instrument & Measures

The methodological approach chosen for this study is the quantitative research, which involved a self-administered survey filled out both online and personally. Initially, efforts were made to collect data from all students from the first and the last year of the Business Department of The University of Patras, Greece. To this end, first the online data collection method was used, and surveys were sent to all students via e-mails provided by the department. However, the student responses were limited (14.39% for the first year students, and 28.19% for the fourth year), and data had to be collected by means of personal communication, before and after courses, and during breaks. The data collection was conducted from 03.28.2014 to 05.14.2014.

The aim of the study was to compare responses of students who were just introduced to entrepreneurship concepts (freshmen) with those who were about to complete their studies. This involved the second sub-sample (fourth year) who had taught entrepreneurship courses and were about to choose a career. To ensure the comparability of results between them, same questionnaires were distributed to each year, with the exception that in the 4th year the variable entrepreneurial curriculum and content was added.

The questionnaire distributed to the first year students involved four (4) variables (i.e., entrepreneurial intention, attitude toward behavior, subjective norm, perceived behavioral control) and to the fourth year students five (5) variables (i.e. entrepreneurial intention, attitude toward behavior, subjective norm, perceived behavioral control, entrepreneurial curriculum and content) excluding the demographic questions.

The measures for the above variables were borrowed from literature (see Table 3 and Table 4). More specifically: *Entrepreneurial intention* was measured using 7 items reflecting goal orientation towards entrepreneurship and willingness to do anything to start-up a business venture in the future or promptly after university. Indicative examples of items are: “*I am ready to do anything to be an entrepreneur*” and “*My professional goal is to become an entrepreneur*” (see Table 3). 6 items were borrowed from Solesvik *et al.* (2012), Liñán and Chen (2006) and Davidsson (1995). Respondents

Variables	Cronbach's Alpha	No. of Items
Entrepreneurial intention	0.848	7
Attitude towards behavior	0.909	6
Social norm	0.852	3
Perceived behavioral control	0.773	5
Entrepreneurial curriculum and content	0.912	13

Table 2.
Reliability analysis and
Measures

The Role of Theory of Planned Behavior on Entrepreneurial Intention of Greek Business Students

(7-point scale)	1 st year		4 th year		t	Sig. (2-tailed)	TOTAL	
	Mean	Std. Dev.	Mean	Std. Dev.			Mean	Std. Dev.
Entrepreneurial intention 6 items (Solesvik et al., 2012; Liñán and Chen, 2006; Davidsson, 1995)	4.31	1.14	4.12	1.16	1.16	0.249	4.23	1.15
I am ready to do anything to be an entrepreneur	4.17	1.57	3.77	1.47	1.75	0.082	4.00	1.54
My professional goal is to become an entrepreneur	4.49	1.60	4.00	1.45	2.12	0.036	4.28	1.55
I will make every effort to start and run my own firm	4.36	1.69	3.81	1.43	2.34	0.020	4.13	1.61
I am determined to create a business venture in the future	4.19	1.67	4.14	1.45	0.18	0.859	4.17	1.58
I have very seriously thought about starting a firm	4.30	1.67	4.04	1.48	1.10	0.274	4.19	1.60
I intend to start a firm within five years of graduation	3.64	1.82	3.62	1.72	0.08	0.939	3.63	1.77
I have thought of entrepreneurship as a career option	5.08	1.66	5.45	1.56	-1.52	0.130	5.24	1.62
Attitude towards behavior 6 items (Solesvik et al., 2012; Liñán and Chen, 2006)	4.68	1.39	4.91	1.29	-1.16	0.249	4.78	1.35
Being an entrepreneur implies more advantages than disadvantages to me	4.33	1.62	4.66	1.48	-1.44	0.153	4.47	1.57
Being an entrepreneur would give me great satisfaction	4.52	1.80	4.81	1.43	-1.17	0.243	4.64	1.66
It is desirable for me to become an entrepreneur	4.40	1.73	4.78	1.37	-1.68	0.094	4.56	1.60
It is attractive for me to become an entrepreneur	4.50	1.75	4.83	1.47	-1.37	0.172	4.64	1.64
If I had the opportunity and resources, I would love to start a business	5.43	1.79	5.45	1.55	-0.11	0.910	5.44	1.69
Among various options, I would rather be an entrepreneur	4.94	1.78	4.95	1.52	-0.05	0.957	4.94	1.67
Subjective Norm 3 items (Solesvik et al., 2012; Souitaris et al., 2007; Liñán and Chen, 2006)	4.88	1.37	4.45	1.32	2.13	0.035	4.70	1.36
My closest family members think that I should pursue a career as an entrepreneur	4.9	1.67	4.47	1.48	1.79	0.075	4.72	1.60
My closest friends think that I should pursue a career as an Entrepreneur	4.56	1.62	4.35	1.45	0.95	0.344	4.47	1.55
People that are important to me think that I should pursue a career as an entrepreneur	5.18	1.52	4.54	1.39	2.93	0.004	4.91	1.50
Perceived behavioral control 5 items (Solesvik et al., 2012; Souitaris et al., 2007; Liñán and Chen, 2006)	4.54	1.12	4.09	1.17	2.63	0.009	4.35	1.16
If I wanted to, I could easily become an entrepreneur	4.47	1.67	4.12	1.59	1.45	0.148	4.32	1.64
It is entirely up to me whether or not I become an entrepreneur	5.32	1.63	4.47	1.67	3.42	0.001	4.96	1.69
As an entrepreneur I would have sufficient control over my business	5.21	1.56	4.68	1.46	2.31	0.022	4.98	1.54
There are very few circumstances outside my control that may prevent me from becoming an entrepreneur	3.84	1.56	3.49	1.58	1.49	0.138	3.69	1.57
For me, being self-employed would be very easy	3.88	1.55	3.69	1.49	0.86	0.394	3.80	1.53

Table 3. Mean, Std. Deviation, T-test: "Entrepreneurial intention, Attitude towards behavior, Social Norm, Perceived behavioral control"

tend to respond uniformly to all declarations of questions of this type. For that reason we created the 7th declaration, which was given in a reverse-negative form (i.e., “*I have thought of entrepreneurship as a career option*”). Students were asked to rate the extent to which they agree with each item in this scale in a 7-point scale, where 1= “strongly disagree” and 7= “strongly agree”.

To measure *attitude towards behavior*, six (6) items have been employed from the literature and specifically from Solesvik *et al.* (2012) and Liñán and Chen (2006) (see Table 3). Students were asked to rate the statements concerning the extent to which entrepreneurship is perceived as desirable and attractive. Examples of used statements are: “*Being an entrepreneur implies more advantages than disadvantages to me*” and “*It is desirable for me to become an entrepreneur*”. A 7-point Likert-type scale, where 1= “strongly disagree” and 7= “strongly agree” was used for these items.

Subjective norm was measured with a 3-indicator scale which was adopted from Solesvik *et al.* (2012), Souitaris *et al.* (2007) and Liñán and Chen (2006) (see Table 3). For each statement students had to report levels of agreement for the extent to which important people to them (i.e., family, friends, important people) exert an influence on their entrepreneurial decisions. A 7-point Likert-type scale was used, where 1= “I should not” and 7= “I should” in declarations such as “*My closest family members think that I should pursue a career as an entrepreneur*”.

Perceived behavioral control was measured using a scale with 5 items adopted from Solesvik *et al.* (2012), Souitaris *et al.* (2007) and Liñán and Chen (2006) (see Table 3). For this construct, items reflected the students’ perceived easiness to become self-employed and to control a firm. Indicative examples are: “*If I wanted to, I could easily become an entrepreneur*”, “*It is entirely up to me whether or not I become an entrepreneur*” and “*As an entrepreneur I would have sufficient control over my business*”. Students had to answer to what extent they agree with each item in a 7-point Likert-type scale, where 1= “strongly disagree” and 7= “strongly agree”.

To measure *entrepreneurial curriculum and content* 13 items have been used, 12 of which borrowed from Keat *et al.* (2011) and 1 (i.e. “*Help me a lot about entrepreneurship*”) given in a reverse-negative form (see Table 4). Students using on a 7-point Likert-type scale, rated the extent to which they think that the courses of the department of Business Management of University of Patras, equip them with skills, experiences, capacities, knowledge, interest, and ideas related to entrepreneurship (1= “strongly disagree” and 7= “strongly agree”). Typical examples of items are: “*Teach to deal with ambiguity in the real world*”, “*Have lots of real business experiences*” and “*Develop entrepreneurial knowledge and skills*”.

The reliability analysis using Cronbach’s α coefficient indicated high reliability for all five constructs, as relevant values ranged from 0.77 to 0.91 (see Table 2).

Measures (items) of variables included in the questionnaire were translated from English to Greek. To avoid possible misconception of the terms used, translation was conducted from two different individuals. A pilot test was conducted in a group of 10 students of the 4th year, in order to test if questions and terms involved were clear and comprehensible to students.

(7-point scale)		
4 th year	Mean	Std. Dev.
Entrepreneurial curriculum and content 13 items (Keat et al., 2011)	4.06	1.01
Help to have a better understanding about business	4.11	1.22
Develop entrepreneurial knowledge and skills	4.15	1.37
Raise interest towards entrepreneurship	4.39	1.52
Teach to deal with ambiguity in the real world	3.74	1.499
Provide an opportunity to learn by doing	3.62	1.621
Help to feel confident about tackling unfamiliar work-based problems	3.78	1.493
Help to develop the ability to plan and organize my day-to-day work	4.16	1.404
Help to develop my job-related skills	4.08	1.322
Provide a lot of new business ideas	4.05	1.489
Help to develop my problem-solving skills	4.12	1.324
Have lots of real business experiences	3.74	1.553
Develop my communication skills	4.50	1.327
Help me a lot about entrepreneurship	4.28	1.676

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

Table 4.
Mean, Std. Deviation:
“Entrepreneurial
curriculum and content”

4. Analysis and Results

The statistical program of SPSS 20 for Windows (statistical package for the social research) was used for the analysis of the data. Besides descriptive statistics, T-test, and correlations, multiple linear regressions were estimated to test hypotheses.

Table 3 and 4 present the means and standard deviations for the items of each construct measured in this study and its aggregate means. Overall the first year students gave slightly above average ratings for entrepreneurial intention ($M=4.31$) and perceived behavioral control ($M=4.54$), and rather positive ratings for attitude towards behavior ($M=4.68$), and subjective norm ($M=4.88$). Fourth year students provided similar ratings in the above constructs including curriculum and content ($M=4.06$).

Regression analysis was employed to test Hypotheses H1a, H1b, H1c and H2b. As a first step, a correlation analysis was run with all four (4) variables for the first year students and five (5) variables for the fourth year ones. The results showed that entrepreneurial intention is positively and significantly correlated with the three components of TPB for both the first and the fourth year students, and correlation coefficients ranged from 0.35 to 0.64 in the first year sub-sample and from 0.28 to 0.61 in the fourth year sub-sample. The three variables of TPB were significantly inter-correlated with each other and correlation coefficient ranged from 0.35 to 0.64 in the first year and from 0.30 to 0.61 in the fourth year (see Table 5). Furthermore, the variable entrepreneurial curriculum and content, used for the fourth year students, was proved to have a positive and statistically significant correlation with entrepreneurial intention ($r=.28^{**}$, $p<.01$).

IJSR
4,1

Pearson's Correlations for the 1 st year					
	1.	2.	3.	4.	
1. Entrepreneurial Intention	1				
2. Attitude towards behavior	0.636**	1			
3. Subjective norm	0.354**	0.440**	1		
4. Perceived behavioral control	0.462**	0.404**	0.482**	1	
Pearson's Correlations for the 4 th year					
	1.	2.	3.	4.	5.
1. Entrepreneurial Intention	1				
2. Attitude towards behavior	0.610**	1			
3. Subjective norm	0.495**	0.502**	1		
4. Perceived behavioral control	0.523**	0.425**	0.301**	1	
5. Entrepreneurial curriculum and content	0.278**	0.293**	0.167	0.260*	1

Table 5.

Next, three different models of multiple linear regression were run in order to measure the extent to which the independent constructs (i.e. attitude towards behavior, subjective norm, perceived behavioral control and entrepreneurial curriculum and content) contribute to the explanation of the variance of entrepreneurial intention in both sub-samples.

The Model 1, was run using the data from the first year students. The results showed that the independent variables attitude toward behavior, subjective norm and perceived behavioral control explained 44.1% (Adjusted R²) of the variance of entrepreneurial intention, which was the dependent variable. The model was found statistically significant at 0.001. The variables predicted the entrepreneurial intention of first year students, in order of importance, are attitude towards behavior ($\beta=0.55$, $p<0.001$) and perceived behavioral control ($\beta=0.26$, $p<0.01$). The respective results are presented in Table 6.

	Model 1 1 st year			Model 2 4 th year			Model 3 4 th year		
	Standard Estimate β	t-value	Sig.	Standard Estimate β	t-value	Sig.	Standard Estimate β	t-value	Sig.
Attitude towards behavior	0.55	6.52	0.000	0.37	3.69	0.000	0.39	3.79	0.000
Perceived behavioral control	0.26	3.00	0.004	0.30	3.24	0.002	0.33	3.56	0.001
Subjective norm	-0.03	-0.39	0.699	0.22	2.26	0.027	0.16	1.64	0.106
Entrepreneurial curriculum and content							0.05	0.57	0.574
	Adjusted R ² = 0.441			Adjusted R ² = 0.472			Adjusted R ² = 0.502		
	F = 28.104 (P < 0.001)			F = 23.928 (P < 0.001)			F = 19.392 (P < 0.001)		

Table 6.
Multiple linear regression-prediction of entrepreneurial intention

The Model 2 was confined only in the data from the fourth year students and the results showed that together attitude toward behavior, subjective norm and perceived behavioral control explained 47.2% (Adjusted R²) of the variance of entrepreneurial intention. Model 2 was also statistically significant at 0.001. Entrepreneurial intention of fourth year students is predicted, in order of importance, by attitude towards behavior ($\beta=0.37$, $p<0.001$), perceived behavioral control ($\beta=0.30$, $p<0.01$) and subjective norm ($\beta=0.22$, $p<0.05$). These results are presented in Table 6.

The Model 3 extended Model 2 by adding into the analysis the variable of entrepreneurial curriculum and content. As a result of this addition, the adjusted R² increased to 50.2 %, indicating that this variable contributes to the rate that explains the variance of entrepreneurial intention of fourth year students. Model 3 was statistically significant at a significance level of 0.001. Entrepreneurial intention of fourth students was predicted, in order of importance, by attitude towards behavior ($\beta=0.39$, $p <0.001$) and perceived behavioral control ($\beta=0.33$, $p<0.01$), while entrepreneurial curriculum and content produced no statistically significant effect. These results are presented in Table 6.

Based on the above findings, hypotheses H1a and H1c were confirmed, receiving strong support as consistently demonstrated by the three models that attitude and perceived behavioral control exert an effect on intentions. However, the results offered marginal support for Hypothesis H1b, as subjective norm contributed to the explanation of the variance of entrepreneurial intention only in the case of fourth year students, and only if the entrepreneurial curriculum and content was not included in the model. Therefore, H1b is only partially accepted.

Hypothesis H2b was not supported as entrepreneurial curriculum and content was found insignificant in predicting the entrepreneurial intention of fourth year students. The entrepreneurial curriculum and content proved insignificant to affect the fourth year students' entrepreneurial intention. This result is presented in Table 6.

To test Hypothesis H2a, a T-test analysis was conducted to examine whether there is difference between the entrepreneurial intention of first and the fourth year students (see Table 3 and Table 4). Results indicated that the particular sample is characterized by neutral entrepreneurial intentions ($M=4.23$) with the fourth-year students expressing a slight reduced intention ($M=4.12$) (see Table 3), compared with the first-year ones ($M=4.31$) (but not statistically significant), neutral to moderate attitude towards behavior ($M=4.78$), subjective norm ($M=4.70$), and perceived behavioral control ($M=4.35$) for both years. There is also a perceived low contribution of entrepreneurial curriculum and content ($M=4.06$). Statistically significant differences were found between the two sub-samples in subjective norm ($t=2.13$, $sig.=0.035<0.05$) and perceived behavioral control ($t=2.63$, $sig.=0.009<0.01$), where the 1st year prevailed. Based on the above, H2a. was rejected.

5. Discussion of the Results

The literature is scarce in studies exploring the entrepreneurship preference of business related students in economies suffering long recession, like Greece. This study represents a first systematic quantitative effort to measure and compare the

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

entrepreneurship intentions of the first and fourth year students of a Greek university. Furthermore, the study was set to explore the role of the key components of TPB and curricular content in forming favorable entrepreneurship intentions. The outcomes of this study make two significant contributions: the first contribution relates to the fact that the three dimensions of the TPB (i.e., attitude, subjective norm, and perceived behavioral control) seem to play a differentiated role in the forming the entrepreneurship intentions of business student, with subjective norms proved to be insignificant in the process of intention formation. The second contribution involves the emergence of the insignificance of entrepreneurial curriculum and content in influencing the rather weak intentions of business students to pursue a self-employed career. Fourth year students after attending a number of businessrelated courses were found to report on average less strong entrepreneurship intentions compared to the first year students.

Concerning the first contribution, the impact of the variables *attitude towards behavior* and *perceived behavioral control* in the formation of entrepreneurial intention was proved for both the freshmen and the fourth year students. Similar results have been reported by many researchers such as Kolvereid (1996), Tkachev and Kolvereid (1999) and Ajzen (1991). This means that when students evaluate entrepreneurship favorably, they are more willing to pursue a self-employed career. Besides attitudes, the perceived easiness to fulfill entrepreneurial activities seems to play a role in career choices.

So far literature suggests that attitude towards behavior, subjective norm and perceived behavioral control are the factors that determine one's intentions (Ajzen, 1991, Kolvereid, 1996, Tkachev and Kolvereid, 1999). The presented results failed to confirm the role of subjective norm in the formation of intentions in the case of Greek students. This indicates that the opinion of people that are close to these students (family, friends, important people, etc.), exert less influence about entrepreneurial activities. This can be explained by the fact that entrepreneurship is not well embedded in Greek culture and mentality, a finding which was raised extensively by Piperopoulos (2012) in a similar sample of students and business faculty members.

The second contribution of this study concerns the fact that while entrepreneurial curriculum and content contribute to the overall understanding of entrepreneurial intention of fourth year students, the particular variable does not have a statistically significant and direct effect. This finding is agreement with qualitative evidence provided by Piperopoulos (2012) that entrepreneurial programs can deteriorate Greek students' willingness to involve in entrepreneurship. Actually, the structure of the Greek universities not only demotivates students to undertake entrepreneurial activities, but also inhibit knowledge and technology transfer and discourages collaborations between the industry and the universities (Piperopoulos, 2012). This dominant culture and mentality among the universities may partially indicate that Greek students are inadequately exposed in entrepreneurial activities while at the universities, which leads to weak intentions. It is worth noting that this result is inconsistent with the existing literature which overall highlights the influential role of entrepreneurial education on students' career options in various countries (Keat *et al.*, 2011; Robinson and Sexton, 1994; Bates, 1995; Wu, 2008).

In general, both the first and the fourth year students report a slightly above average preference of entrepreneurship as a career option. More specifically, while it appears

that they have thought of entrepreneurship, they do not intent to create their own firm promptly after graduation. This finding can be explained by the fact that Greece is in an extremely difficult financial situation due to the prolonged recession. Due to the fact that unemployment has raised to 25.5% and among young people to 50% (Bank of Greece Eurosystem, 2–14), entrepreneurial activity is perceived as one with too high of a risk to be undertaken by inexperienced students.

A surprising finding is that the fourth year students who were close to complete their studies and have attended a number of entrepreneurship courses, reported lower entrepreneurial intention compared to first-year students who were just introduced to this concept. This may reflect the lack of ability of the particular entrepreneurial curriculum and content to develop well-targeted skills, capacities, knowledge and ideas related to entrepreneurship. It may also demonstrate the difficulty of the department itself to promote entrepreneurship at the local level, and develop links with the local industry which strengthen its entrepreneurial profile. This finding is supportive of results presented by Piperopoulos (2012) stating that Greek higher education institutions have a difficulty to promote broad interest for entrepreneurial activities, a finding which was also revealed while surveying Chinese students (Wu and Wu, 2008). Interestingly, Chinese postgraduate students were less positive towards entrepreneurship, compared with diploma and undergraduate students.

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

6. Limitations and Practical Implications

This study has a few limitations which affect the generalizability of the results. Data collection was conducted via students' e-mails which were provided by the university. This means that only the students that attend classes and follow the university news, were informed about this study and answered the questionnaire. Therefore, the results are representative of the active students and don't capture the perceptions of the non-active students. Also, the fact that the sample was small and convenient, creates some limitations in the generalization of the present results. Future research should address these limitations by using samples which are representative of Greek business students.

Ideally, in order to accurately estimate the actual effect of the entrepreneurial curricula and content on intentions, it is necessary to survey an identical sample of students in two different time periods: as freshman and then as fourth year students. In this study, the two sub-samples are not identical and this constitutes another important limitation because bias is introduced due students' choice of courses, activities and personal interests.

This study measures the entrepreneurial intention of business students of University of Patras. Within this study entrepreneurial curriculum and content was evaluated for its ability to encourage positive attitudes and perceptions about entrepreneurial activities. The results can inform the particular department for its performance in creating general interest towards entrepreneurship and facilitating regional entrepreneurial activity. This evidence can encourage the department to undertake a more thorough evaluation of its curriculum and consider setting specific strategic objectives in reference to how entrepreneurship can be promoted among business students.

References

- Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp. 179–211. DOI: [http://dx.doi.org/10.1016/0749-5978\(91\)90020-T](http://dx.doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2001), "Nature and operation of attitudes", *Annual Review of Psychology*, Vol. 52, pp. 27–58. DOI: <http://dx.doi.org/10.1146/annurev.psych.52.1.27>
- Ajzen, I. (2002), "Constructing a TPB questionnaire: conceptual and methodological considerations", http://chuang.epage.au.edu.tw/ezfiles/168/1168/attach/20/pta_41176_7688352_57138.pdf (accessed January 5, 2015).
- Bank of Greece Eurosystem, Economic analysis & research development, statistics Department (2014), *Bulletin of Conjunctural Indicators*, November–December 2014, available at: <http://www.bankofgreece.gr/BogEkdoseis/sdos201411-12.pdf> (accessed March 4, 2015).
- Bates, T. (1995), "Self-employment entry across industry groups", *Journal of Business Venturing*, Vol. 10, No. 3, pp. 143–56. DOI: [http://dx.doi.org/10.1016/0883-9026\(94\)00018-P](http://dx.doi.org/10.1016/0883-9026(94)00018-P)
- Binks, M. (2005), "Entrepreneurship education and integrative learning", from http://www.ncge.org.uk/downloads/policy/Entrepreneurship_Education_and_Integrative_Learning.doc.
- Bird, B. (1988), "Implementing entrepreneurial ideas: the case of intentions", *Academy of Management Review* 13 (3), 442–454.
- Davidsson, P. (1995), "Determinants of entrepreneurial intentions", *Paper prepared for the RENT IX Workshop*, Piacenza, Italy.
- Ferreira, J.J., Raposo L.M., Rodrigues, R.G., Dinis, A. and do Paco, A. (2012), "A model of entrepreneurial intention: An application of the psychological and behavioral approaches", *Journal of Small Business and Enterprise Development*, Vol. 19, No. 3, pp. 424–440. DOI: <http://dx.doi.org/10.1108/14626001211250144>
- Iakovleva, T. and Kolvereid, L. (2009), "An integrated model of entrepreneurial intentions", *Int. J. Business and Globalisation*, Vol. 3, No. 1.
- Ismail, M., Khalid, S., Othman, M., Jusoff, H.J.K., Rahman, N., Kassim, K. and Zain, R. (2009), "Entrepreneurial Intention among Malaysian Undergraduates", *International Journal of Business and Management*, Vol. 4, No. 10.
- Keat, O.Y., Selvarajah, Chr. and Meyer, D. (2011), "Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students", *International Journal of Business and Social Science*, Vol. 2, No. 4.
- Kolvereid, L. (1996), "Prediction of employment status choice intentions", *Entrepreneurship Theory & Practice*, Vol. 21, No. 1, pp. 47–57.
- Liñán, Fr. and Chen, Y. (2006), "Testing the Entrepreneurial Intention Model on a Two-Country Sample", *Departament d'Economia de l'Empresa*.
- Oosterbeek, H., Praag, M. and Ijsselstein, A. (2010), "The impact of entrepreneurship education on entrepreneurship skills and motivation", *European Economic Review* Vol. 54, pp. 442–454. DOI: <http://dx.doi.org/10.1016/j.eurocorev.2009.08.002>
- Piperopoulos, P. (2012), "Could higher education programmes, culture and structure stifle the entrepreneurial intentions of students?", *Journal of Small Business and Enterprise Development*, Vol. 19, No. 3, pp. 461–483. <http://dx.doi.org/10.1108/14626001211250162>
- Postigo, S. and Tamborini, F. (2002), "Entrepreneurship education in Argentina: The case of San Andres University", *International Entrepreneurship Education and Training Conference, IntEnt02*, Kuala Lumpur, Malaysia.
- Robinson, P.B. and Sexton, E.A. (1994), "The effect of education and experience on self-employment success", *Journal of Business Venturing*, Vol. 9, pp. 141–56. DOI: [http://dx.doi.org/10.1016/0883-9026\(94\)90006-X](http://dx.doi.org/10.1016/0883-9026(94)90006-X)

- Solesvik, M., Westhead, P., Kolvereid, L. and Matlay, H. (2012), "Student intentions to become self-employed: the Ukrainian context", *Journal of Small Business and Enterprise Development*, Vol. 19, No. 3, pp. 441–460. DOI: <http://dx.doi.org/10.1108/14626001211250153>
- Souitaris, V., Zerbini, S. and Al-Laham, A. (2007), "Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources", *Journal of Business Venturing*, Vol. 22, pp. 566–591. DOI: <http://dx.doi.org/10.1016/j.jbusvent.2006.05.002>
- Tkachev, A. and Kolvereid, L. (1999), "Self-employment intentions among Russian students", *Entrepreneurship & Regional Development: An International Journal*, Vol. 11, pp. 269–280. DOI: <http://dx.doi.org/10.1080/089856299283209>
- Wu, S. and Wu, L. (2008), "The impact of higher education on entrepreneurial intentions of university students in China", *Journal of Small Business and Enterprise Development*, Vol. 15, No. 4, pp. 752–774. DOI: <http://dx.doi.org/10.1108/14626000810917843>

The Role
of Theory
of Planned
Behavior on
Entrepreneurial
Intention
of Greek
Business
Students

Biographic Notes

Charitomeni Tsordia, MBA., Ph.D. Candidate in the Department of Business Administration at the University of Patras, Greece. Her research interests include entrepreneurial intentions and attitudes.

Dimitra Papadimitriou, Ph.D. is an Assistant Professor in the Department of Business Administration at the University of Patras, Greece. Her current research interests include organizational performance, service management and marketing. She has also conducted research in the areas of sport management, service quality management, and event-related consumer behavior.