Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie The Małopolska School of Economics in Tarnów Research Papers Collection ISSN 1506-2635, e-ISSN 2658-1817 2020, 48(4), 49–58 DOI: 10.25944/znmwse.2020.04.4958 © 2020 MWSE, distributed under the Creative Commons Attribution 4.0 International License (CC BY-NC-ND 4.0)

Shaping entrepreneurial intentions: The impact of entrepreneurship education on university students

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University of West Attica, Greece E-mail: panagiotis_tsaknis@ windowslive.com Abstract: The purpose of this paper is to investigate the impact of entrepreneurship education on university students' entrepreneurial intentions. The study attempts to empirically determine the extent to which entrepreneurship education can shape students' entrepreneurial intentions. A questionnaire-based survey is used to test the hypotheses examined. A pre-test-post--test group design was adopted to measure the change in students' attitude, subjective norms, Perceived Behavioural Control (PBC) and entrepreneurial intention using the Theory of Planned Behavior (TPB). A questionnaire was completed by 210 business students (out of 400), studying at a public university based in Athens, Greece, at the beginning of their 13-week compulsory course in Entrepreneurship. A second questionnaire was re-sent to the same students at the end of the course and they were asked to complete it. The second questionnaire was completed by 158 students from the original respondent group. The student participation was voluntary at both times. The sample was a convenience one given that the resources available were limited. The findings lent support to the theory and the hypotheses proposed. The authors report that attitude, PBC and entrepreneurial intention can be positively influenced by entrepreneurial education.

Keywords: entrepreneurial education, entrepreneurial intention, entrepreneurship programmes, Theory of Planned Behavior, attitude, Perceived Behavioral Control, subjective norms

1. Introduction

Entrepreneurship education is a concept that has been steadily evolving in recent decades, highlighting business culture, and creating policies and practices that promote the development of entrepreneurial thinking and behaviours. Entrepreneurial education is linked to the creation of business ecosystems and contributes to the sustainable socio-economic development (NCEE, 2010). Entrepreneurship courses are incorporated in the curriculum of universities and schools of secondary or primary education. In universities, entrepre-

Financed by:
Małopolska School of Economics
in Tarnów with support
of the Ministry of Science
and Higher Education
("Support for scientific journals")

Correspondence to: Alexandros G. Sahinidis University of West Attica Agiou Spyridonos 2 Aigaleo 12210, Greece Tel.: +30 210 538 11 86 neurship programmes are rapidly proliferating at both undergraduate and post-graduate levels. Beyond the educational system, there are also courses and programmes targeting specific audiences and social groups. Promoting entrepreneurship is considered a key feature of theories related to economic growth and structural changes in economies. Based on this proposal, entrepreneurial education could be identified as an effective strategy to promote starting new businesses (Liñán, 2004).

2. Entrepreneurial education

University programmes on entrepreneurship are designed to promote entrepreneurship by enhancing students' entrepreneurial intention (Galloway and Brown, 2002; Fayolle and Gailly, 2009; Secundo and Elia, 2014; Secundo et al., 2017; Souitaris, Zerbinati and Al-Laham 2007; Rodrigues et al., 2010; Bae et al., 2014), so that new graduates can effectively pursue their careers as entrepreneurs if they chose to do so (Sahinidis et al., 2020a). Entrepreneurial education influences entrepreneurial intention and creates the capacity for flexibility, willingness to conceptualize thinking, imagination, creativity and the perception of change as an opportunity (Timmons and Spinelli, 2004). Beyond the goals of research and teaching (the production and dissemination of knowledge at the individual level), universities are increasingly involved in supporting the nurturing of new entrepreneurs by enhancing their role in the development of entrepreneurship (Sánchez and Elena, 2006; Laredo, 2007). They support entrepreneurship through initiatives aimed at creating new businesses and spreading the scientific and entrepreneurial culture (Laredo, 2007; Fini et al., 2011). Entrepreneurship education aims to provide the knowledge (through training courses, workshops, and business plan competitions) and skills that trainees need to successfully handle managerial and financial problems (Kolvereid and Moen, 1997; Favolle and Gailly, 2015). Entrepreneurship education encourages individuals by empowering their entrepreneurial intention prior to the creation of new businesses, while providing the guideposts for the realization of their endeavour (Liñán and Chen, 2009; Liñán, Urbano and Guerrero, 2011). While this issue has been widely studied in several countries, in Greece it has not received analogous attention. This study contributes to the literature regarding the factors influencing entrepreneurial intention, providing empirical evidence that concerns teachers, students, universities and policymakers. This paper provides insights and corroborates previous findings in which entrepreneurship programmes have a positive effect on students' intention to start their own business.

3. Theory of Planned Behavior

Theory of Planned Behavior (TPB) is probably one of the most widely used models of entrepreneurial intention to this day. TPB describes and predicts human behaviour of their intentions to perform an action. Numerous research work has used it to improve our understanding of the entrepreneurial intention of students (Souitaris et al., 2007; Fayolle and Gailly, 2015; Sahinidis et al., 2019; Sahinidis, Polychronopoulos and Kallivokas, 2019; Shook and Bratianu, 2008; Gird and Bagraim, 2008; Veciana, Aponte and Urbano, 2005; Segal, Borgia and Schoenfeld, 2005) and of other categories of individuals (Tsaknis and Sahinidis, 2020;

Sahinidis et al., 2020b). According to TPB, a person's intention to participate in the business process is primarily shaped by three factors: personal attitude, subjective norms and PBC.

Attitude is determined by the individuals' beliefs about outcomes or attributes of performing the behaviour (behavioural beliefs), weighted by evaluations of those outcomes or attributes. Thus, a person who has strong beliefs that positive outcomes will result from performing such behaviour will have a positive attitude towards it. Conversely, a person who has strong beliefs that the results will be negative—will have a negative attitude towards the behaviour (Tsaknis and Sahinidis, 2020).

Subjective norms refer to perceived social pressure from society as well as family and friends. A person's subjective norms are determined by his or her normative beliefs (important referent individuals approve or disapprove of performing the behaviour) weighted by the person's motivation to comply with those referents. A person who believes that certain referents think that he or she should perform a behaviour and who is motivated to meet their expectations will hold a positive subjective norm. Conversely, a person who believes that these referents think he or she should not perform the behaviour—will have a negative subjective norm, and a person who is less motivated to comply with those referents will have a relatively neutral subjective norm (Glanz, Rimer and Viswanath, 2015).

Perceived Behavioural Control (PBC) is defined by control beliefs in connection with the presence or absence of barriers in the behavioural performance (this refers to the extent to which a person feels capable to perform a behaviour), weighted by the perceived power (the impact of each control factor to facilitate or prevent behaviour). The integration of the perceived control by Ajzen was based on the idea that the behavioural performance is defined by the motivations (intention) and the abilities (behavioural control). Fishbein and Ajzen (2010) proposed that Perceived Behavioral Control and self-efficacy, as defined by Bandura, constitute the same theoretical construct. Self-efficacy refers to judgments on how well one can perform actions required to handle future situations (Bandura, 1982). Self-efficacy has been linked to opportunity identification, risk-taking, and it has been found to be positively related to global feasibility perceptions (Krueger, Reilly and Carsrud, 2000). An individual's perception concerning control of the performance of the behaviour, together with the intention, are expected to have direct impact on the behaviour, especially when Perceived Behavioral Control constitutes an accurate estimation of real behavioural control and when the volitional control is not high. In situations where volitional control is high, the impact of the perceived control is reduced and the intention is a sufficient behaviour predicting factor (Tsaknis and Sahinidis, 2020).

Several meta-analyses and the majority of the studies using mostly the TPB support the hypothesis that entrepreneurship education has a positive impact on entrepreneurial intention and it does so to its antecedents (Galloway and Brown, 2002; Sahinidis et al., 2019; Lorz, Mueller and Volery, 2011; Autio et al., 2001). Most studies did point to some extent a positive relationship between entrepreneurship education and entrepreneurial intention and its antecedents, skills and other outcomes (Lorz et al., 2011; Nabi et al., 2017; Nabi et al., 2018; Liu et al., 2019; Nowiński et al., 2019; Vodă and Florea, 2019). The approach taken in this study is that of Ajzen's Theory of Planned Behavior, leading us to the examination of the relationships between entrepreneurial intention and attitude, entrepreneurial intention and Perceived Behavioral Control.

The hypotheses derived from the literature review are the following:

- H1: There is a significant relationship between entrepreneurship education and students intentions.
- H2: Entrepreneurship education will have a positive effect on attitude.
- H3: Entrepreneurship education will have a positive effect on subjective norms.
- H4: Entrepreneurship education will have a positive effect on Perceived Behavioral Control.

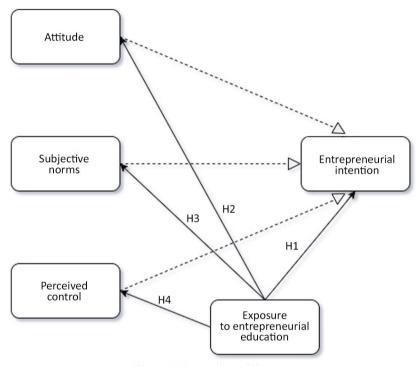


Figure 1. Research model

Source: Authors' own elaboration.

The diagram above shows the hypotheses that have been formed. Dotted lines show the relationship of the TPB variables towards entrepreneurial intention, with the intervening variable of entrepreneurial education. In other words, a pre-test-post-test group design was adopted to measure the change in students' attitude, subjective norms, PBC and entrepreneurial intention.

4. Methods

In order to analyze the most recent literature, a thorough search was conducted in all relevant studies that are available so far. The areas of the study consist of online databases, magazines and any other areas that fully cover the scope of this study. Furthermore, there was an extensive search, based on the existing literature, on the impact of entrepreneurial education on entrepreneurial intention and its antecedents.

The 158 students participating in the study (81 females and 77 males) were attending their third semester at the Department of Business Administration of a large university and enrolled in a compulsory Entrepreneurship course. The course was designed to familiarize students with concepts pertinent to entrepreneurship, provide them with some basic understanding of the skills and knowledge required for making of a successful entrepreneur and exposing them to real-life examples, local and international, so as to appreciate the theory and practice of the subject. The course included lectures based on a textbook, writing of a business plan and a visit of two guest speakers representing their start-up companies, aiming to present the students the entrepreneurship career option.

After determining the initial aim and orientation of the proposed study and given its complexity, the questionnaire method is deemed as appropriate to get answers to the questions raised. In order to determine the relationship between the variables stated in the hypotheses above and entrepreneurial education, 19 questions were used (7-point Likert scale). A pre-test-post-test group design was adopted to measure the change in students' attitude, subjective norms, Perceived Behavioral Control and entrepreneurial intention. The group participating in this study was voluntarily tested at both times. The first questionnaire was completed by 210 business students (out of 400 taking the course), who are studying at a public Greek university based in Athens, at the beginning of their 13-week compulsory course in Entrepreneurship. At the end of the course the questionnaire was re-sent to the students who responded to the first one (158 students responded to the second questionnaire). The sample was a convenience one given that the resources available were limited. The size of the sample allows us to proceed with reliable statistical analyses and produce valid conclusions. Subsequently, a paired sample T-test analysis was used to measure and test our hypotheses twice resulting in pairs. The data was empirically tested using the SPSS software version 24. Through a literature review, the results of our research were compared with those of similar studies from other countries.

5. Results and findings

Table 1 presents paired samples statistics and Table 2 presents the differences in the measurements of attitude, subjective norms, Perceived Behavioral Control and entrepreneurial intention, before and after the end of the Entrepreneurship one semester course. As expected, the first hypothesis was not rejected, leading us to the conclusion that entrepreneurial education does have a significant effect on entrepreneurial intention (Sahinidis et al., 2019, pp. 35–36). The second hypothesis is also accepted, with entrepreneurship education relating positively to attitude, lending support to earlier findings (Bae et al., 2014; Sahinidis et al., 2019; Pittaway and Cope, 2007; Brandstätter, 2011). The third hypothesis is not supported in our analysis (*p* value > 0.05), showing no significant relationship between entrepreneurship education and subjective norms (Sahinidis et al., 2019). The fourth hypothesis proposing a positive relationship of entrepreneurial education and Perceived Behavioral Control is accepted, corroborating the findings of earlier studies (Sahinidis et al., 2019; Pittaway and Cope, 2007; Brandstätter, 2011).

Table 1. Paired samples statistics

		Mean	N	Std. deviation	Std. error mean	
Pair 1	Attitude post-test	5.4367	158	1.14768	0.09130	
	Attitude pre-test	5.104	158	1.1434	0.910	
Pair 2	Subjective norms post-test	4.959915612	158	1.214944449	0.0966557906	
	Subjective norms pre-test	5.109704641	158	1.450501067	0.1153956689	
Pair 3	Perceived behavioural control post-test	4.358	158	1.1887	0.0946	
	Perceived behavioural control pre-test	4.000	158	1.2108	0.0963	
Pair 4	Intention post-test	4.813080169	158	1.565922647	0.1245781168	
	Intention pre-test	4.449367089	158	1.531540175	0.1218427942	

Source: Authors' own elaboration.

Table 2. Paired samples test

		Mean	Std. deviation	Std. error mean	95% confidence interval of the difference		t	df	Sig. (2-tailed)
					Lower	Upper			(2-talled)
Pair 1	Attitude post-test— Attitude pre-test	0.33291	0.72340	0.5755	0.21924	0.44658	5.785	157	0.000
Pair 2	Subjective norms post-test— Subjective norms pre-test	-0.149789030	1.405956124	0.1118518636	-0.370717618	0.711395593	-1.339	157	0.182
Pair 3	Perceived behavioural control post-test— Perceived behavioural control pre-test	0.3582	1.0549	0.839	0.1925	0.5240	4.268	157	0.000
Pair 4	Intention post-test— Intention pre-test	0.3637130802	1.033140724	0.0821922629	0.2013678133	0.5260583471	4.425	157	0.000

Source: Authors' own elaboration.

Based on the findings of this study, entrepreneurship education can shape students' entrepreneurial intentions through affecting positively attitude and Perceived Behavioral Control. It can be concluded that entrepreneurial education affects students' entrepreneurial intentions in isolation from other factors but interacts with the factors that shape entrepreneurial intentions. This study corroborated the efficacy of TPB in explaining the relationship between entrepreneurship education and the factors that shape students entrepreneurial intentions. Also, this study could be used by researchers to evaluate the effectiveness of entrepreneurship programmes in fostering students' entrepreneurial intentions.

6. Conclusions

The improvement in entrepreneurship education programmes provided by universities is linked to greater levels of entrepreneurial intention as predicted by the Theory of Planned Behavior. Entrepreneurship education enables one to become familiar with entrepreneurial logic, the challenges and processes involved in entrepreneurship. In addition to transferring knowledge on entrepreneurship and successful business management practices, university entrepreneurship education entails the configuration of a favourable micro-environment for developing a business model, providing a network of relationships with other research centres, businesses and counselors (Laredo, 2007; Kavoura and Kozioł 2017). The positive relationship of the effects of university entrepreneurship education on entrepreneurial intention is clear and all stakeholders involved are called to act upon the proven relationship of entrepreneurship education and the outcomes it delivers (Fayolle and Gailly, 2015; Liñán et al., 2011). Higher levels of entrepreneurial intention can be achieved through the knowledge provided by higher and secondary education (Sánchez and Elena, 2006). The availability of business knowledge is seen as a key component that encourages self-employment. It is argued that knowledge related to starting a business has a positive impact on entrepreneurial intention and further the probability of success of the new venture (Secundo et al., 2017). Therefore, the higher the entrepreneurial education level, the higher the direct or indirect impact on the entrepreneurial intention (Galloway and Brown, 2002; Souitaris et al., 2007; Bae et al., 2014).

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Kształtowanie planów zawodowych. Wpływ edukacji z zakresu przedsiębiorczości na intencje przedsiębiorcze studentów uczelni wyższych

Abstrakt: Celem artykułu jest zbadanie wpływu edukacji z zakresu przedsiębiorczości na intencje przedsiębiorcze i plany zawodowe studentów. W pracy podjęto próbę empirycznego określenia stopnia, w jakim edukacja z zakresu przedsiębiorczości może kształtować intencje przedsiębiorcze studentów. Do weryfikacji postawionych hipotez wykorzystano badanie ankietowe. W celu pomiaru zmiany w postawach studentów, subiektywnych normach, postrzeganej kontroli behawioralnej i zamiarach związanych z przedsiębiorczością przyjęto pracę na modelu grupy przed-testowej i post-testowej, wykorzystując Teorię Planowanego Zachowania (TPZ). Kwestionariusz wypełniło 210 studentów kierunków związanych z przedsiębiorczością (z 400), studiujących

na publicznym uniwersytecie w Atenach (Grecja), rozpoczynających trzynastotygodniowy obowiązkowy kurs przedsiębiorczości. Drugi kwestionariusz został ponownie wysłany do tych samych studentów pod koniec tego kursu z prośbą o jego wypełnienie. Został on wypełniony przez 158 studentów z pierwotnej grupy respondentów. W obu przypadkach udział studentów był dobrowolny. Dobór próby miał charakter wygodny, ze względu na ograniczoną ilość dostępnych zasobów. Ustalenia badawcze potwierdziły teorię i wysunięte hipotezy. Autorzy wskazują, że edukacja w zakresie przedsiębiorczości może mieć pozytywny wpływ na postawę studentów, postrzeganą kontrolę behawioralną i ich intencje przedsiębiorcze dotyczące przyszłości.

Słowa kluczowe: edukacja z zakresu przedsiębiorczości, intencje przedsiębiorcze, kursy przedsiębiorczości, teoria planowanego zachowania, postawy, normy subiektywne, kontrola behawioralna