

The Effect of Entrepreneurship Education on Students' Scope Start-up Activities

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Abstract: The main aim of this article is to determine the effect of Entrepreneurial Education (EE) on students' scope start-up activities (SSSA). The study sought also to examine the mediating role of three entrepreneurial characteristics as known subjective norm (SN), Entrepreneurial Attitude (EA), and Perceived Behavioral Control (PBC) between EE and SSSA. A total of 120 questionnaires were collected from students in three institutions of Sfax university. Relationships between the variables were evaluated using factor analysis, reliability, correlations, descriptive statistics, and regression. The findings show a positive and significant influence of entrepreneurship education on the three entrepreneurial characteristics (EA, SN, PBC) and consequently on the student-scope startup activities. Further implications and limitations are also discussed in this article.

Keywords: entrepreneurship education; entrepreneurial attitude; subjective norm; perceived behavioral control; students' scope start-up activities

Abstrak: Tujuan utama dari artikel ini adalah untuk mengetahui pengaruh Pendidikan Kewirausahaan (*Entrepreneurial Education/EE*) terhadap kegiatan *start-up* lingkup siswa (*Students' Scope Start-up Activities/SSS*). Studi ini juga berusaha untuk menguji peran mediasi dari tiga karakteristik wirausaha yaitu norma subyektif (*Subjective Norm/SN*), sikap wirausaha (*Entrepreneurial Attitude/EA*), dan kontrol perilaku yang dirasakan (*Perceived Behavioral Control/PBC*) antara EE dan SSSA. Sebanyak 120 kuesioner dikumpulkan dari mahasiswa di tiga institusi Universitas Sfax. Hubungan antar variabel dievaluasi menggunakan analisis faktor, reliabilitas, korelasi, statistik deskriptif, dan regresi. Temuan menunjukkan pengaruh positif dan signifikan Pendidikan Kewirausahaan pada tiga karakteristik kewirausahaan (EA, SN, PBC), dan pengaruhnya pada kegiatan *start-up* lingkup siswa. Implikasi dan batasan lebih lanjut juga dibahas dalam artikel ini.

Kata Kunci: pendidikan kewirausahaan; sikap wirausaha; norma subyektif; kontrol perilaku yang dirasakan; kegiatan start-up lingkup siswa

INTRODUCTION

Student entrepreneurship represents today an important activity for the growth and development of countries' economies and a solution for reducing graduates' unemployment. So, the majority of universities in developed countries engage in this sector by launching several offers related to entrepreneurship like course training, incubation, events, etc with the aim to promote students' knowledge, skills, and culture as well as to have the highest number of student entrepreneurs. Since 2005, like many Tunisian universities, Sfax University has engaged in this stream across all their institutions. Respectively, a variety of courses has been implemented such as entrepreneurial culture, business plan, and venture creation mainly to enhance students' entrepreneurship skills and consequently

augment the number of student entrepreneurs in the university. In this paper, we will firstly determine the main component of Sfax university entrepreneurship education, and secondly, reveal the impact of these courses on the scope of start-up activities of business students. In the end, we will propose some solutions for the development of entrepreneurship in university. The research question of this study is: Does entrepreneurship education at university facilitate start-up formation among students?

LITERATURE REVIEW

Entrepreneurship Education (EE)

Education on entrepreneurship is an educational process that seeks to improve entrepreneurial attitudes and skills (Fayolle et al., 2006) and ranges from the establishment of business plans to content creation (Kuratko, 2005). The development of entrepreneurship education began in 1947 when Harvard Business School opened the first EE course, “Management of New Enterprises,” and has continued to develop gradually since then. EE in colleges guides students to exercise their comprehensive abilities such as the ability to identify opportunities, the ability to innovate, and psychological strength. For example, it is helpful for students wishing to succeed in entrepreneurship to engage in a series of EE experiences and cultivate their analytical ability and intuition (Raposo & Do Paco, 2011). Also, the preparation of a business plan is an important part of the curriculum for educating students in entrepreneurship, as entrepreneurial intentions can be honed, and relevant skills and knowledge developed. Venture creation is facilitated through programs that impart an understanding of the process of establishing and operating a venture. Gorman et al. (1997) point out that entrepreneurship education is an educational program that is focused on impacting students with issues on entrepreneurship. Other studies have also listed the contents of good entrepreneurship education programs that are skill-built oriented. There is a rapid growth in the number of entrepreneurship courses and programs in recent decades (Martin et al., 2013; Walter & Block, 2016). Entrepreneurship education provides theoretical knowledge and the importance of shaping the attitude, behavior, and mindset of an entrepreneur (Cui et al., 2021). This is a valuable lesson for students to prepare and start a business through experiences, skills, and knowledge to develop and expand a business. Entrepreneurial education is focused on developing youth with passion and multiple skills. It aims to reduce the risk associated with entrepreneurship thought and guide the enterprise successfully through its initial stage to the maturity stage. According to Brown (2000), entrepreneurial education is designed to communicate and inculcate competencies, skills and values needed to recognize business opportunity, organize, and start new business ventures. These include; leadership, negotiation, creative thinking, exposure to technology, invention and innovation (McMullan & Long, 1987); opportunity identification, venture capital, idea generation and protection, tolerance for ability, ability to tackle challenges at different entrepreneurial stages, personality traits, ability to write and communicate business plan, new venture development, ability to diagnosis business performance, networking and mentorship, environmental analysis, computer and simulation skills, case studies, films and videoing, field, and company analysis (Plaschka & Welsch, 1990; Kuratko, 2005). Universities are also offering education and support for start-ups in various forms, such as reforming the curriculum through industry-academic cooperation projects, developing idea-based start-up items through start-up clubs, and finding start-ups through start-up competitions. Industry–academic cooperation in the curriculum is designed to improve the relevance of learning outcomes as well as to enhance the contents of courses to meet the needs of industry.

Scope of Student’s Start-up Activities (SSSA)

A start-up can be defined as the establishment of a viable new organization with the aim of Organization development, technology and product development, and market development (Morris et al., 2017). Any type of behavior consists of a range of actions made by individuals in conjunction with personal preferences and external conditions. Scholars agree that the emergence of an organizational entity is a process made up of multiple start-up activities (Carter et al., 1996; Gartner et al., 2004). Entrepreneurial behavior is concerned with the discovery, evaluation and exploitation of an opportunity (Shane & Venkataraman, 2000). Entrepreneurship has been described as the ‘pursuit of opportunities without regard to the resources currently controlled’ (Stevenson & Jarillo, 2007). Such a perspective

begs the question of how one starts something when he or she has very little. Successful resource acquisition plays a crucial role in the creation of a sustainable venture (Hulsink & Koek, 2014). At the same time, the start-up process does not occur in a social vacuum (Danes et al., 2009; Steier, 2007). A key question concerns the role of the university context in providing or facilitating the generation of these resources. It would seem the university context could influence whether or not something gets started, while also shaping the nature of the emergent venture (Politis et al., 2012). Some researchers emphasized the roles of business planning (Shane & Delmar, 2004), legitimacy (Zimmerman & Zeitz, 2002), institutions (Choi & Shepherd, 2004), and related variables on start-up activity, but have not examined such variables in a university context. The current research seeks to determine how student involvement in different types of entrepreneurship-related programs and activities provided by a university is associated with student start-up activity, particularly, the education of entrepreneurial courses. Our conceptual framework, inspired by McKelvey and Lassen's (2013) knowledge-intensive entrepreneurship (KIE) creation model, distinguishes three stages of the start-up process from the decision to start a firm to eventual start-up success.

Entrepreneurship Education (EE) and Scope of Student Start-up Activities (SSSA)

The support system for student start-ups in universities includes education that fosters potential entrepreneurship, simulation that helps students to carry out their start-ups, and incubation that helps them grow their start-ups to become independent companies (Jansen et al., 2015). Over a range of activities, education concerning entrepreneurship has been found to have a significant effect on start-ups (Urbano et al., 2017). To promote student start-ups, it is necessary to encourage student intentions to start a business, for which education is required concerning how to start a business at university, as well as special lectures on start-ups and practical education and experience in relation to relevant contextual resources (Huang et al., 2021). A recent study on start-ups also found that knowledge of entrepreneurship and entrepreneurial opportunities were related (Shepherd & DeTienne, 2005). The Preparation of a business plan is an important part of the curriculum for educating students in entrepreneurship, as entrepreneurial intentions can be honed, and relevant skills and knowledge developed. Venture creation is facilitated through programs that impart understanding of the process of establishing and operating a venture. Various methods are used in entrepreneurship education. University considered as a fundamental actor for the development of entrepreneurship (Muscio & Ramaciotti, 2019). These entrepreneurship education programs contribute significantly to the competition-intensified global economy by delivering entrepreneurial knowledge and skills; exploiting entrepreneurial spirits and intentions; and promoting creativity, innovation and growth of new business (DeTienne & Chandler, 2004; Duval-Couetil, 2013). Entrepreneurial education makes the students understand the risks of opening new businesses, while at the same time it gives them courage to open their own business. Lestari and Trisnady (2012) find that entrepreneurial education stimulates interest in entrepreneurship, which ultimately will have an effect on the emergence of young entrepreneurs with vision, creativity, and innovation in their field of expertise. Due to this reason, entrepreneurial education must implement a well-established planning and effective learning method and activities and use appropriate approaches that are suitable to the culture of the school or educational institution where entrepreneurial education is taught. Nurseto (2010) adds that entrepreneurial education is a different concept of education and aims to produce creative and innovative students. This pattern of education requires the students to be productive. Entrepreneurial education aims to direct the students to and equip them with entrepreneurial character, thus enabling them to respond quickly to changes and to understand the needs of socio-economic communities (see opportunities). In addition to that, Sarwoko (2011) finds that the higher the support to the students, the higher their self-confidence and mental maturity. The influence of entrepreneurial education by using designed thinking has an influence in increasing the motivation to entrepreneurial mindset for students, entrepreneurial motivation of students can be stimulated by using a case study or real business (Daniel, 2016). Entrepreneurial education also exponentially helps individuals to acquire resources through knowledge and information transfer. For instance, when taking entrepreneurial learning, students will have the experience to build an engagement with peers to promote a business (Zeng & Honig, 2016). According to Hyder and Lussier (2016) and Minai et al. (2018), the presence of entrepreneurial education is an incentive and one of the

key factors for the success of an entrepreneurial activity. However, such an opinion contradicts the position of Oosterbeek et al. (2010), according to which, students (who study entrepreneurship) have a more realistic view of their own entrepreneurial abilities, which hinders them from starting their own business. Thus, hypothesis one of this study is:

H1: Entrepreneurial Education has a significant effect on Scope of Student Start-up Activities (SSSA).

Entrepreneurial Education (EE) and Entrepreneurial Attitude (EA), Subjective Norm (SN), and Perceived Behavioral Control (PBC)

Entrepreneurial Education (EE) and Entrepreneurial Attitude (EA)

Attitude is a predisposition to respond favorably or unfavorably to an action (Ajzen, 1987) formed through prior experience or perceptions over the life of a person (Kuehn, 2008). Carr and Sequeira (2007) argues that individuals' attitudes will be affected by many exogenous variables, such as prior education experience. In entrepreneurial contexts, entrepreneurship education plays an important role in developing a positive attitude toward entrepreneurial behaviors (Basu & Virick, 2008). It may be because the entrepreneurial attitude is less stable than other personality traits and can be changed by the educators or practitioners (Schwarz et al., 2009). That is, an individual is more likely to hold a positive attitude toward entrepreneurship when he/she is educated to become an entrepreneur. According to TPB, a positive attitude toward an action promotes one's intention to act the behavior (Armitage & Conner, 2001). We argue that one's positive entrepreneurial attitudes acquired from entrepreneurship courses would enhance his/her willingness to engage in entrepreneurial start-ups (Krueger et al., 2000). Rosmiati et al. (2015) argued that attitude is mental readiness in several right action forms on something and how people respond to conditions and regulations in their life. The attitude of entrepreneurial students is influenced by entrepreneurship education. Keat et al. (2011) remarked that the main objective of entrepreneurship education aims at changing the views, behavior, and interests of students in order to understand entrepreneurship, have an entrepreneurial mindset and later become successful entrepreneurs in building new businesses as well as promote new job opportunities. Thus, hypothesis two of this study is:

H2: Entrepreneurial Education (EE) has a significant positive impact on Entrepreneurial Attitude (EA).

Entrepreneurial Education (EE) and Subjective Norm (SN)

Research suggests that entrepreneurship education plays an important role in developing a supportive norm toward entrepreneurial behavior (Basu & Virick, 2008). Souitaris et al. (2007), for example, find that entrepreneurship programs can increase students' subjective norm. They argue that participating in the same entrepreneurship programs enables a group of entrepreneurial-minded classmates to develop a mutual support network within which individuals can get support from their teachers, classmates or even technology transfer offices of the educational institutions. Moreover, with the knowledge and know-how, and spirit acquired from the entrepreneurship courses, the students are more likely to make their business plans acceptable to their families and friends, and then to gain their support. TPB argues that perceived support from "significant referents" (e.g., families, friends, and other significant people) produces a positive subjective norm that helps potential entrepreneurs to determine whether their intentions to entrepreneurship are accepted and supported by their significant others (Ajzen, 1991). Subjective norm measure the perceived social pressure that important "reference people" would expect or not expect us to start a business (Ajzen, 2001). This pressure can come from "important others" such as parents, friends, and partners, or from the groups and society to which the individual belongs. Ajzen and Fishbein (1980) argued that SN is determined by normative beliefs and motivation to comply. Normative beliefs are the perceived expected beliefs of salient individuals or groups perceived on whether they should perform a specific behavior; motives to comply with an individual's intention to obey others' expectations. Generally, students are more likely to launch new ventures when they perceive that their university's environment supports them (Saeed et al., 2015). Thus, hypothesis three of this study is:

H3: Entrepreneurial education has a significant positive impact on subjective norms (SN).

Marketing Mix

In marketing management it is grouped into four aspects which are often known as the marketing mix or marketing mix. According to Kotler and Armstrong (2018), the marketing mix is a collection of controllable tactical marketing tools that the company combines to produce the response it wants in the target market. The marketing mix consists of four groups of variables called the four P's:

- a. Product is a good or service that a company offers to its market share. The types included in the product mix include product variety, quality, design, features, brand name, packaging, and services.
- b. Price is the amount of money that must be paid by consumers to obtain the desired product or service. Price is the only element of the marketing mix that generates revenue, the other elements generate costs. Price is the type of marketing mix that is most easily adjusted to the ability of consumers and requires a relatively short time to change it, while product characteristics, distribution channels and even promotions require more time.
- c. Place or marketing channel includes company activities that make products or services intended for target customers. Distribution channels are a series of interrelated organizations in the process of making a product or service ready for use or consumption. Distribution channels can be interpreted as a collection of companies and individuals who assist in the transfer of rights to certain goods or services as long as the goods or services move from producers or traders to consumers.
- d. Promotions means an activity in conveying the product and inviting customers to buy the product or service. The definition of promotion is various activities carried out by producers to communicate the benefits of their products, persuade and remind target consumers to buy these products. In detail, the purpose of promotion is to inform, invite target customers and remind. For producers, promotion is an activity to inform the product, invite consumers to buy and remind consumers not to forget the product, while for consumers, promotion is communication between producers or traders and consumers.

Entrepreneurial Education (EE) and Perceived Behavioral Control (PBC)

Perceived behavioral control is a tenet of the person's perceived personal ease or difficulty to perform entrepreneurial behavior (Maes et al., 2014). PBC is a significant factor in the theory of planned behavior. Atkinson's (1964) theory of achievement motivation contains some elements of perceived behavioral control. It is described as the perceived probability of succeeding at performing a specific task. The theory of planned behavior is distinguished from the previous theory of reasoned action by Ajzen (1991) in the fact that it introduces PBC. The theory of planned behavior proposes that PBC, along with behavioral intention, might be a good predictor of the achievements of an individual in a specific field. The majority of the work done in the field of perceived behavioral control is done by Bandura and his associates (Bandura et al., 1977; Bandura et al., 1980). Research has found that entrepreneurship education plays an important role in developing a perceived behavioral control towards entrepreneurial behavior (Basu & Virick, 2008). Peterman and Kennedy (2003) apply self-efficacy theory and find a positive effect of entrepreneurship education programs on perceptions of desirability and feasibility of starting up a business. Such an education usually provides entrepreneurial-related knowledge, skills, and competencies (Galloway & Brown, 2002; Wilson et al., 2007) which can lead to changes in one's psychological status, making them more confident toward entrepreneurship (Paço et al., 2011). Exposed to various entrepreneurship courses, one is more likely to perceive a high level of behavioral control. With a high level of perceived behavioral control, people intend to engage in tasks that they believe can be completed (Bandura, 1997). That is, the greater one's perceived behavioral control is, the stronger his/her intention to start up a business will be. TPB argues that perceived behavioral control reflects the beliefs of performing entrepreneurial behaviors in a given situation. Thus, we argue that one's beliefs, influenced by information, knowledge or skills acquired from entrepreneurship education programs, may change his/her inclination to practice entrepreneurial activities. Characteristics such as initiative, persistence, concern, commitment, persuasion, self-

confidence, and assertiveness have been observed to impact entrepreneurial initiative and entrepreneurial success (John et al., 2008; Kaur & Bains, 2013). The indicator of perceived behavioral control needs to be differentiated between internal and control beliefs where this carries a contrasting sense in impacting the person's intention. As explained by Maes et al. (2014), internal control beliefs are linked to the personal capabilities of a person, for example, having the self-confidence to venture into entrepreneurship, while external control is related to situational control. The study conducted by Mumtaz et al. (2012) also found that behavioral control (creativity and risk-taking) had a positive relationship with entrepreneurial intention. Some studies have found PBC levels to be sensitive to environmental factors like cultural influences, social pressures (Liñán, 2008), competitive environments (Anggadwita & Mustafid, 2014), and governmental support (Anggadwita & Dhewanto, 2016). Thus, hypothesis four of this study is:

H4: Entrepreneurial Education (EE) has a significant positive impact on Perceived Behavioral Control (PBC).

The Relationship between Entrepreneurial Attitude (EA), Perceived Behavioral Control (PBC), Subjective Norm (SN), and Student Scope Start-up Activities (SSSA)

Liñán and Chen (2009) signaled that "attitude toward start-up is the degree to which the individual holds a positive or negative personal valuation about being an entrepreneur." Theorists have argued for a distinction between two components of attitude: affective/ experiential attitude, on the one hand, referring to feelings or emotions (e.g., joy, satisfaction), and drives engendered by the prospect of performing a behavior; (Vamvaka et al., 2020) cognitive attitude, on the other hand, referring to beliefs, thoughts, or rational arguments (Ajzen, 1991; Fernandes & Proença, 2013; French et al., 2005; Goethner et al., 2009; Kraft et al., 2005; Lawton et al., 2007; Rhodes & Courneya, 2003; Trafimow & Sheeran, 1998). Liñán and Chen (2009) also believed that attitudes toward start-up refers to the degree to which the individual holds a positive or negative personal evaluation about being an entrepreneur, and pointed out that it includes not only affective (such as: I like it, it is attractive) but also evaluative considerations (such as: it has advantages). Another type of view is that entrepreneurial attitudes should be a multidimensional model. Robinson et al. (1991) hold that entrepreneurial attitudes (EA) should include three-dimensional components: cognitive, emotional, and behavioral attitudes. Among them, cognitive attitudes are an individual's evaluation and view of entrepreneurial behavior; emotional attitudes are the individual's dislike or preference for entrepreneurial behavior; behavioral attitudes are the individual's tendency to respond to entrepreneurial behavior (start-up creation). A positive perspective toward entrepreneurship raises the interest of students in entrepreneurial activities. Similarly, when students show a convincing capability to complete entrepreneurial tasks, they are more eager to undertake entrepreneurial careers. The process of starting a new business requires identifying available opportunities, therefore, having adequate market information tends to clarify ambiguous observations on business and ease the process of becoming an entrepreneur. Entrepreneurship education is able to enrich the proper psychological disposition including subjective norm (SN) that produces an impact on entrepreneurial behavior (Ndofirepi et al., 2018). Entrepreneurial perceived behavioral control (PBC) is understood as the perception of the ease or difficulty of becoming an entrepreneur (Liñán & Chen, 2009). Therefore, referring to the subjective evaluation of a person's own entrepreneurial ability, resources, and the possibility of entrepreneurial success. Although it is conceptually considered to share some degree of similarity to self-efficacy (SE) (Bandura, 1977) and perceived feasibility (Shapero & Sokol, 1982), it is widely used as a stand-alone concept because it encompasses not only the feeling of being able but also the perception about the controllability of the behavior (Liñán & Chen, 2009). Although the available resources to start up a business and the entrepreneurial abilities possessed by an individual could be seen as objective factors which are incremental for the success of the entrepreneurial activity, their assessment can be very subjective: depending on the individual that makes the assessment, the same number of resources or abilities can be considered as plentiful or not enough. Therefore, what is more important in the stage of moving from entrepreneurial intention to actual entrepreneurial behavior is the person's positive perception of these resources and capabilities, which in turn can fuel the process required by such a transition (Krueger et al., 2000). People who have a more positive perception about their resources and capabilities also perceive entrepreneurship more as an opportunity

than a risk, making them more inclined to start their business. Entrepreneurship education can increase individual self-efficacy through a learning process that creates taught values, skills, behavior, and determination to overcome obstacles and pursues success (Alharbi et al., 2018). Entrepreneurship education programs could bring out entrepreneurial traits such as attitudes, feasibility, knowledge, and at the same time, evoke the entrepreneurial intention to start a new business (Nabil et al., 2017). Students with strong self-assessed leadership skills are able to accumulate more readily bonding cognitive, and social capital, which in return reinforces their perceptions of the desirability and feasibility of entrepreneurship. Thus, hypotheses five, six, and seven of this study are:

H5: Entrepreneurial Attitude (EA) has a significant positive impact on Scope Start-up Activities (SSSA).

H6: Subjective Norm (SN) has a significant positive impact on Scope Start-up Student Activities (SSSA).

H7: Perceived Behavior Control (PBC) has a significant positive impact on Scope Start-up Student Activities (SSSA).

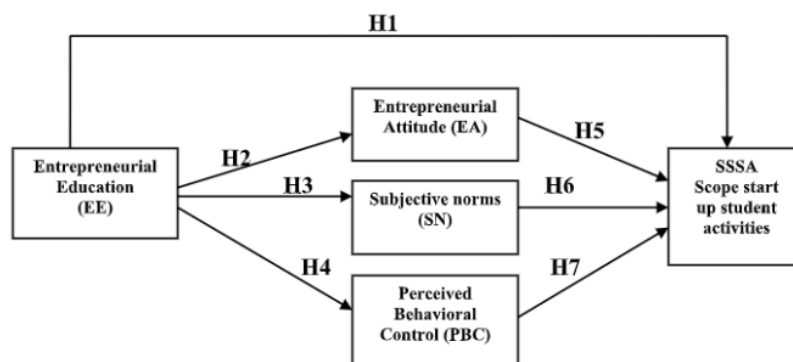


Figure 1 Conceptual model

The Mediating Role of Entrepreneurial Attitude (EA), Subjective Norm (SN), and Perceived Behavior Control (PBC)

The cognitive theory provides an opportunity for researchers to explore entrepreneurial decision-making and the entrepreneurial process by establishing the relationship between entrepreneur's cognitive behavior, entrepreneurial environment, and entrepreneurial behavior (Mitchell et al., 2002). The theory of planned behavior (TPB) assumes that the more positive an individual's attitude towards a particular behavior, the stronger the intentions to perform it. Given that attitude is not as stable as personality traits, it can be changed with time and the interaction between the individual and environment (Robinson et al., 1991). Thus, in the process of studying, college students' EA may be influenced by the strong university entrepreneurial climates, various entrepreneurial education activities (e.g., courses, lectures, and competitions), supportive entrepreneurial management measures, entrepreneurship practical training conditions (e.g., pioneer park), and entrepreneurship services programs (e.g., venture capital support). Second, the SN expresses the individuals' perceptions of external pressure. The TPB holds that individuals intend to act in a certain behavior when they perceive great approval from others. When students choose entrepreneurship as a career option, it does not take place in isolation. Conversely, their decisions are often made after consultation with important people in their social networks, with people who are trusted advisors (e.g., family members, friends, teachers) (Vinothkumar & Subramanian, 2016). Therefore, the attitudes and expectations of university teachers, classmates, friends, toward student entrepreneurship may impact their decision to choose self-employment. Third, according to Bandura (1997), confidence in successfully performing a behavior or self-efficacy is instrumental in determining whether an individual will participate in a certain behavior. An individual may intend to startup when he/she has a strong belief in their skills and abilities. The knowledge of opportunity recognition, market analysis, business planning, and managing a new venture provided by university entrepreneurship education can enhance students' confidence and make them feel more competent to complete entrepreneurial tasks (Zhao et al., 2005). University entrepreneurship

training conditions can help students obtain direct entrepreneurial experience through simulation exercises. Inviting prestigious entrepreneurs, especially alumni entrepreneurs, to give lectures can allow them to gain vicarious experience. Verbal/social persuasion or encouragement from teachers and classmates also helps promote students' PBC. Based on the above discussion, it might be expected that EE will significantly influence Students' EA, SN, and PBC, which in turn enhance their SSSA. Accordingly, we formulate hypotheses:

H8: Entrepreneurial Attitude (EA) mediates the relationship between entrepreneurship education and the Scope Start-up Student Activities (SSSA).

H9: Subjective Norm (SN) mediate the relationship between entrepreneurship, education, and the Scope Start-up Student Activities (SSSA).

H10: Perceived Behavior Control (PBC) mediates the relationship between entrepreneurship education and Scope Start-up Student Activities (SSSA).

RESEARCH METHODOLOGY

The graduating students from the three colleges of the Sfax University were surveyed using a questionnaire that was developed for this study. The main objective of this research is to find out the effect of entrepreneurship education on the scope of start-up students' activities. In applying the general framework of the theory of planned behavior, this paper focused on providing answers to the following research questions : what are the entrepreneurial characteristics of the students? Does entrepreneurship education influence the scope of start-up students' activities? Do students' entrepreneurial characteristics (EA, SN, PBC) relate to their entrepreneurial education? The sample for this research majored on Sfax university students. The data was obtained from the questionnaire distributed to the students at the same university. The students' class representatives were used in administering the questionnaire. The questionnaires were randomly distributed at the end of a general class. A total number of 180 questionnaires were distributed and 120 or 66% was retrieved back.

Measurement of the Variables

The students used as the respondents of this study were asked to provide their demographic and other data which include their age, gender, and level. Our curiosity to measure the respondents' entrepreneurial scope startup students' activities led us to delve into literature, such as Rotter (1966), Brockhaus (1980), Miller (1983), Schere (1982), Bateman and Grant (1993), Drucker (1985), Borland (1974), Bartol and Martin (1998), to find out the basic personal characteristics that relate to entrepreneurship. A questionnaire with thirty-five items was used (see Appendix A). Section one requested for the respondents' evaluation of demographic data, and the second section required to give an evaluation of the effect of three entrepreneurial characteristics (EA, SN, PBC) on the scope of start-up students' activities. The respondents were made to indicate the degree of their agreement with the statements on the questionnaire about themselves. They were required to select from a five-point scale which included a category of strongly agree, agree, undecided, disagree and strongly disagree. Likert scale was chosen because of its wide usage in social and behavioral science. The students were also asked questions to find out their opinion on their readiness to start up entrepreneurial activities. Ten items relating to aspects include ability to identify market opportunity, formulate a business plan, look for potential partners, purchase equipments, ability to work on product development, capacity to discuss with the potential customers (Mutalimov et al., 2020). To be able to test our null hypothesis, which states a relationship exists between the dependent and independent variables, we employed a regression analysis model. The response for this survey item was also in five-point Likert scale ranging from strongly agree = 5 to strongly disagree = 1. The dependent variable for the regression model was on the students' scope of student start up activities while our independent variable was on the student's possession of the three entrepreneurial characteristics and their entrepreneurship education (EE). The respondents were allowed to tick the options in line with their choice of answer.

Data analyses after collecting data, descriptive analysis in the PLS software program was performed to understand the study results. Through individual analyses, the data were summarized, the mean, standard deviation, and variance of the sample were calculated. After clarifying variables by

using exploratory factor analyses, the reliability of the variables was tested using Cronbach's alpha coefficients. Pearson's correlation was also done to analyze the relationship among variables. Finally, to measure the effects of EE, EA, SN, and PBC on scope student start up activities, regression analyses were used. The results are interpreted in the following section.

Table 1. The Effect of EE on SSSA

Variables	Coeff.	T	P-value
Sex	-0.052	-0.600	0.550
Age	0.104	1.188	0.237
Level	-0.117	-1.344	0.182
EE	0.311	3.558	0.001
R ²	0.113		
Fisher	4.287 0.003		

RESULTS AND DISCUSSION

In our results, we will follow Baron and Kenny's (1986) process: A variable (M) exerts a total mediation of X on Y three conditions are respected: (a) the relationship between X and Y must be significant, (b) the relationship between X and M must be significant, and (c) the relationship between M and Y must be significant - The relationship between X and Y should no longer be significant when the M effect is controlled. Our results demonstrate that entrepreneurial education (EE) has a positive and significant effect at the 1% level on SSSA. In addition, our results show that the model is globally significant at the 1% threshold with a Fisher of (4.247; $p < 1\%$) and with $R^2 = 11.3\%$. This result allows us to accept hypothesis H1 and these results are in line with the work of (Urbano et al., 2017)

Table 2. The Effect of EE on EA, SN, and PB

Variables	EA	SN	PBC
Sex	(0.260) 0.941	(-0.020) 0.641	(-0.023) 0.486
Age	(0.103) 0.006	(-0.081) 0.066	(-0.061) 0.073
Level	(0.053) 0.536	(0.021) 0.629	(-0.061) 0.070
EE	(0.065) 0.000	(0.882) 0.000	(0.927) 0.000
R ²	0.519	0.783	0.872
Fisher	30.961 0.000	103.864 0.000	195.286 0.000

For H2, EE (Entrepreneurial Education) has a positive and significant effect at the 1% level on EA. The model is globally significant at the 1% threshold with a Fisher of (30,961; $p < 1\%$) and with $R^2 = 52\%$. This result allows us to accept hypothesis 2 and these results are in line with the work of Carr and Seaireira (2007), Basu and Virick (2008), Florin et al. (2007), Galloway and Brown (2002), Schwarz et al. (2009). For H3, the EE has a positive and significant effect at the 1% level on SN, the model is globally significant at the 1% threshold with a Fisher of (103,864; $p < 1\%$) and with $R^2 = 78.3\%$. This result allows us to accept hypothesis 3 and these results are in line with the work of Basu and Virick (2008), Souitaris et al. (2007), Ajzen (1991), and Saeed et al. (2015). For H4, the EE has a positive and significant effect at the 1% level on PBC, the model is globally significant at the 1% threshold with a Fisher of (195,286; $p < 1\%$) and with $R^2 = 87.2\%$. This result allows us to accept hypothesis 4 and this result is consistent with the work of Adams and Beyer (1977), Bandura et al. (1980), Peterman and Kennedy (2003), Galloway and Brown (2002), Wilson et al. (2007), Bandura (1997), John et al. (2008), Kaur and Bains (2013), Liñán (2008), Anggadwita and Mustafid (2014), and Anggadwita and Dhewanto (2016).

Table 3. The Effect of EA, SN and PBC on SSSA

Model	A	Standard Error	Beta	t	Sig.	R	Fisher
EA	0.286	0.089	0.286	3.208	0.002	0.337	3.675 0.007
SN	0.331	0.087	0.331	3.799	0.000	0.376	4.747 0.001
PBC	0.341	0.087	0.341	3.915	0.000	0.384	4.978 0.001

In this step, we will study the effect of EA, SN, and PBC, on SSSA. These results are presented in Table 3. For H5, EA has a positive and significant effect at the 1% level on SSSA, the model is globally significant at the 1%. This result allows us to accept hypothesis 5 and this result are in line with the work of Liñán and Chen (2009) and Robinson et al. (1991). For H6, the SN has a positive and significant effect at the 1% level on SSSA, the model is globally significant at the 1%. This result allows us to accept hypothesis 6 and this result are in line with the work of Ndofirepi et al. (2018). For H7, the PBC has a positive and significant effect at the 1% level on SSSA, the model is globally significant at the 1%. This result allows us to accept hypothesis 7 and this result are in line with the work of Liñán (2008), Alharbi et al. (2018), and Nabil et al. (2017).

Table 4. Result of EA, SN and PBC mediation between EE and SSSA

Variables	M1	M2	M3
Sex	(-0.066) 0.439	(-0.059) 0.461	(-0.051) 0.537
Age	(0.115) 0.177	(0.093) 0.247	(0.071) 0.395
Level	(-0.117) 0.169	(-0.114) 0.156	(-0.069) 0.407
EE	(0.157) 0.124	(-0.053) 0.633	(-0.044) 0.725
EA	(0.281) 0.006		
SN		(0.529) 0.000	
PBC			(0.480) 0.000
R ²	0.185	0.278	0.229
Fisher	5.190 0.000	8.757 0.000	6.755 0.000

The total and partial mediation of the relations “start of entrepreneurial activities” is highlighted by the variable “entrepreneurial attitude.” This result partially confirms the analysis of (Zhao et al., 2005) considering the knowledge of opportunities, market analysis, business planning, and management of new ventures provided by the university. Entrepreneurship education can build students’ confidence and make them more competent to perform entrepreneurial tasks. The total and partial mediation of the relations “start of entrepreneurial activities” is highlighted by the variable “subjective norm.” This result partially confirms the analysis of Bandura (1997). Confidence in the successful execution of a behavior or self-efficacy is decisive in determining whether an individual participates in a certain behavior. A person may intend to start when they firmly believe in their skills and abilities. The total and partial mediation of the relations “start of entrepreneurial activities” is highlighted by the variable “perceived of behavioral control.” This result confirms the analysis of Peterman and Kennedy (2003) who apply the theory of self-efficacy and find a positive effect of entrepreneurship training programs on perceptions of the opportunity and feasibility of starting a business company.

Table 5. Resume of the Results

Hypothesis	Independent Variable	Effect	Dependent Variable	Coefficient	T Statistics	P-Value	Result
H1	EE	Direct	SSSA	0.311	3.558	0.001	Approved
H2	EE	Direct	EA	0.701	10.778	0.000	Approved
H3	EE	Direct	SN	0.882	20.189	0.000	Approved
H4	EE	Direct	PBC	0.927	27.576	0.000	Approved
H5	EA	Direct	SSSA	0.281	2.791	0.006	Approved
H6	SN	Direct	SSSA	0.331	3.779	0.000	Approved
H7	PBC	Direct	SSSA	0.341	3.915	0.000	Approved
H8	EE, EA	Mediator	SSSA	0.281	2.791	0.006	Approved
H9	EE, SN	Mediator	SSSA	0.529	4.828	0.000	Approved
H10	EE, PBC	Mediator	SSSA	0.480	3.821	0.000	Approved

Discussion of Results

By closely evaluating the results of the study and especially the scope of start-up activities by providing answers to our research questions, the various literatures gave us the opportunity to draw up an inventory of the characteristics of entrepreneurship. McClelland (1961), Burp (1966), Brockhaus, (1980), Bateman and Crant (1993), Munoz et al. (2011) and others have been very helpful in this regard. Their frequent appearance in this article is an indication of their usefulness for this study. Among all the characteristics of entrepreneurship, desire for success, center of control, propensity to take risks, proactivity, tolerance of ambiguity, innovation, and creativity are considered to be the most characteristics of entrepreneurs. Students' intentions to start an entrepreneurial business were considered to qualify them as entrepreneurs. The results indicate respondents' potential to start a business in the next five years. This can be easily understood from an entrepreneurial background and nested variables (personality traits and upbringing) identified with respondents. However, to infer that all students who agreed to go into business in the next five years would start their own business would lead to misunderstanding. The study requires further research to know the validity of the claims made in this article, and our results showed strong support for variables such as desire for achievement, risk-taking, position of internal control, independence of desire, creativity, and innovation, as determinants of entrepreneurial intentions as well as certain demographic variables such as age, sex, family status, and the profession of the parents. Researchers have also hypothesized that knowledge and orientation can influence attitude, which in turn influences intention and behavior. Accordingly, we hypothesized that respondents' exposure to entrepreneurial education and their reception of changes in their environment have a negative relationship with their entrepreneurial intentions.

CONCLUSION

This study aims to examine the impact of entrepreneurship education on scope startup activities of students. The study shows that the entrepreneurial characteristics of young people are diverse and that their exposure to a four-year entrepreneurship education can spark the intention to become entrepreneurs. It is also an indication that they have been equipped with the knowledge and skills to start a new business. It also makes sense that entrepreneurship education is a useful program that will enable respondents to either help their future employers or successfully run their own businesses. The core of offering entrepreneurship education programs in schools is to provide students with the necessary skills and mindset for successful entrepreneurship from their early years as well as to instill self-esteem, and confidence to start a business among students at all levels of education. It is clear that institutions and social contexts play a crucial role in determining the propensity for entrepreneurship and work among students. Education imparts the required knowledge and skills capable of transforming the entrepreneurial intentions of students into entrepreneurial activities. When implementing an intention, students' attitude toward the resources and talents of others is important. Although participation in entrepreneurial training does not necessarily lead to entrepreneurial intentions, it is a means of motivating students to embark on an entrepreneurial adventure. Moreover, the intention of students to start an entrepreneurial business doesn't necessarily mean that they end up as entrepreneurs. Although outside the scope of this research, understanding and taking into consideration the factors

outside the institution can enhance the entrepreneurial work of students to formulate sound strategies and initiatives in the study environment. The study, therefore, recommends that in order to achieve entrepreneurship education, it is important that institutions develop a strategy to support students who have indicated their intention to start a business during their studies and after graduation through an incubator program. This will help further encourage students to take their intention to be entrepreneurs seriously. The government should make entrepreneurship training a compulsory subject in Tunisian schools (primary, secondary, and higher establishments). This will help influence the attitude of young people toward entrepreneurship. Since finance is an important factor in achieving one's plan, students must learn to cultivate a culture of savings while in school. This is necessary to participate in raising the capital necessary to start their business.

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Appendix A

Questionnaire

The aim of this questionnaire is to reveal the perceptions of business students' field for three institutions (Faculty of Management, Higher Institute of Business Administration, and the Higher College of Trade), and about six principal concepts of Demographic Factors (DF), Entrepreneurship Education (EE), Entrepreneurial Intention (EI), Entrepreneurial Attitude (EA), Social Norm (SN), and Perceived Behavioral Control (PBC).

Age:

Gender:

Speciality:

Level:

Variable	Questionnaire Items
Scope of Students Start-up Activities	Nothing done so far.
	Thought of first business ideas.
	Formulated a business plan.
	Identified market opportunity.
	Looked for potential partners.
	Purchased equipments.
	Worked on product development.
	Discussed with the potential customers.
	Asked financial institutions for funding.
	Decided on date of funding.
Entrepreneurial Attitude	Being an entrepreneur appeals to me a lot.
	I am more interested in starting my own business than looking for a job.
	Entrepreneurship has more advantages than disadvantages for me.
	I would like to startup if I had the opportunity and resources.
	I am willing to pay the price for entrepreneurship.
Entrepreneurship Education	The entrepreneurship course increases my understanding of the attitudes of entrepreneurs.
	The entrepreneurship course increases my understanding of generating innovative ideas.
	The entrepreneurship course enhances my skills to develop a business plan.
	The entrepreneurship course enhances my ability to develop networks (e.g., obtaining useful advice/information from professors, guest speakers or classmates).
	The entrepreneurship course enhances my ability to identify a business opportunity.

Variable	Questionnaire Items
Subjective Norm	My parents and immediate family members believe that starting a business is more valuable than finding a job.
	My parents and immediate family members support me to start a new firm.
	My classmates and friends argue that starting a business is more valuable than finding a job.
	My classmates and friends support me to start a business.
Perceived Behavioral Control	Starting a firm and keeping it viable would be easy for me.
	If I wanted to, I could easily pursue a career as entrepreneur
	If I tried to start a business, I would have a high chance of being successful.
	I have skills and capabilities to succeed as an entrepreneur.
	I am confident that I would succeed if I started my own firm.
	I am certain that I can start a firm and keep it viable.
	I can control the creation process of a new firm.
	The number of events outside my control which could prevent me from being an entrepreneur are very few.
	As entrepreneur, I would have complete control over the situation.

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