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## AN OVERVIEW OF STUDENTS' ENTREPRENEURIAL INTENTION ANTECEDENTS

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### Abstract

*This paper provides an overview of antecedents of the students' entrepreneurial intention (SEI). A selection, collection, analysis, and systematization of previous studies was carried out to update and reorder the available literature about factors influencing SEI. The analysis reveals the following three sets of antecedents of SEI: 1) factors related to personality traits, 2) contextual/situational factors and 3) factors related to personal background. In addition, this study highlights specific theoretical models used to investigate factors influencing students' intention to start a new business, such as the theory of planned behaviour model, the entrepreneurial event model and the social cognitive theory. These results contribute to organising the current state of knowledge about the antecedents of SEI and addressing future research by providing a spectrum of variables that can act as a base to develop further analytical models and theoretical constructs about this topic.*

## 1. Introduction

Entrepreneurship is a significant driver of national economic growth, societal development and wellbeing (e.g. Uddin and Bose, 2012; Douglas et al., 2020). Over the past few decades, researchers and universities have both paid increasing attention to identifying ways of developing entrepreneurship and of providing the related education/training to potential entrepreneurs. In this direction, entrepreneurship is a skill that students, especially recent graduates, should acquire to begin entrepreneurial activities as an attractive and realistic employment option (e.g. Brioschi et al., 2014; Del Giudice et al., 2014; Fayolle and Gailly, 2015; Leonelli et al., 2016; Meoli et al., 2019; Brioschi et al., 2019/2020). An important predictor of entrepreneurship is entrepreneurial intention (EI)—the desire and commitment to start a business (e.g. Zeffane, 2012). Studies have highlighted that people with lower EI are less likely to start a business than those with higher EI (Turker and Selcuk, 2009; Varghese and Hassan, 2012). In particular, it is important to study this aspect in relation to future generations (Opoku-Antwi et al., 2012). Therefore, it is valuable to examine this topic in the context of students since they are potential business leaders. The increasing interest from scholars and consequent growth in recent articles on students' EI highlight the need for greater understanding and investigation of this specific topic, which fits in the more comprehensive field of student entrepreneurship (SE). More precisely, given that EI is the first step of launching a business—and thus, a main factor in the process of creating new enterprises (e.g., Krueger et al., 2000; Schlaegel and Koenig, 2014; Ramos-Rodríguez et al., 2019)—it can be enlightening to examine in great depth the drivers that lead students to entrepreneurship. Therefore, a pertinent research question emerges: what are the factors influencing students' intentions for entrepreneurship?

Nevertheless, few recent studies have investigated these factors in detail. To the best of the authors' knowledge, only one study has provided a literature review specifically devoted to the factors influencing students' intentions towards entrepreneurship (Al-Harrasi et al., 2014). More precisely, this study proposed a review that results be dated, given that analysis was extended only up to 2013, and focused solely on the management engineering field. The lack of recent contributions specifically aimed at analyzing the entrepreneurship literature on this topic suggests the importance of undertaking an updated review and further investigation.

Therefore, this study aims to provide an overview of antecedents of students' entrepreneurial intention (SEI). A wide spectrum of potentially relevant literature has been identified to be systematically assessed in order to update—and organise—the extensive factors influencing SEI that recently emerge by empirically grounded evidence.

The results of this paper contribute to organising the current state of knowledge about the antecedents of SEI and to highlighting future research directions by providing interested scholars with relevant information on factors influencing SEI. This study provides academics with a spectrum of variables that would act as a theoretical foundation for future analysis models on this topic.

The remainder of this paper is structured as follows. Section 2 describes the SE and EI concepts and the antecedents of SEI. Section 3 explains the research method used in this study, while Section 4 presents and Section 5 discusses the analysis results. Last, Section 6 concludes the paper providing directions for future research.

## **2. Literature review**

### *2.1 Student entrepreneurship and entrepreneurial intention*

SE is a process involving the innovative use and combination of resources by a student to explore and pursue opportunities by creating a for-profit business organisation (Gupta and Gupta, 2017). Bergmann et al. (2016) defined SE as the venture creation activities of people who are currently studying at a university, whereas Colombo et al. (2017) referred to the choice of students and recent graduates to establish a business. This choice can be influenced by several factors, such as the degree program attended and the university at which this was held, the family context, students' personal motivations and the social and cultural context (Fasone and Puglisi, 2019).

Notably, student entrepreneurs are those who create a business during university studies (Colombo et al., 2017), within specific degree courses (Premand et al., 2016; Zollo et al., 2017) or universities (Isada et al., 2015; Trivedi, 2017) or three years after graduation (Åstebro et al., 2012). Marchand and Hermens (2015) defined student entrepreneurs as individuals attending award classes at university and conducting innovative and revenue-generating entrepreneurial activities. These entrepreneurial students capitalise on the various opportunities in the university environment, such as specialised professors, spaces and support services (e.g. incubators); patent and copyright protections and advisory provided by the university; and their classroom learning (Mars et al., 2008). In addition, they may also use universities and faculty members or students to validate and market products and services. Volkmann (2004) emphasised that entrepreneurship is not acquired or innate; rather, it is developed by education. In this sense, during their academic experience, students can learn how to be entrepreneurs (Filion, 1999). From this perspective, entrepreneurship education can

cultivate relevant attitudes and intentions in students, enhancing their ability to create new companies (Liñán, 2008). In other words, entrepreneurial education enriches students' knowledge and skills, and influences their EI.

Essentially, EI is a state of mind—people wish to create a new firm or a new value driver within existing organisations (Wu and Wu, 2012; Nabi et al., 2006; Guerrero et al., 2008). According to Liñán et al. (2013), EI is a conscious awareness and conviction by an individual to establish a new business venture in the future. It refers to intentions to be self-employed or to establish a business (Iakovleva and Kolvereid, 2009). EI refers to one's desire to own a business (Crant, 1996) or establish a business (Krueger et al., 2000) or 'one's desire, wish and hope of becoming an entrepreneur' (Isiwu and Onwuka, 2017, p. 183). Generally, intentions have been used to describe an expected behaviour (Ajzen, 1991). In this regard, intention refers to 'the indication of how hard people are willing to try, of how much an effort they are planning to exert, in order to perform the behavior' (Ajzen, 1991, p. 181). The stronger the intention, the more likely that a person will perform a particular behaviour.

In entrepreneurship, the debate about intentions as predictors of entrepreneurial action remains open. For example, Douglas and Shepherd (2002) expressed doubt about this aspect, whereas others have argued that EI is a key antecedent of entrepreneurial behaviour (Krueger et al., 2000; Lee et al., 2011). In this sense, the analysis of EI is key to explaining the process of companies' creation (e.g. Devonish et al., 2010; Liñán and Fayolle, 2015). Studying the antecedents of EI becomes important to understand the factors that can contribute to creating a new venture, especially those that can push university students towards entrepreneurship. In addition, this study can serve as a starting point to design effective training courses for SE.

## *2.2 Antecedents of students' entrepreneurial intention*

Although an increasing number of studies are focusing on EI, the systematization and categorization of this research field is hitherto in its infancy, especially with reference to SEI. More precisely, only one study was found to propose a literature review of factors affecting EI and only one about SEI. Specifically, Liñán and Fayolle (2015) reviewed the entrepreneurship and management literature to provide a clearer picture of the subfields in EI research. They reviewed 409 papers published between 2004 and 2013 and categorised the most important areas of specialisation within EI. In addition, they recognised subthemes within each of area specialisation: context and institutions, personal level variables, core EI model, entrepreneurial process and entrepreneurship education. However, their study refers to EI in general.

Al-Harrasi et al. (2014) focused on SEI, but they conducted their rese-

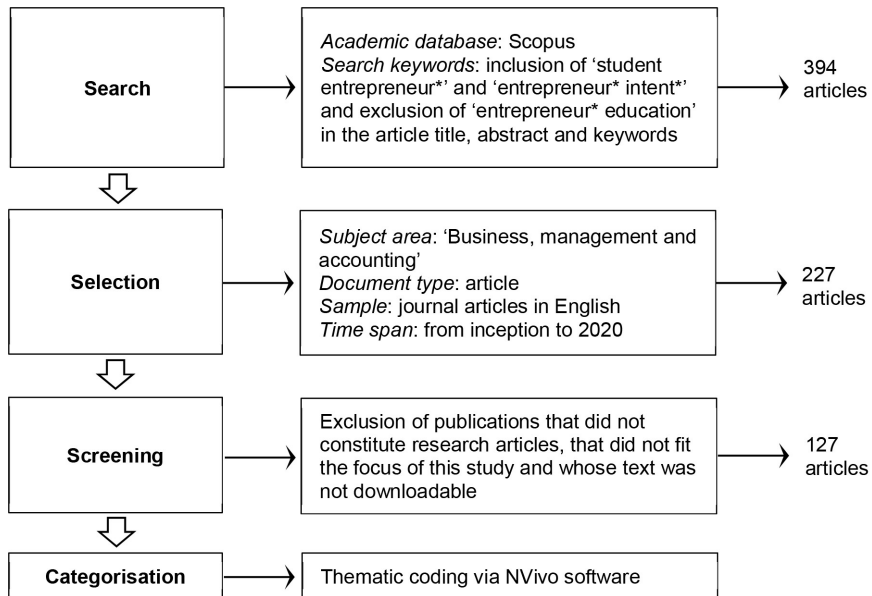
arch with specific reference to management engineering. Specifically, they attempted to provide a systematic literature review of the key factors that lead undergraduate students to become entrepreneurs. They analysed articles published in 2003–2013 by highlighting four main sets of factors: personality trait, contextual, motivational and personal background factors.

Both these studies are dated because they considered and analysed papers published before 2013. Based on the growing attention to SE and the lack of an updated overview of factors influencing the EI of university students, a need to take stock of current knowledge in this entrepreneurship and management field emerges. For this purpose, the present study aims to contribute to fill this gap by organising the current state of knowledge about the antecedents of SEI and to highlight future research directions.

### **3. Methodological approach**

This study employed a research synthesis method of peer-reviewed scholarly literature (Cooper, 2016) on SE and EI. In continuity with several previous studies, the choice of this method is connected to the opportunity of integrating results from both qualitative and quantitative studies in a shared domain of empirical research as well as its rigour. More precisely, it minimises bias by discussing the single systematisation steps and enables potential replication by other researchers through the transparent provision of single steps (Tranfield et al., 2003). Specifically, four steps were undertaken (see Figure 1): 1) search, 2) selection, 3) screening, and 4) categorisation. Precisely, in terms of search, the researchers limited the relevant literature search to the Scopus database, one of the largest multidisciplinary academic databases of peer-reviewed literature. In this regard, the researchers complied with Webster and Watson's (2002) suggestion to collect data by including only articles that were published in academic journals and were subjected to a peer-review process.

Fig. 1: Flowchart of methodology



Source: our elaboration

The sample includes only journal articles written in English and published in business, management and accounting subject areas from inception to 2020 (inclusive). ‘Student entrepreneur\*’ and ‘entrepreneur\* intent\*’ were used as search keywords exclusively in the article titles, abstracts and keywords to exclude articles that would only add indirect value to the study.

From the screening point of view, further publications that did not constitute research articles, such as notifications of journal special issues, books, book chapters, papers included in conference proceedings, editorials, abstracts without papers and research notes, were eliminated. In addition, the article titles and abstracts were analysed to eliminate articles that did not fit the focus of this study, such as those focused on the field of psychiatry. Further, all articles whose text was not downloadable were excluded from the study. From the initial 394 results, this step left 127 relevant articles for review.

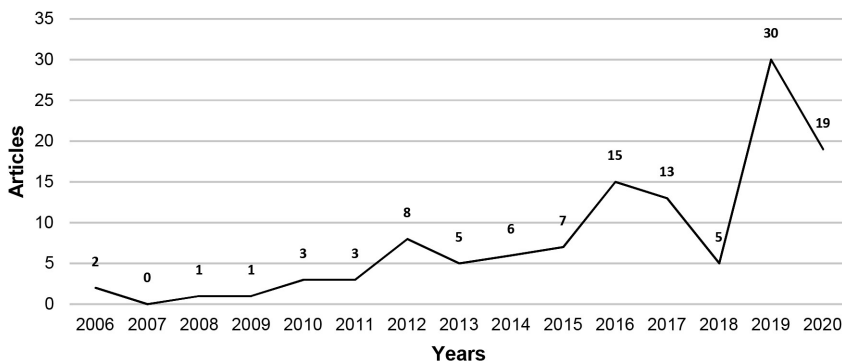
In categorisation terms, all selected articles were imported into Qualitative Solutions and Research (QSR) NVivo 11, a qualitative analysis software. Based on the aims of this study, the coding process of articles’ abstracts and full text included the combination of predefined theoretical concepts and inductively emerging ideas. Specifically, two coding phases were implemented. First, the researchers defined the list of codes following the thematic categories (or nodes) proposed by previous studies (open coding)

by identifying separately other codes to be added based on their inductive reading of the data (Saldaña, 2015). More precisely, the SEI dimensions proposed by Al-Harrasi et al. (2014) (personality traits-, contextual-, motivational-, and personal background-related factors) were used as a guideline and initial coding framework, while sub-codes (e.g., attitude towards entrepreneurship, cultural context, entrepreneurial education) were inductively derived from the coding process. Second, they employed a merged code list by considering common labels inspired by the literature and these additional codes. Intentionality was not inferred in the data. These codes, which were clustered on the basis of more general analytical factors, were used for analysis and are presented in Section 4.

#### 4. Results: analysis and discussion

The SEI topic has attracted greater levels of research interest in the past decade, given the increasing trend in the number of articles, as highlighted in Figure 2. The earliest article appeared in 2006 and a high growth is apparent, beginning in 2019, which suggests that this research topic is relatively 'new'.

Fig. 2: Articles by year (2006-2020)



Source: our elaboration

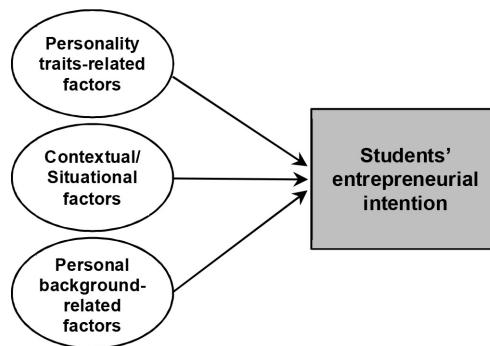
The literature search revealed an overwhelming preponderance of empirical (99%) rather than theoretical (1%) studies. Most empirical studies employed quantitative (95%) or qualitative (3%) methods, and only a few were mixed-method studies. In theoretical terms, only two literature reviews (Al-Harrasi et al., 2014; Liñán and Fayolle, 2015) and very few conceptual papers were identified.

The current study's analysis revealed three sets of antecedents for SEI

(see Figure 3): 1) personality trait-related factors, 2) contextual/situational factors and 3) personal background-related factors. In addition, it highlighted that scholars refer to specific theoretical models to investigate factors influencing students' intentions to establish a new business.

For easy comprehension of the data in the tables and figures, it was decided to limit the presented SEI factors to the past five years (2016-2020). Notably, the choice of focusing on this period is connected to consider that since 2016 there has been an increasing trend in the number of publications.

Fig. 3: Antecedents of students' entrepreneurial intention



Source: our elaboration

#### 4.1 Personality trait-related factors

Personality traits are the main antecedent of SEI. Given that these include numerous individual characteristics that drive entrepreneurial behaviour, multiple factors were examined in the related literature. The most relevant personality trait-related factors used to explain SEI are (in alphabetical order): abstract thinking, attitude towards entrepreneurship, (need for) autonomy, competitive aggressiveness, entrepreneurial skills, individuals' personality patterns, innovativeness, internal locus of control, need for achievement, opportunity recognition, perceived behavioural control, perceived desirability, perceived feasibility, pro-activeness, psychological traits, risk-taking propensity, self-confidence, self-efficacy and stress tolerance.

As Table 1 indicates, not all these factors were simultaneously considered in previous studies. Scholars referred to four key factors to characterise personality traits by highlighting a positive impact on SEI: 1) attitude towards entrepreneurship, 2) perceived behavioural control, 3) risk-taking propensity and 4) self-efficacy. More precisely, attitude towards entrepreneurship is 'the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question' (Ajzen, 1991, p. 188). Perceived behavioural control refers to individuals' personal belief that



they can engage in a specific behaviour because they have the necessary start-up skills, business knowledge and ability to achieve business goals, along with their perception that they can control this behaviour. Risk-taking propensity includes the individual tendency to take chances in a decision-making scenario. Self-efficacy is a person's self-perception about own skills and abilities to initiate and successfully complete a given task.

Tab. 1: Personality trait-related factors affecting students' entrepreneurial intention

Five-year studies (from 2016 to 2020) in alphabetic order for first author's surname	Abstract thinking	Attitude towards entrepreneurship (Need for) Autonomy	Competitive aggressiveness	Entrepreneurial skills	Individuals' personality patterns	Innovativeness	Internal locus of control	Needs for achievement	Opportunity recognition	Perceived behavioral control	Perceived desirability	Perceived feasibility	Pro-activeness	Psychological traits	Risk-taking propensity	Self-confidence	Self-efficacy	Stress tolerance
Ahmad et al., 2019											+	+						
Ahmed et al., 2019						+									+			+
Ali, 2016		+								+								
Al-Jubari et al., 2019		+								+								
Al-Mamary et al., 2020		+	+	+									+		+		+	
Aloulou, 2016		+								+								
Anwar et al., 2020		+								+								
Bazzy et al., 2019	+																	
Daniel and Almeida, 2020		+								+								
Díez-Echavarría et al., 2019		+										+						
Doanh and van Munawar, 2019		+															+	
Duong et al., 2020		+															+	
Echchabi et al., 2020		+								+								
Ephrem et al., 2019														+				
Farhat and Moncada, 2020													+				+	
Fietze and Boyd, 2017		+								+								



This analysis revealed that perceived behavioural control and self-efficacy are factors that are not employed simultaneously. The choice to use one or the other depended on the theoretical model used by scholars as a reference in their studies.

#### 4.2 Contextual/situational factors

Contextual (or situational) factors affecting SEI include cultural, educational, institutional and political, and social considerations. More precisely, national culture was considered an influential factor at the cultural level, while university environment can influence EI in educational terms. As institutional and political context, country norms, legal institutions and government support were viewed as the most influential factors affecting EI. Business support, networking, social capital and subjective norms were found as social drivers.

Tab. 2: Contextual/situational factors affecting students' entrepreneurial intention

Five-year studies (from 2016 to 2020) in alphabetic order for first author's surname	Cultural context	Educational context	Institutional and political context			Social context			
	National culture	University environment	Country norms	Legal institutions	Government support	Business support	Networking	Social capital	Subjective norms
Ali, 2016									+
Al-Jubari et al., 2019									+
Aloulou, 2016									+
Anwar et al., 2020									+
Arrighetti et al., 2016		+							
Canever et al., 2017									
Çera et al., 2020		+				+			
Daniel and Almeida, 2020									+
Duong et al., 2020			+					+	
Echchabi et al., 2020									
Ephrem et al., 2019									+
Fietze and Boyd, 2017									+
Fragoso et al., 2020	+								

Galvão et al., 2018									+
Henley et al., 2017								+	
Iglesias-Sánchez et al., 2016									+
Lopez and Alvarez, 2019		+							
Mamun et al., 2017					+				+
Monllor and Soto-Simeone, 2019		+							
Paiva et al., 2020									+
Palalic et al., 2016						+	+		
Palmer et al., 2019									+
Pérez-Fernández et al., 2020									+
Phuc et al., 2020									+
Rajković et al., 2020	+								
Ramos-Rodríguez et al., 2019									+
Rodrigues et al., 2019									+
Roy et al., 2017									+
Shah and Soomro, 2017									+
Shirokova et al., 2020				+					
Soria et al., 2016									+
Soria-Barreto et al., 2017		+							
Trivedi, 2016		+							
Van Trang and Doanh, 2019									+
Varamäki et al., 2016									+
Wegner et al., 2019						+			

Source: our elaboration

As Table 2 highlights, subjective norms are the key factor of SEI, given that it is incorporated in the model, including attitude towards entrepreneurship and perceived behavioural control. In particular, subjective norms refer to a person's beliefs about whether most people of importance to the person would approve or disapprove of a specific behaviour.

#### *4.3 Personal background-related factors*

Personal background-related factors affecting SEI are age, entrepreneurial education, entrepreneurial identity, family background, gender, knowledge about new business start-up, and valuation of entrepreneurship.

As Table 3 illustrates, the key factor emerging from previous studies is entrepreneurial education. Most universities have spent significant amounts of money on designing viable entrepreneurship education for students and have moved far beyond providing only courses on entrepreneurship because this now seems inadequate in isolation. According to Jansen et al. (2015), universities encourage students through three groups of activities: 1) stimulating (e.g. creating awareness of entrepreneurial opportunities and presenting role models and success stories), 2) educating (e.g. teaching the necessary skills and business plan creation) and 3) incubating (i.e. providing various forms of support to start-up teams). By offering entrepreneurship courses, training and extracurricular support, universities aim to create a supportive context for entrepreneurship, thereby enhancing students' motivation and capability to establish a business (Walter et al., 2013). Although students typically do not start a business directly after completing their studies, they may do so at a later stage in their career (Wennberg et al., 2011). Gathering entrepreneurial experience during their studies can be assumed to facilitate subsequent start-up endeavours of students and graduates.

Entrepreneurial education can play a crucial role in this regard by providing not only technical competencies, such as developing a business plan or training to access venture capital investment, but also new teaching methodologies to boost creativity, proactivity in decision-making and measured risk-taking. In other terms, educators should create a learning environment that encourages the effective expression and use of emotions to develop emotional intelligence, and equipped students with different individual entrepreneurial traits such as innovativeness, self-confidence, propensity to take risk and need for achievement in order to interpret the successful entrepreneurial role and, subsequently, undertake a future career in business.

Tab. 3: Personal background-related factors affecting students' entrepreneurial intention

Five-year studies (from 2016 to 2020) in alphabetic order for first author's surname	Age	Entrepreneurial education	Entrepreneurial identity	Family background	Gender	Knowledge about new business start-up	Valuation of entrepreneurship
Adekiya and Ibrahim, 2016		+					
Ahmed et al., 2020		+					
Badri and Hachicha, 2019	+	+			+		
Badri and Hachicha, 2019						+	
Caro-González et al., 2017					+		
Doan and Phan, 2020		+					
Fragoso et al., 2020					+		
Galvão et al., 2018				+			
García-Rodríguez et al., 2018		+					
Gelaidan and Abdullateef, 2017		+					
Iwu et al., 2019		+					
Jang et al., 2019			+				
Khalifa and Dhiaf, 2016		+					
Le Trung et al., 2020	+						
López-Delgado et al., 2019		+			+		
Mamun et al., 2017		+		+			
Martins and Perez, 2020							+
Morales-Alonso et al., 2016				+			
Nasser Al Muniri et al., 2019		+					
Okřęglicka et al., 2017		+					
Palmer et al., 2019				+			
Rippa et al., 2020		+					
Westhead and Solesvik, 2016		+			+		
Yukongdi and Lopa, 2017		+			+		
Zampetakis et al., 2016				+			
Zhang et al., 2020		+					

Source: our elaboration

#### 4.4 The theoretical models most used to examine students' entrepreneurial intention

Scholars have investigated SEI in terms of antecedents by referring to different theoretical models. As Table 4 highlights, the most used is the theory of planned behaviour (TPB) (e.g. Fragoso et al., 2020; Paiva et al., 2020; Valencia-Arias and Restrepo, 2020), followed (in frequency order) by the entrepreneurial event model of Shapero and Sokol (Omidi Najafabadi et

al., 2016; Alayis et al., 2018) and the social cognitive theory (SCT) (Henley et al., 2017; Al-Jubari et al., 2019). Specifically, the TPB, proposed by Ajzen (1991) in the social psychology context, is derived from the assumption that many human behaviours are planned and, hence, are preceded by intention towards that behaviour (Fishbein, Ajzen, 1975). Unlike other models, TPB offers a closer and applicable framework that allows scholars to understand and predict EI more precisely by focusing on personal as well as social factors (Kruger et al., 2000). Precisely, behavioural intentions are determined by three main antecedents: 1) attitude towards performing the behaviour—this indicates the degree to which the individual holds a positive or negative personal valuation about being an entrepreneur; 2) perceived behavioural control—this is defined as the perception of the ease or difficulty of becoming an entrepreneur; and 3) subjective norm: this measures the perceived social pressure to conduct or not to conduct entrepreneurial behaviour.

The entrepreneurial event model was developed by Shapero and Sokol (1982) to define the interaction of cultural and social factors that can lead to firm creation by influencing individuals' perceptions. In this sense, the model considers entrepreneurship an alternative or available option that occurs as a consequence of an external change. This model defines three basic kinds of perceptions: a) perceived desirability—includes the product of individuals' perceptions of desirability of entrepreneurship, affected by personal attitudes, values and feelings; b) perceived feasibility—relates to an individual's perception of available resources; in other words, it measures the individual's perceived ability to perform certain behaviour; and c) propensity to act—consists of the personal disposition to act on one's decisions, reflecting volitional aspects of intentions.

The SCT holds that an individual's behaviour, in this case EI, is informed not only through internal self-generated means, but also externally through observation of and engagement with others in a social context (Bandura, 1988; 1989). This theory has found expression in EI models through the concept of self-efficacy. In SCT, there is a continuous interaction between three factors: I) environment—social and physical environments, such as the people with whom the learner works, the size of a room and the ambient temperature; II) personal factors—mental cognition, such as personality, self-efficacy, curiosity and motivation to learn; and III) behaviour—affected by the situation, the cognitive or mental representations of the environment and the constant influence of the three components on one another. In other words, SCT rejects the notion that the individual self is both the sole agent and object of intentional activity, in favour of the view that it is both individual agency and the influence of the external environment that influence intentions. As Bandura (1988) stated, 'in acting as agents over their environment, people draw on their knowledge and cognitive and behavioral skills to produce desired results' (p. 1181).

As stated previously, the choice of using one or the other factor depends on the theoretical model used by scholars as a reference in their studies.

Tab. 4: The most used models to examine students' entrepreneurial intention

Five-year studies (from 2016 to 2020) in alphabetic order for first author's surname	Theory of planned behavior	Entrepreneurial event model	Social cognitive theory
Ahmad et al., 2019		•	
Ali, 2016	•		
Al-Jubari et al., 2019	•		•
Al-Mamary et al., 2020	•		
Aloulou, 2016	•		
Anwar et al., 2020	•		
Caro-González et al., 2017	•		
Daniel and Almeida, 2020	•		
Fietze and Boyd, 2017	•		
Galvão et al., 2018	•		
Henley et al., 2017			•
Iglesias-Sánchez et al., 2016	•		
Jang et al., 2019	•	•	
Khalifa and Dhiyf, 2016	•		
Mamun et al., 2017	•		
Nasser Al Muniri et al., 2019	•		
Omidi Najafabadi et al., 2016	•	•	
Paiva et al., 2020	•		
Pérez-Fernández et al., 2020	•		
Phuc et al., 2020	•		
Ramos-Rodríguez et al., 2019	•		
Rodrigues et al., 2019	•		
Shah and Soomro, 2017	•		
Soria et al., 2016	•		
Van Trang and Doanh, 2019	•		
Varamäki et al., 2016	•		

Source: our elaboration



## 5. Discussion

This paper provides a detailed analysis of the key factors of SEI through a review of 15 years of research on this topic (2006–2020). Therefore, it differs from previous studies focused on understanding the drivers of EI in general through its analysis of student intention for entrepreneurship. Moreover, this research differs from previous studies in that it provides an overview of factors affecting SEI that were gathered into sets of antecedents according to empirically grounded evidence. Thus, the evolution over time of the literature on SEI was analysed (see Figure 2) by highlighting the current research on the factors that most affect SEI (see Figure 3). Essentially, the variety of factors that emerged from the analysis confirms the complex nature of entrepreneurship (Douglas et al., 2020).

Overall, the present study contributes to the current debate in six primary ways. First, the study's results highlight that not only are the personal characteristics of potential entrepreneurs relevant, but cultural, educational, institutional and political, as well as social perspectives are also taken into account through various contextual/situational factors. Yet the factors related to personality traits and the context or situation have received considerable attention, whereas the factors related to personal background are underdeveloped.

Second, unlike Al-Harrasi et al.'s (2014) research, which focused fundamentally on management engineering studies, motivational factors did not emerge in the entrepreneurship and management literature that was examined in this study. More precisely, factors such as the determination to succeed, need for more income, desire for security and desire for status were not considered antecedents of SEI.

Third, this research highlights the different factors affecting SEI that have been combined in specific analyses. These factors are the result of the application of models resulting in the incidence of each factor. Given that some results appear to be contradictory, agreement regarding certain factors is lacking in the academic literature. For example, Al-Mamary et al. (2020) argue that innovativeness negatively affects SEI, whereas other scholars (Ahmed et al., 2019; Ladd et al., 2019; López-Delgado et al., 2019; Mamun et al., 2017) argue differently. Consequently, more empirical evidence is necessary, and this opens up opportunities for future studies.

Fourth, as demonstrated during the analysis, not all antecedents of the various sets identified have been used with the same frequency: attitude towards entrepreneurship, perceived behavioural control and subjective norms have been used more than other antecedents. This result is closely related to the almost exclusive use of the TPB model in research about SEI. The large number of studies adopting the TPB model has increased understanding of the role played by this model in the entrepreneurship context

and, at the same time, reinforces the TPB as an appropriate theoretical construct to measure SEI.

Fifth, although research on SEI antecedents suggests that the three factors proposed by the TPB model are the most used in literature, this study highlights which other factors have been considered in the literature and how studies have empirically tested them. For example, innovativeness, need for achievement, risk-taking propensity, gender and family background appear most commonly in the literature and are not included in the TPB model. Moreover, in some cases, scholars have used these factors along with the factors included in the TPB model. In addition, this study shows what other theoretical approaches such as the entrepreneurial event model and social cognitive theory have been used in the past 15 years of examination of this topic. This view is essential for scholars who aim to start new research models based on these studies.

Sixth, the present overview also reveals that the factors identified can be used by lecturers, educators, higher education institutions and policymakers as a preliminary checklist to stimulate students' intention towards entrepreneurship and to plan effective training programmes. More precisely, this analysis reveals that the entrepreneurship education factor, in particular, has been used in previous studies. This aspect reflects the importance of lecturers and educators finding more suitable teaching methods to increase positive intention towards entrepreneurship among students. According to Ishiguro's (2015) study, the ability to create ideas and put them into action is the most significant factor influencing students' entrepreneurial mindset. Indeed, previous studies suggest that courses should be more practical, experientially engage students, involve increased time and effort in teaching entrepreneurial knowledge and tools to students, equip students with entrepreneurial skills, invite successful entrepreneurs to the lectures, enable students to experience interaction with actual local entrepreneurs to share their successes, and involve students in business games and challenges. In this way, students will keep alive their EIs, aspirations, motivations and desires during their university studies instead of allowing them to deteriorate. These aspects outline that entrepreneurship education is not only content-based, but can also inspire and motivate students (Souitaris et al., 2007). This means not only the nurturing of entrepreneurial mindsets but also the creation of emotional experiences. Emotions can offer motivational reasons to become an entrepreneur and to plan for new ventures. Thus, emotions together with attitudinal and motivational factors, could influence the interest and intention to become an entrepreneur (Ustav and Venesaar, 2018). In other terms, emotions are found in literature to play a crucial role on entrepreneurial behaviour (Fordon and Pinteá, 2017; Fayolle, 2013; Lundmark and Westelius, 2014) because entrepreneurs are very emotionally committed to their ventures (Shepherd et al.,

2015). More precisely, recent research argues that emotions are highly related to action (Blakemore and Vuilleumier, 2017), decision-making (Welpel et al., 2012), opportunity recognition (Hayton and Cholakova, 2012), and memory (Bower, 1992; Tyng et al., 2017). Precisely, scholars acknowledge the importance of emotions (Arpiainen et al., 2013; Jones and Underwood, 2017; Lackéus, 2014) in entrepreneurship education, concretely in the teaching and learning of entrepreneurship (Pless et al., 2011) and the development of entrepreneurial competencies (Lackéus, 2014). According to Fernandez-Perez et al. (2019), emotional competencies help students manage emotions and recognize them when needed in entrepreneurship. The role of emotions in entrepreneurship education can be significant for the participating students.

Study programs and a supportive environment within a university can influence students' engagement in entrepreneurial activities in the future. From an entrepreneurship education perspective, more studies have highlighted that a better university environment, based on the quality of education towards entrepreneurship, leads to higher chances of positive SEI. In other words, higher education institutions can encourage SEI to start a business through entrepreneurship education, given the findings that reveal a positive—and often significant association—among study courses and programs, university environment and intention to start a business among students.

Further, understanding the factors of SEI is important for policymakers in developing effective educational policies and programs aimed at increasing institutions' fostering of a positive business environment, facilitating the creation of new ventures, offering funding to create spinoffs and reinforcing the benefits of becoming a student entrepreneur. These findings highlight the importance of applying the triple helix model involving the university, government and business (Feola et al., 2019). Notably, the concept of entrepreneurial university, a key concept in the triple helix model developed by Etzkowitz, identifies the evolution of the university role with the addition to the traditional missions of university (education and research) of a third mission that is to contribute to the economic development through the transfer of research results from the laboratory to the economic system.

Focused on the entrepreneurial idea, the entrepreneurial university try to work as education centers that promote entrepreneurial attitudes, in addition to working as business incubators, spin-offs providing students with new ideas, competencies and ability to think in an entrepreneurial way when facing social demands together with to build connections with industries (Etzkowitz et al., 2000). By harmonising their aims, these institutions can encourage students to develop their EI and engage them in start-up activities.

## 6. Conclusions: future research streams

The review of literature debate about SEI highlights the possible future research streams on this topic. In other words, in addition to identifying and organising the antecedents of SEI, this overview aims to provide a base for future research by suggesting possible research directions to stimulate further theoretical and empirical studies that can advance both the theoretical basis and the practice of SE and, especially, SEI.

Although many SEI predictors have been identified, many factors related to the three sets of antecedents have been scarcely used, such as age, national culture, legal institution, business support and networking. Future studies could further examine their impact on SEI to understand whether they can influence students' intention for entrepreneurship in addition to exploring the relationship (and the possible interplay) between these personal aspects and other antecedents. Additionally, the factors that emerged from the analysis in this study are not exhaustive in nature. Future studies could seek new factors influencing students' intention for entrepreneurship to further complement the TPB and other models used in literature. For example, future studies could investigate personal motivation, informal environments and digital transformation as possible antecedents of SEI. With respect to the dynamic business environment, further studies could study whether and how the digital economy fosters entrepreneurial traits among students and thus identify possible factors influencing SEI.

Further, to develop social and sustainable entrepreneurship, exploring the specific factors that foster this specific entrepreneurial intention is recommended. For example, empirical research could focus on the nexus between participation in environmental youth movements or volunteer experiences that require mutual help.

There is a need to study SEI antecedents in different countries by conducting a cross-country comparative study. Personality traits, contextual/situational factors, and factors related to personal background can vary, and different results could emerge. Previous studies have not included other variables such as individual cultural values. Also, performing a cross-cultural comparison through further empirical evidence is necessary to add fresh insight to the ongoing debate over EI antecedents.

Moreover, very few studies have combined the TPB with the entrepreneurial event model (Jang et al., 2019; Omid Najafabadi et al., 2016) or with the SCT (Al-Jubari et al., 2019). Future research could further examine the relationships between these models by highlighting which specific factors can be more effectively combined.

This research does not examine the moderating and mediating role on the relationships between different antecedents of SEI. Future papers could examine the particular effect of personality, contextual and personal background antecedents in predicting SEI.

It is also important to recognise that although major efforts have been made to guarantee intersubjective verification of results by applying systematic research synthesis methods, this procedure has some inherent limitations linked to the selection of articles included in the research synthesis. It must be acknowledged that selecting only peer-reviewed articles published in academic journals generates a problem of confinement because it excludes some potential literature regardless of its contribution to the discussion addressed. Another reason for confinement is the language of the sources included in the systematic research. The decision to restrict the literature review to English articles could also influence the outcomes of the research synthesis, even if the number of articles written in English regarding SEI is arguably higher than that of articles published in other languages.

Finally, it would be interesting to examine the possible negative effect of certain educational experiences on SEI. For example, future research could investigate whether certain didactical methods or content inhibit SEI.

## References

- Adekiya, A. A., & Ibrahim, F. (2016). Entrepreneurship intention among students: the antecedent role of culture and entrepreneurship training and development. *International Journal of Management Education*, 14(2), 116-132. doi:10.1016/j.ijme.2016.03.001
- Ahmad, N. H., Ramayah, T., Mahmud, I., Musa, M., & Anika, J. J. (2019). Entrepreneurship as a preferred career option: Modelling tourism students' entrepreneurial intention. *Education and Training*, 61(9), 1151-1169. doi:10.1108/ET-12-2018-0269
- Ahmed, T., Klobas, J. E., & Ramayah, T. (2019). Personality traits, demographic factors and entrepreneurial intentions: Improved understanding from a moderated mediation study. *Entrepreneurship Research Journal*, doi:10.1515/erj-2017-0062
- Ahmed, T., Chandran, V. G. R., Klobas, J. E., Liñán, F., & Kokkalis, P. (2020). Entrepreneurship education programmes: How learning, inspiration and resources affect intentions for new venture creation in a developing economy. *International Journal of Management Education*, 18(1) doi:10.1016/j.ijme.2019.100327
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Alayis, M. M. H., Abdelwahed, N. A. A., & Atteya, N. (2018). Impact of social networking sites' use on entrepreneurial intention among undergraduate business students: The case of Saudi Arabia. *Journal of Legal, Ethical and Regulatory Issues*, 22(4), 1-18.
- Al-Harrasi, A.S., Al-Zadjali, E. B., Al-Salti, Z. S. (2014). Factors impacting entrepreneurial intention: A literature review. *World Academy of Science, Engineering and Technology International Journal of Economics and Management Engineering*, 8(8), 2487-2490.
- Ali, T. B. (2016). Explaining the intent to start a business among Saudi Arabian university students. *International Review of Management and Marketing*, 6(2), 345-353.
- Al-Jubari, I., Hassan, A., & Liñán, F. (2019). Entrepreneurial intention among university students in Malaysia: Integrating self-determination theory and the theory of planned behavior. *International Entrepreneurship and Management Journal*, 15(4), 1323-1342. doi:10.1007/s11365-018-0529-0
- Al-Mamary, Y. H. S., Abdulrab, M., Alwaheeb, M. A., & Alshammari, N. G. M. (2020). Factors impacting entrepreneurial intentions among university students in Saudi Arabia: Testing an integrated model of TPB and EO. *Education and Training*, 62(7-8), 779-803. doi:10.1108/ET-04-2020-0096
- Aloulou, W. J. (2016). Predicting entrepreneurial intentions of final year Saudi university business students by applying the theory of planned behavior. *Journal of Small Business and Enterprise Development*, 23(4), 1142-1164. doi:10.1108/JSBED-02-2016-0028
- Anwar, I., Saleem, I., Islam, K. M. B., Thoudam, P., & Khan, R. (2020). Entrepreneurial intention among female university students: Examining the moderating role of entrepreneurial education. *Journal for International Business and Entrepreneurship Development*, 12(4), 217-234. doi:10.1504/JIBED.2020.110254
- Arpiainen, R.-L., Täks, M., Tynjälä, P., & Lackeus, M. (2013). The sources and dynamics of emotions in entrepreneurship education learning process. *Trames- Journal of The Humanities and Social Sciences*, 17(4), 331-346. doi:10.3176/TR.2013.4.02.
- Arrighetti, A., Caricati, L., Landini, F., & Monacelli, N. (2016). Entrepreneurial intention in the time of crisis: A field study. *International Journal of Entrepreneurial Behaviour and Research*, 22(6), 835-859. doi:10.1108/IJEBR-12-2015-0326
- Åstebro, T., Bazzazian, N., & Braguinsky, S. (2012). Startups by recent university graduates and their faculty: Implications for university entrepreneurship policy. *Research Policy*, 41(4), 663-677. doi:10.1016/j.respol.2012.01.004
- Badri, R., & Hachicha, N. (2019). Entrepreneurship education and its impact on students' intention to start up: A sample case study of students from two Tunisian universities. *International Journal of Management Education*, 17(2), 182-190. doi:10.1016/j.ijme.2019.02.004

- Bandura, A. (1988). Organisational applications of social cognitive theory. *Australian Journal of Management*, 13(2), 275-302. doi:10.1177/031289628801300210
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184. doi:10.1037/0003-066X.44.9.1175
- Bazzy, J. D., Smith, A. R., & Harrison, T. (2019). The impact of abstract thinking on entrepreneurial intentions. *International Journal of Entrepreneurial Behaviour and Research*, 25(2), 323-337. doi:10.1108/IJEBR-03-2018-0128
- Bergmann, H., Hundt, C., & Sternberg, R. (2016). What makes student entrepreneurs? on the relevance (and irrelevance) of the university and the regional context for student start-ups. *Small Business Economics*, 47(1), 53-76. doi:10.1007/s11187-016-9700-6
- Blakemore, R. L., & Vuilleumier, P. (2017). An emotional call to action: Integrating affective neuroscience in models of motor control. *Emotion Review*, 9(4), 299-309. doi:10.1177/1754073916670020.
- Bower, G. H. (1992). How might emotions affect learning. In S.-A. Christianson (Ed.), *The handbook of emotion and memory: Research and theory*, 3-31. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Brioschi, M.S., Cassia, L., Hahn, D., & Pressiani, P. (2014). Gli imprenditori del futuro: intenzioni e attività imprenditoriali degli studenti universitari. *Sistemi & Impresa*, 9, 60-65.
- Brioschi, M.S., Minola, T., & Hahn, D. (2019/2020). Imprenditorialità studentesca. Un fenomeno in forte crescita. *Sistemi & Impresa*, 8, 63-68.
- Canever, M. D., Barral, M. R. M., & Ribeiro, F. G. (2017). How does the public and private university environment affect students' entrepreneurial intention? *Education and Training*, 59(6), 550-564. doi:10.1108/ET-12-2016-0187
- Caro-González, F. -, Romero-Benabent, H., & Sánchez-Torné, I. (2017). The influence of gender on the entrepreneurial intentions of journalism students. *Intangible Capital*, 13(2), 430-478. doi:10.3926/ic.927
- Çera, G., Çera, E., Rozsa, Z., & Bilan, S. (2020). Entrepreneurial intention as a function of university atmosphere, macroeconomic environment and business support: A multi-group analysis. *European Journal of Training and Development*, doi:10.1108/EJTD-08-2019-0148
- Colombo, M. G., Dagnino, G. B., Lehmann E. E., & Salmador, M. P. (2017). The governance of entrepreneurial ecosystems. *Small Business Economics*, 52, 419-428.
- Cooper, H. (2016). *Research Synthesis and Meta-analysis: A Step-by-Step Approach*, 5<sup>th</sup> Edition. Sage Publications.
- Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Journal of Small Business Management*, 34(3), 42-49.
- Daniel, A. D., & Almeida, J. (2020). The role of junior enterprises in the development of students' entrepreneurial skills. *Education and Training*, doi:10.1108/ET-03-2019-0049
- Giudice, M. D., Peruta, M. R. D., & Scuotto, V. (2014). Student entrepreneurship, creativity and success. how much does knowledge heterogeneity really matter? *International Journal of Entrepreneurship and Innovation Management*, 18(1), 45-58. doi:10.1504/IJEIM.2014.062789
- Devonish, D., Alleyne, P., Charles-Soverall, W., Marshall, A. Y., & Pounder, P. (2010). Explaining entrepreneurial intentions in the caribbean. *International Journal of Entrepreneurial Behaviour and Research*, 16(2), 149-171. doi:10.1108/13552551011027020
- Díez-Echavarría, L., Arias, A. V., Bermúdez-Hernández, J., Pérez, F. O. M., Marín, M. L. U., & Velásquez, J. A. T. (2019). Extension of the systemic entrepreneurship intention model in university students. *Serbian Journal of Management*, 14(2), 277-297. doi:10.5937/sjm14-17336
- Doan, X. T., & Phan, T. T. H. (2020). The impact of entrepreneurial education on entrepreneurial intention: The case of vietnamese. *Management Science Letters*, 10(8), 1787-1796. doi:10.5267/j.msl.2019.12.040
- Doanh, D. C., & van Munawar, T. (2019). Entrepreneurial self-efficacy and intention among vietnamese students: A meta-analytic path analysis based on the theory of planned behaviour. *Management Science Letters*, 9(11), 1847-1862. doi:10.5267/j.msl.2019.6.007

- Douglas, E. J., & Shepherd, D. (2002). Exploring investor readiness: Assessments by entrepreneurs and investors in australia. *Venture Capital*, 4(3), 219-236. doi:10.1080/13691060213713
- Douglas, E. J., Shepherd, D. A., & Prentice, C. (2020). Using fuzzy-set qualitative comparative analysis for a finer-grained understanding of entrepreneurship. *Journal of Business Venturing*, 35(1) doi:10.1016/j.jbusvent.2019.105970
- Duong, C. D., Nguyen, H. X., Ngo, T. V. N., Nguyen, V. H., & Nguyen, T. P. L. (2020). The impact of individual and environmental characteristics on students' entrepreneurial intention. *Management Science Letters*, 10(3), 599-608. doi:10.5267/j.msl.2019.9.020
- Echchabi, A., Omar, M. M. S., & Ayedh, A. M. (2020). Entrepreneurial intention among female university students in oman. *Journal for International Business and Entrepreneurship Development*, 12(4), 280-297. doi:10.1504/JIBED.2020.110251
- Ephrem, A. N., Namatovu, R., & Basalirwa, E. M. (2019). Perceived social norms, psychological capital and entrepreneurial intention among undergraduate students in bukavu. *Education and Training*, 61(7-8), 963-983. doi:10.1108/ET-10-2018-0212
- Etzkowitz, H., Webster, A., Gebhardt, C., Brance, R., & Cantisano, T. (2000). The future of the University and the University of the future: Evolution of ivory tower to entrepreneurial paradigm. *Research Policy*, 29(2), 313- 330. doi:10.1016/S0048-7333(99)00069-4.
- Farhat, S. D., & Moncada, R. G. (2020). Incidence of the behavioral attitude in the entrepreneurial intentions in undergraduate students. *Contaduria y Administracion*, 65(2) doi:10.22201/fca.24488410e.2020.2074
- Fasone V., Puglisi M. (2019). Entrepreneur and risk: a systematic literature review with a focus on small business, *Piccola Impresa / Small Business*, 2, 35-55.
- Fayolle, A. (2013). Personal views on the future of entrepreneurship education. *Entrepreneurship & Regional Development: An International Journal*, 25(7-8), 692-701. doi:10.1080/08985626.2013.821318.
- Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75-93. doi:10.1111/jsbm.12065
- Foela, R., Vesci, M., Botti, A., & Parente, R. (2019). The determinants of entrepreneurial intention of young researchers: Combining the theory of planned behavior with the triple helix model. *Journal of Small Business Management*, 57(4), 1424-1443. doi:10.1111/jsbm.12361
- Fernández-Pérez, V., Montes-Merino, A., Rodríguez-Ariza, L., & Galicia, P. E. A. (2019). Emotional competencies and cognitive antecedents in shaping student's entrepreneurial intention: The moderating role of entrepreneurship education. *International Entrepreneurship and Management Journal*, 15(1), 281-305. doi:10.1007/s11365-017-0438-7.
- Fietze, S., & Boyd, B. (2017). Entrepreneurial intention of danish students: A correspondence analysis. *International Journal of Entrepreneurial Behaviour and Research*, 23(4), 656-672. doi:10.1108/IJEBR-08-2016-0241
- Filion, L. (1999). Empreendedorismo: empreendedores e proprietários-gerentes de pequenos negócios. *Revista Administração*, 34(2), 5-28.
- Fishbein, M. & Ajzen, I., (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Fodor, O. C., & Pintea, S. (2017). The 'emotional side' of entrepreneurship: A meta-analysis of the relation between positive and negative affect and entrepreneurial performance. *Frontiers in Psychology*, 8(310), 1-16. doi:10.3389/fpsyg.2017.00310.
- Fragoso, R., Rocha-Junior, W., & Xavier, A. (2020). Determinant factors of entrepreneurial intention among university students in brazil and portugal. *Journal of Small Business and Entrepreneurship*, 32(1), 33-57. doi:10.1080/08276331.2018.1551459
- Galvão, A., Marques, C. S., & Marques, C. P. (2018). Antecedents of entrepreneurial intentions among students in vocational training programmes. *Education and Training*, 60(7-8), 719-734. doi:10.1108/ET-03-2017-0034
- García-Rodríguez, F. J., Gutiérrez-Taño, D., & Ruiz-Rosa, I. (2018). Analysis of the



potential of entrepreneurship education in young children. *Entrepreneurship Research Journal*, 9(1) doi:10.1515/erj-2017-0064

Gelaidan, H. M., & Abdullateef, A. O. (2017). Entrepreneurial intentions of business students in malaysia: The role of self-confidence, educational and relation support. *Journal of Small Business and Enterprise Development*, 24(1), 54-67. doi:10.1108/JSBED-06-2016-0078

Guerrero, M., Rialp, J., & Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International Entrepreneurship and Management Journal*, 4(1), 35-50. doi:10.1007/s11365-006-0032-x

Gupta, A., & Gupta, V.K. (2017). Just a Lemonade Stand: An Introduction to Student Entrepreneurship. *New England Journal of Entrepreneurship*, 20(1), 33-44.

Hassan, A., Saleem, I., Anwar, I., & Hussain, S. A. (2020). Entrepreneurial intention of indian university students: The role of opportunity recognition and entrepreneurship education. *Education and Training*, 62(7-8), 843-861. doi:10.1108/ET-02-2020-0033

Hayton, J. C., & Cholakova, M. (2012). The role of affect in the creation and intentional pursuit of entrepreneurial ideas. *Entrepreneurship Theory and Practice*, 36(1), 41-67. doi:10.1111/j.1540-6520.2011.00458.x.

Henley, A., Contreras, F., Espinosa, J. C., & Barbosa, D. (2017). Entrepreneurial intentions of colombian business students: Planned behaviour, leadership skills and social capital. *International Journal of Entrepreneurial Behaviour and Research*, 23(6), 1017-1032. doi:10.1108/IJEBR-01-2017-0031

Iakovleva, T., & Kolvereid, L. (2009). An integrated model of entrepreneurial intentions. *International Journal of Business and Globalisation*, 3(1), 66-80. doi:10.1504/IJBG.2009.021632

Iglesias-Sánchez, P. P., Jambrino-Maldonado, C., Velasco, A. P., & Kokash, H. (2016). Impact of entrepreneurship programmes on university students. *Education and Training*, 58(2), 209-228. doi:10.1108/ET-01-2015-0004

Isada, F., Lin, H. -, & Isada, Y. (2015). Entrepreneurship of university students in taiwan and japan. *Management Research Review*, 38(12), 1251-1266. doi:10.1108/MRR-06-2014-0131

Ishiguro, J. (2015). What influences entrepreneurial career choice?: An exploratory analysis of the sally caird's get2 for japanese high school students. *Academy of Entrepreneurship Journal*, 21(1), 44-57.

Isiwu, P. I., & Onwuka, I. (2017). Psychological factors that influences entrepreneurial intention among women in nigeria: A study based in south east nigeria. *Journal of Entrepreneurship*, 26(2), 176-195. doi:10.1177/0971355717708846

Iwu, C. G., Opute, P. A., Nchu, R., Eresia-Eke, C., Tengeh, R. K., Jaiyeoba, O., & Aliyu, O. A. (2019). Entrepreneurship education, curriculum and lecturer-competency as antecedents of student entrepreneurial intention. *International Journal of Management Education*, 19(1) doi:10.1016/j.ijme.2019.03.007

Jang, Y., Hadley, B., Son, J., & Song, C. (2019). Determinants of students' entrepreneurial intention to compete in a fast-pitch competition. *Journal of Education for Business*, 94(6), 359-368. doi:10.1080/08832323.2018.1540389

Jansen, S., van de Zande, T., Brinkkemper, S., Stam, E., & Varma, V. (2015). How education, stimulation, and incubation encourage student entrepreneurship: Observations from MIT, IIT, and utrecht university. *International Journal of Management Education*, 13(2), 170-181. doi:10.1016/j.ijme.2015.03.001

Jones, S., & Underwood, S. (2017). Understanding students' emotional reactions to entrepreneurship education: A conceptual framework. *Education + Training*, 59(7/8), 657-671. doi:10.1108/ET-07-2016-0128.

Kakouris, A. (2016). Exploring entrepreneurial conceptions, beliefs and intentions of greek graduates. *International Journal of Entrepreneurial Behaviour and Research*, 22(1), 109-132. doi:10.1108/IJEBR-07-2014-0137

Khalifa, A. H., & Dhiaf, M. M. (2016). The impact of entrepreneurship education on entrepreneurial intention: The uae context. *Polish Journal of Management Studies*, 14(1), 119-128. doi:10.17512/pjms.2016.14.1.11

Krueger Jr., N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5), 411-432. doi:10.1016/S0883-9026(98)00033-0

Ladd, T., Hind, P., & Lawrence, J. (2019). Entrepreneurial orientation, waynesian self-efficacy for searching and marshaling, and intention across gender and region of origin. *Journal of Small Business and Entrepreneurship*, 31(5), 391-411. doi:10.1080/08276331.2018.1459016

Lackéus, M. (2014). An emotion-based approach to assessing entrepreneurial education. *The International Journal of Management Education*, 12(3), 374-396. doi:10.1016/j.ijme.2014.06.005.

Le Trung, T., Xuan, H. D., Ngoc, H. N., Cong, D. D., & Phuong, L. N. T. (2020). A comparative analysis of entrepreneurial intention and migration attitudes of students in vietnam and poland. *Management Science Letters*, 10(2), 479-488. doi:10.5267/j.msl.2019.8.022

Lee, L., Wong, P. K., Foo, M. D., & Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing*, 26(1), 124-136. doi:10.1016/j.jbusvent.2009.04.003

Leonelli, S., Ceci, F., & Masciarelli, F. (2016). The importance of entrepreneurs' traits in explaining start-ups' innovativeness. *Sinergie Italian Journal of Management*, 34(101), 71-85. doi: 10.7433/s101.2016.05.

Liñán, F. (2008). Skill and value perceptions: How do they affect entrepreneurial intentions? *International Entrepreneurship and Management Journal*, 4(3), 257-272. doi:10.1007/s11365-008-0093-0

Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: Citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907-933. doi:10.1007/s11365-015-0356-5

Liñán, F., Nabi, G., & Kueger, N. (2013). British and spanish entrepreneurial intentions: A comparative study. *Revista De Economia Mundial*, (33), 73-103.

Longva, K. K., Strand, Ø., & Pasquine, M. (2020). Entrepreneurship education as an arena for career reflection: The shift of students' career preferences after a business planning course. *Education and Training*, 62(7-8), 877-896. doi:10.1108/ET-08-2019-0187

Looi, K. H. (2017). Predicting undergraduates' entrepreneurial intentions: A values approach. *International Journal of Business and Globalisation*, 19(3), 331-349. doi:10.1504/IJBG.2017.087206

Lopez, T., & Alvarez, C. (2019). Influence of university-related factors on students' entrepreneurial intentions. *International Journal of Entrepreneurial Venturing*, 11(6), 521-540. doi:10.1504/IJEV.2019.103751

López-Delgado, P., Iglesias-Sánchez, P. P., & Jambrino-Maldonado, C. (2019). Gender and university degree: A new analysis of entrepreneurial intention. *Education and Training*, 61(7-8), 797-814. doi:10.1108/ET-04-2018-0085

Lundmark, E. & Westelius, A. (2014). Entrepreneurship as elixir and mutagen. *Entrepreneurship: Theory & Practice*, 38(3), 575-600. doi:10.1111/etap.12004.

Mamun, A. A., Nawi, N. B. C., Mohiuddin, M., Shamsudin, S. F. F. B., & Fazal, S. A. (2017). Entrepreneurial intention and startup preparation: A study among business students in malaysia. *Journal of Education for Business*, 92(6), 296-314. doi:10.1080/08832323.2017.1365682

Marchand, J., & Hermens, A. (2015). Student entrepreneurship: A research agenda. *International Journal of Organizational Innovation*, 8(2), 266-281.

Mars, M. M., Slaughter, S., & Rhoades, G. (2008). The state-sponsored student entrepreneur. *Journal of Higher Education*, 79(6), 638-670. doi:10.1353/jhe.0.0024

Martins, I., & Perez, J. P. (2020). Testing mediating effects of individual entrepreneurial orientation on the relation between close environmental factors and entrepreneurial intention. *International Journal of Entrepreneurial Behaviour and Research*, 26(4), 771-791. doi:10.1108/IJEBR-08-2019-0505

- Meoli, A., Fini, R., Sobrero, M., & Wiklund, J. (2020). How entrepreneurial intentions influence entrepreneurial career choices: The moderating influence of social context. *Journal of Business Venturing*, 35(3) doi:10.1016/j.jbusvent.2019.105982
- Monllor, J., & Soto-Simeone, A. (2019). The impact that exposure to digital fabrication technology has on student entrepreneurial intentions. *International Journal of Entrepreneurial Behaviour and Research*, 26(7), 1505-1523. doi:10.1108/IJEBR-04-2019-0201
- Morales-Alonso, G., Pablo-Lerchundi, I., & Vargas-Perez, A. M. (2016). An empirical study on the antecedents of knowledge intensive entrepreneurship. *International Journal of Innovation and Technology Management*, 13(5) doi:10.1142/S0219877016400113
- Nabi, G., Holden, R., & Walmsley, A. (2006). Graduate career-making and business start-up: A literature review. *Education and Training*, 48(5), 373-385. doi:10.1108/00400910610677072
- Nasser Al Muniri, K. S., Hashim, M. W., & Al Aliyani, W. R. (2019). The impact of undergraduate entrepreneurship education on entrepreneurial intentions: An oman perspective. *International Journal of Organizational Diversity*, 19(2), 41-51. doi:10.18848/2328-6261/CGP/v19i02/41-51
- Okręglicka, M., Havierníková, K., Mynarzová, M., & Lemańska-Majdzik, A. (2017). Entrepreneurial intention creation of students in poland, slovakia and czechia. *Polish Journal of Management Studies*, 15(2), 162-172. doi:10.17512/pjms.2017.15.2.15
- Omidi Najafabadi, M., Zamani, M., & Mirdamadi, M. (2016). Designing a model for entrepreneurial intentions of agricultural students. *Journal of Education for Business*, 91(6), 338-346. doi:10.1080/08832323.2016.1218318
- Opoku-Antwi, G. L., Amofah, K., Nyamaah-Koffuor, K. & Yakubu, A., (2012). Entrepreneurial Intention among Senior High School Students in the Sunyani Municipality. *International Review of Management and Marketing*, 2(4), 210-219.
- Paiva, L. E. B., Sousa, E. S., Lima, T. C. B., & Da Silva, D. (2020). Planned behavior and religious beliefs as antecedents to entrepreneurial intention: A study with university students. *Revista De Administracao Mackenzie*, 21(2) doi:10.1590/1678-6971/eRAMG200022
- Palalic, R., Durakovic, B., Brankovic, A., & Ridic, O. (2016). Students' entrepreneurial orientation intention, business environment and networking: Insights from bosnia and herzegovina. *International Journal of Foresight and Innovation Policy*, 11(4), 240-255. doi:10.1504/IJFIP.2016.084530
- Palmer, C., Fasbender, U., Kraus, S., Birkner, S., & Kailer, N. (2021). A chip off the old block? the role of dominance and parental entrepreneurship for entrepreneurial intention. *Review of Managerial Science*, 15(2), 287-307. doi:10.1007/s11846-019-00342-7
- Pérez-Fernández, H., Martín-Cruz, N., Delgado-García, J. B., & Rodríguez-Escudero, A. I. (2020). Online and face-to-face social networks and dispositional affectivity. how to promote entrepreneurial intention in higher education environments to achieve disruptive innovations? *Frontiers in Psychology*, 11 doi:10.3389/fpsyg.2020.588634
- Phuc, P. T., Vinh, N. Q., & Do, Q. H. (2020). Factors affecting entrepreneurial intention among tourism undergraduate students in vietnam. *Management Science Letters*, 10(15), 3675-3682. doi:10.5267/j.msl.2020.6.026
- Premand, P., Brodmann, S., Almeida, R., Grun, R., & Barouni, M. (2016). Entrepreneurship education and entry into self-employment among university graduates. *World Development*, 77, 311-327. doi:10.1016/j.worlddev.2015.08.028
- Rajković, J., Nikolić, M., Čočkalović, D., Stojanović, E. T., & Kovačić, S. (2020). National culture and the entrepreneurial intentions of students in serbia\*. *Journal of East European Management Studies*, 25(1), 105-141. doi:10.5771/0949-6181-2020-1-105
- Ramos-Rodríguez, A. R., Medina-Garrido, J. A., & Ruiz-Navarro, J. (2019). Why not now? intended timing in entrepreneurial intentions. *International Entrepreneurship and Management Journal*, 15(4), 1221-1246. doi:10.1007/s11365-019-00586-5
- Rippa, P., Ferruzzi, G., Holienka, M., Capaldo, G., & Coduras, A. (2020). What drives university engineering students to become entrepreneurs? finding different recipes using a configuration approach. *Journal of Small Business Management*, doi:10.1080/00472778.2020.1790291

Rodrigues, A. P., Jorge, F. E., Pires, C. A., & António, P. (2019). The contribution of emotional intelligence and spirituality in understanding creativity and entrepreneurial intention of higher education students. *Education and Training*, 61(7-8), 870-894. doi:10.1108/ET-01-2018-0026

Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in india: Extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13(4), 1013-1041. doi:10.1007/s11365-017-0434-y

Saldaña, J. (2015). *The coding manual for qualitative researchers*. SAGE: Los Angeles.

Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship: Theory and Practice*, 38(2), 291-332. doi:10.1111/etap.12087

Shah, N., & Soomro, B. A. (2017). Investigating entrepreneurial intention among public sector university students of pakistan. *Education and Training*, 59(7-8), 841-855. doi:10.1108/ET-11-2016-0168

Shahab, Y., Chengang, Y., Arbizu, A. D., & Haider, M. J. (2019). Entrepreneurial self-efficacy and intention: Do entrepreneurial creativity and education matter? *International Journal of Entrepreneurial Behaviour and Research*, 25(2), 259-280. doi:10.1108/IJEBR-12-2017-0522

Shapiro, A., & Sokol, L. (1982). Social dimensions of entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72-90). Englewood Cliffs: Prentice Hall.

Sharma, S. K. (2019). Entrepreneurial intention of students: A case of NIT hamirpur (HP, india). *International Journal of Business and Globalisation*, 22(3), 316-331. doi:10.1504/IJBG.2019.099297

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking About Entrepreneurial Decision Making: Review and Research Agenda. *Journal of Management*, 41(1), 11-46. doi:10.1177/0149206314541153.

Shirokova, G., Osiyevskyy, O., Bogatyreva, K., Edelman, L. F., & Manolova, T. S. (2020). Moving from intentions to actions in youth entrepreneurship: An institutional perspective. *Entrepreneurship Research Journal*, doi:10.1515/erj-2019-0201

Soria, K., Honores, G., & Gutiérrez, J. (2016). Gender and social legitimacy of entrepreneurship: Contribution to entrepreneurial intention in university students from chile and colombia. *Journal of Technology Management and Innovation*, 11(3), 67-76. doi:10.4067/S0718-27242016000300008

Soria-Barreto, K., Honores-Marin, G., Gutiérrez-Zepeda, P., & Gutiérrez-Rodríguez, J. (2017). Prior exposure and educational environment towards entrepreneurial intention. *Journal of Technology Management and Innovation*, 12(2), 45-58. doi:10.4067/S0718-27242017000200006

Souitaris, V., Zerbinati, S. & 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*, 22(4), 566-591. doi:10.1016/j.jbusvent.2006.05.002.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207-222. doi:10.1111/1467-8551.00375

Trivedi, R. (2016). Does university play significant role in shaping entrepreneurial intention? A cross-country comparative analysis. *Journal of Small Business and Enterprise Development*, 23(3), 790-811. doi:10.1108/JSBED-10-2015-0149

Trivedi, R. H. (2017). Entrepreneurial-intention constraint model: A comparative analysis among post-graduate management students in India, Singapore and Malaysia. *International Entrepreneurship and Management Journal*, 13(4), 1239-1261.

Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142-159. doi:10.1108/03090590910939049

- Tyng, C. M., Amin, H. U., Saad, M. N., & Malik, A. S. (2017). The influences of emotion on learning and memory. *Frontiers in Psychology*, 8(1454), 1-22. doi:10.3389/fpsyg.2017.01454.
- Uddin, M. R., & Bose, T. K., (2012). Determinants of entrepreneurial intention of business students in Bangladesh. *International Journal of Business and Management*, 7(24), 128-137.
- Ustav, S. & Venesaar, U. (2018). Bridging metacompetencies and entrepreneurship education. *Education + Training*, 60(7-8), 674-695. doi:10.1108/ET-08-2017-0117.
- Valencia-Arias, A., & Restrepo, L. A. M. (2020). Entrepreneurial intentions among engineering students: Applying a theory of planned behavior perspective. *Periodica Polytechnica Social and Management Sciences*, 28(1), 59-69. doi:10.3311/PPso.12731
- Van Trang, T., & Doanh, D. C. (2019). The role of structural support in predicting entrepreneurial intention: Insights from vietnam. *Management Science Letters*, 9(11), 1783-1798. doi:10.5267/j.msl.2019.6.012
- Van Trang, T., Do, Q. H., & Loan, N. T. B. (2020). Relationships between students' work values and entrepreneurial intention among vietnamese students. *Academy of Entrepreneurship Journal*, 26(1), 1-13. Retrieved from www.scopus.com
- Varamäki, E., Joensuu, S., & Viljamaa, A. (2016). Starting up a firm or not: Differences in the antecedents of entrepreneurial intentions. *Industry and Higher Education*, 30(3), 239-249. doi:10.1177/0950422216655046
- Varghese, T., & Hassan, A., (2012). Youth's Entrepreneurial Attitudes in Oman, *World Journal of Social Sciences*, 2(7), 302-325.
- Volkman, C. (2004) Entrepreneurial studies in higher education, *Higher Education in Europe*, 29:2, 177-185, doi:10.1080/0379772042000234802
- Vuorio, A. M., Puumalainen, K., & Fellnhofer, K. (2018). Drivers of entrepreneurial intentions in sustainable entrepreneurship. *International Journal of Entrepreneurial Behaviour and Research*, 24(2), 359-381. doi:10.1108/IJEBR-03-2016-0097
- Walter, S. G., Parboteeah, K. P., & Walter, A. (2013). University departments and self-employment intentions of business students: A cross-level analysis. *Entrepreneurship: Theory and Practice*, 37(2), 175-200. doi:10.1111/j.1540-6520.2011.00460.x
- Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, 26(2), XIII-XXIII.
- Wegner, D., Thomas, E., Teixeira, E. K., & Maehler, A. E. (2019). University entrepreneurial push strategy and students' entrepreneurial intention. *International Journal of Entrepreneurial Behaviour and Research*, 26(2), 307-325. doi:10.1108/IJEBR-10-2018-0648
- Welpe, I. M., Spörrle, M., Grichnik, D., Michl, T., & Audretsch, D. B. (2012). Emotions and opportunities: The interplay of opportunity evaluation, fear, joy, and anger as antecedent of entrepreneurial exploitation. *Entrepreneurship Theory and Practice*, 36(1), 69-96. doi:10.1111/j.1540-6520.2011.00481.x.
- Wennberg, K., Wiklund, J., & Wright, M. (2011). The effectiveness of university knowledge spillovers: Performance differences between university spinoffs and corporate spinoffs. *Research Policy*, 40(8), 1128-1143. doi:10.1016/j.respol.2011.05.014
- Westhead, P., & Solesvik, M. Z. (2016). Entrepreneurship education and entrepreneurial intention: Do female students benefit? *International Small Business Journal: Researching Entrepreneurship*, 34(8), 979-1003. doi:10.1177/0266242615612534
- Wu, S., & Wu, L. (2008). The impact of higher education on entrepreneurial intentions of university students in china. *Journal of Small Business and Enterprise Development*, 15(4), 752-774. doi:10.1108/14626000810917843
- Yukongdi, V., & Lopa, N. Z. (2017). Entrepreneurial intention: A study of individual, situational and gender differences. *Journal of Small Business and Enterprise Development*, 24(2), 333-352. doi:10.1108/JSBED-10-2016-0168
- Zampetakis, L. A., Lerakis, M., Kafetsios, K., & Moustakis, V. (2016). Anticipated emotions towards new venture creation: A latent profile analysis of early stage career starters. *International Journal of Management Education*, 14(1), 28-38. doi:10.1016/j.ijme.2015.11.004
- Zeffane, R. (2012). Gender and Youth Entrepreneurial Potential: Evidence from the

United Arab Emirates. *International Journal of Business and Management*, 8(1), 60-72.

Zhang, S., Li, Y., Liu, C., & Ruan, W. (2020). Critical factors identification and prediction of tourism and hospitality students' entrepreneurial intention. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 26 doi:10.1016/j.jhlste.2019.100234

Zhou, W., Yang, X., Li, Y., & Zhang, Y. (2019). Pattern versus level: A new look at the personality-entrepreneurship relationship. *International Journal of Entrepreneurial Behaviour and Research*, 25(1), 150-168. doi:10.1108/IJEBR-03-2018-0176

Zollo, L., Laudano, M. C., Ciappei, C., & Zampi, V. (2017). Factors affecting universities' ability to foster students' entrepreneurial behaviour: An empirical investigation. *Journal of Management Development*, 36(2), 268-285. doi:10.1108/JMD-06-2016-0093