Cogent Business & Management

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oabm20

The student entrepreneurial intention cloud: a review of reviews

Riyaad Ismail, Johanna Vanderstraeten & Hendrik Slabbinck

To cite this article: Riyaad Ismail, Johanna Vanderstraeten & Hendrik Slabbinck (2024) The student entrepreneurial intention cloud: a review of reviews, Cogent Business & Management, 11:1, 2344046, DOI: 10.1080/23311975.2024.2344046

To link to this article: https://doi.org/10.1080/23311975.2024.2344046

Published online: 29 Apr 2024.

COGENT BUSINESS & MANAGEMENT
2024, VOL. 11, NO. 1, 2344046
https://doi.org/10.1080/23311975.2024.2344046

ENTREPRENEURSHIP & INNOVATION | REVIEW ARTICLE

OPEN ACCESS Check for updates

The student entrepreneurial intention cloud: a review of reviews

Riyaad Ismail[a,b], Johanna Vanderstraeten[a,b] and Hendrik Slabbinck[b,c]

[a]Department of Management, Faculty of Business and Economics, Antwerp Centre for Entrepreneurship Research, University of Antwerp, Antwerp, Belgium; [b]Centre for R&D Monitoring (ECOOM), Brussels, Belgium; [c]Department of Marketing, Innovation and Organisation, Faculty of Economics and Business Administration, Ghent University, Ghent, Belgium

ABSTRACT

Despite the wealth of literature on factors influencing student entrepreneurial intentions (SEIs), as well as several review articles having provided an overview, the complexity of their interrelationships remains inadequately understood. Furthermore, the scattered use and adoption of theories by review articles to present their findings makes it even more difficult to create a comparative overview and could prevent integration. In this article, we address this and conduct a systematic literature review (SLR) of 23 review articles. As such, we provide an overview of the factors influencing SEI and outline how they are interrelated, unravelling much-needed research avenues in this study domain. The study reveals that the theory of planned behaviour (TPB) and entrepreneurial event theory (EET) is predominant in SEI research. It identifies 63 factors affecting SEI, categorised into seven groups, with notable interrelations within and across them. Based on the gaps and trends identified in this review of reviews, future recommendations are put forward for researchers and entrepreneurship policymakers to ensure the effective development of an entrepreneurial environment to cultivate SEI.

ARTICLE HISTORY
Received 25 December 2023
Revised 27 March 2024
Accepted 10 April 2024

KEYWORDS
Student entrepreneurship; student entrepreneurial intention; systematic literature review; umbrella review; review of reviews

REVIEWING EDITOR
Oyedele Ogundana, Nottingham Trent University, United Kingdom of Great Britain and Northern Ireland

SUBJECTS
Entrepreneurship; Higher Education; Entrepreneurship and Small Business Management; Small Business Management

1. Introduction

Educational institutions serve as vital incubators for entrepreneurial activity, shaping entrepreneurial mindsets and encouraging students to prefer the autonomy of self-employment over traditional employment through awareness creation and by providing essential entrepreneurial knowledge and skills (Al-Lawati et al., 2022; Aziz et al., 2021). The recognition of their pivotal role in fostering entrepreneurship has prompted an increase in supportive policies aimed at enhancing student entrepreneurship support policies (Bergmann et al., 2016; Siegel & Wright, 2015). This strategic emphasis on entrepreneurship support aids in embedding an entrepreneurial culture (EC) across various educational settings (Al-Lawati et al., 2022; Bergmann et al., 2016), such as higher education institutions (HEIs) and secondary schools.

The contextual nature of entrepreneurship, including student entrepreneurship, as outlined by Bergmann et al. (2016), suggests that the surrounding environment significantly impacts students' entrepreneurial intentions and behaviour. A blend of curricular and extracurricular entrepreneurial support is critical for augmenting students' propensity towards initiating entrepreneurial ventures (Bergmann et al., 2016). Participation in entrepreneurial activities not only fosters innovation and creativity within academic realms but also equips students with vital skills such as critical thinking, problem-solving and leadership, essential for their professional journey (Bae et al., 2014; Nabi et al., 2017).

CONTACT Riyaad Ismail Riyaad.ismail@uantwerpen.be Department of Management, Faculty of Business and Economics, Antwerp Centre for Entrepreneurship Research, University of Antwerp, Antwerp, Belgium

The Global University Entrepreneurial Spirit Students' Survey (2021) indicates a growing interest among students in entrepreneurship, with an increase in entrepreneurial intentions from 28.3% in 2016 to 30.5% in 2021, 5 years post-graduation. This trend underscores the strategic significance of nurturing student entrepreneurship across global educational platforms, presenting educational institutions as unique ecosystems for entrepreneurial exploration and development. The educational environment's critical role extends beyond mere knowledge dissemination, actively shaping the entrepreneurial intentions, mindsets and behaviours of young learners. It provides a comprehensive foundation that exposes students to entrepreneurial principles, practices and cultures, significantly influencing their inclination towards entrepreneurial behaviour.

Emphasising the value of early entrepreneurship education and support, Gregorio and Oliver (2022) argue that entrepreneurial skills are more effectively honed at a younger age; a period of life which is full of development potential. Indeed, the Global Entrepreneurship Monitor (2023) reveals a higher engagement in early-stage entrepreneurial activity among the younger demographic (18–34 years), compared to older individuals (35–64 years), highlighting the fertile ground educational phases offer for cultivating entrepreneurial aspirations. Engaging young minds in entrepreneurial endeavours not only predisposes them towards future entrepreneurial careers (Astuty et al., 2022; Bazkiaei et al., 2020) but also instils a positive entrepreneurial outlook (Li et al., 2021) and familiarity with entrepreneurial ecosystems (Porfirio et al., 2023). This exposure reshapes perceptions towards social and environmental entrepreneurship, promoting its economic and societal value (Gupta et al., 2020).

Elnadi and Gheith (2021) and Lihua (2021) mention that many studies have been conducted focusing on the factors that trigger student entrepreneurial intentions (SEIs), and numerous factors have been investigated. However, the research results regarding these factors and their interrelationships are relatively scattered (Lihua, 2021). Moreover, numerous entrepreneurial intention theories and models exist, with some consisting of different variables and constructs (Jena, 2020). This has led to several review articles being conducted focusing on the factors influencing SEI (Gabbianelli et al., 2021; Kaur & Bhinder, 2019; Ketemaw, 2020; Sivarajah & Achchuthan, 2013). Important to note, however, is that such review articles tend to either focus on a specific construct such as demographical factors (e.g. Kaur & Bhinder, 2019), adopt a specific entrepreneurial intention theory or model to present and describe their findings (for example, theory of planned behaviour [TPB]) (e.g. Massouati & Abdelbaki, 2022) or do not specifically investigate the interrelationship between the factors that influence SEI (e.g. Gabbianelli et al., 2021). As a result, this rather scattered approach to presenting factors influencing SEI may lead to gaps in knowledge and limited applicability in real-world scenarios, especially when the interrelatedness among factors is not considered. To address this, this article aims to map the factors influencing SEI based on the findings of existing review articles, ultimately answering the following research question: 'What are the factors influencing student entrepreneurial intentions, and how are these factors interrelated'?

Conducting a 'review of reviews' is a relatively new term and is commonly also described as an 'umbrella review' or an 'overview of reviews' (Faulkner et al., 2022). Faulkner et al. (2022, p. 74) further explain that the idea behind a 'review of reviews' (umbrella review) is to 'prevent you from getting "soaking wet" under a "rain of evidence"'. This would be the case when examining the findings of the increased number of studies that have been conducted on factors influencing SEI and is particularly useful when research questions are wide in scope, and numerous review articles already exist focusing on the topic under investigation (Faulkner et al., 2022). A 'review of reviews' is ideal for exploring inconclusive evidence across multiple systematic reviews (Gates et al., 2020), which is the case in the findings regarding the factors influencing SEI.

The findings of this article's systematic literature review (SLR) will provide an overview of the most common theories used to investigate the antecedents of SEI, identify the various factors that influence SEI, and identify the interrelated relationships between these influencing factors. Based on the findings of this study, gaps and trends can be identified, and recommendations for future research can be made. The findings can also guide university policymakers and entrepreneurship stakeholders to better develop their entrepreneurial ecosystem to create a more conducive environment for stimulating SEI.

The methodology adopted in this study is elaborated in the next section, and the search and selection process for the included articles is explained. This is followed by the results section, presenting a

descriptive overview of the included articles. Thereafter, the most common theories to investigate SEI are elaborated on, followed by the presentation and discussion of several factor groups influencing SEI. The paper concludes with a discussion, theoretical implications, future research recommendations and a conclusion.

2. Methodology

To answer the research question, we conducted a SLR on papers published until February 2023 to obtain a broader view of existing knowledge and examine the factors and their interrelationships influencing SEI. According to Kraus et al. (2020), a SLR is a review process followed to examine the existing body of literature focusing on a specific topic while following a transparent and reproducible methodology. This transparency and reproducibility provide an advantage over the traditional review process, which is not systematic (structured) in nature (Kraus et al., 2020). Paul et al. (2021) concur, asserting that SLRs are by far the most informative and scientific types of reviews, attributing to how rigorously they are conducted and how well they are justified. Paul and Barari (2022) explain that a SLR aims to provide a comprehensive overview of what is known within a specific field, after which it proposes directions for future research based on what is not known.

Linnenluecke et al. (2020) explain that an SLR can either be author-centric or theme-centric. Author-centric reviews usually guide readers chronologically through the presentation of key findings published by various authors on a specific topic, while theme-centric reviews guide readers through prior publications that have contributed to developing our understanding of themes, concepts, or phenomena of interest (Linnenluecke et al., 2020). This SLR adopts a theme-centric approach to extracting information from the selected review articles and structuring the findings, specifically focusing on the factors (themes) influencing SEI.

SLRs create value for readers if they adhere to the following three aspects: (i) integrating and synthesising existing literature to provide a state-of-the-art understanding; (ii) identifying extant knowledge gaps and inconsistencies; and (iii) signalling avenues for future research (Paul et al., 2021). After we unlayered the search and selection process, the following information is provided in this SLR to ensure that all three aspects are met. First, an overview of the included articles is provided. Then, as the theme-centric approach is adopted, the findings from the included review articles are presented, discussed and compared. These findings are structured according to the factors (themes) influencing SEI. Third and finally, gaps in the existing research are indicated, and recommendations for future research are made.

2.1. Search and selection process

The search and selection phases mentioned by Moher et al. (2009) were adopted: identification, screening, eligibility and inclusion. Before conducting a SLR, Linnenluecke et al. (2020) advise undertaking an initial scoping process to gain a preliminary overview of the current field or topic being investigated, as well as to define the key concepts to be used within one's search string. This initial scoping process was conducted on the databases Web of Science (WoS) and Scopus to achieve the following purposes: to act as a precursor to a systematic review, to identify the types of available evidence in a given field, and to clarify key concepts/definitions in the literature (Munn et al., 2018). Kitchenham and Charters (2007) explain that such an initial scoping process can be done by using basic keywords obtained from the research question (in this case, 'what are the factors influencing student entrepreneurial intentions, and how are these factors interrelated'?). Thus, based on this research question, the following terms were used in the initial scoping process 'student*' AND 'entrepreneur*' AND 'intention*'. By doing so, it allowed the researchers to get an idea of the existing literature and the keywords used. Considering Shaffril et al. (2021) caution that employing overly specific keywords may yield more pertinent articles, but carries the risk of excluding potentially relevant records, the researchers opted to focus on an institutional perspective (for example, 'education* institut*' OR 'university*' OR 'college*' – see Table 1 for alternatives used) to allow for a broader initial

Table 1. Search syntax and results.

Database	Search syntax
Web of Science	TS = (('institut*' OR 'higher education* institut*' OR 'education* institut*' OR 'education* organi?ation*' OR 'college*' OR 'universit*' OR 'high school*' OR 'secondary school*') AND ('Entrepreneur*' OR 'Enterpris*') AND ('Intent*' OR 'Propensity' OR 'Desire' OR 'Determination' OR 'Ambition' OR 'Aspiration'))
Scopus	TITLE-ABS-KEY (('institut*' OR 'higher education* institut*' OR 'education* institut*' OR 'education* organi?ation*' OR 'college*' OR 'universit*' OR 'high school*' OR 'secondary school*') AND ('Entrepreneur*' OR 'Enterpris*') AND ('Intent*' OR 'Propensity' OR 'Desire' OR 'Determination' OR 'Ambition' OR 'Aspiration'))

inclusion of articles from different levels. Based on this decision, three overarching keywords were considered 'institut*' (described as educational institutions), 'entrepreneur*' (focusing on the individual aspect) and 'intent*' (defined as one's desire to become an entrepreneur).

Xiao and Watson (2019) assert that the search string can be extended by including synonyms, abbreviations, alternative spellings and related terms. In this study, this was done by examining alternative keywords utilised in previous research accessible through WoS and Scopus, which align closely with the operational definitions previously mentioned (Shaffril et al., 2021). Additionally, the selection of keywords was further refined and validated by consulting an online thesaurus (Shaffril et al., 2021). These key terms and their alternatives were combined to create search terms for the actual systematic search focusing on our three focus areas: institution, entrepreneur and intention. The wildcard symbol (*) was used to expand the search, increasing the chances of obtaining the most relevant articles for this SLR.

These search terms were combined to create a search syntax to obtain relevant articles from academic databases during a systematic search (Adams et al., 2017; Linnenluecke et al., 2020). In the first phase (identification), a search was conducted in the databases WoS and Scopus, focusing specifically on peer-reviewed journal articles written in English and considered review articles (see Table 1). The number of review articles returned from WoS and Scopus was 68 and 127, respectively. To further expand the search, Google Scholar was also explored to identify other relevant journal-published review articles, identifying another 11 review articles. After removing 15 duplicates, 191 review articles remained.

The reference lists of these 191 articles were then consulted to identify additional relevant review articles (Thome et al., 2016; Xiao & Watson, 2019), adding another two review articles. Thus, the total number of review articles found throughout the first phase and selected for the second phase (screening) was 193.

To increase the rigour of the article selection process and decrease bias, a second researcher was requested to be involved in the screening, eligibility and inclusion phases (Thome et al., 2016; Xiao & Watson, 2019; Linnenluecke et al., 2020). Considering the inclusion criteria (see Table 2), the second researcher, who is experienced in the field of entrepreneurship and SLRs, also went through the list of possible review articles to be included within these phases to confirm whether the appropriate articles were chosen to be included. When different opinions regarding the inclusion of an article occurred, a verbal discussion occurred to explain the reasoning. In the second phase (screening), the titles, abstracts and keywords of the identified 193 articles were screened (Linnenluecke et al., 2020).

Based on the inclusion criteria, 157 articles were excluded, and 36 review articles were accepted to move to the third phase (eligibility). During the third phase, the full text of the articles was screened to determine their eligibility for inclusion, considering the same inclusion criteria indicated previously. From these 36 review articles, 13 were excluded, amounting to 23 review articles to be selected for the SLR, completing the fourth phase (inclusion). The process followed, and the number of articles returned for each step are summarised and depicted in Figure 1.

Table 2. Article inclusion criteria.

Inclusion criteria
The review article focuses on factors influencing entrepreneurial intention (as the dependent variable)
The review article sample consists of articles focusing on (a) student sample(s)
The review article sample consists of articles focusing on tertiary (higher) or secondary education students

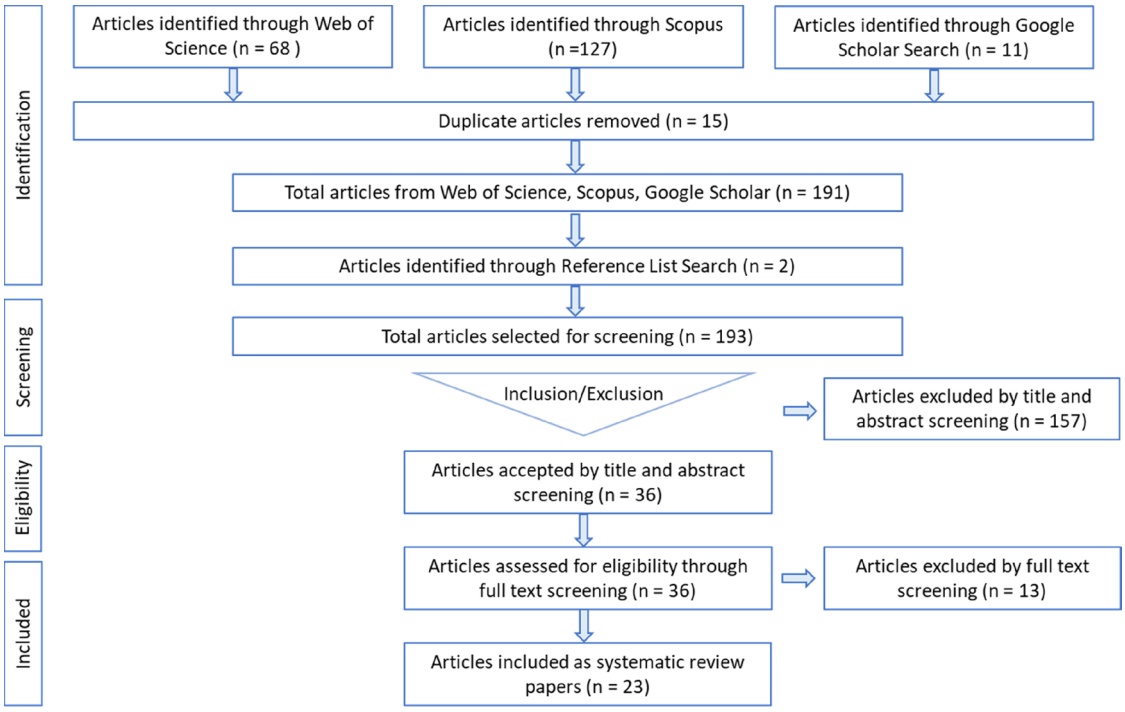

Figure 1. PRISMA flow diagram of the search process.
Source: Adapted from Moher et al. (2009).

3. Results

3.1. Overview of selected review papers

Table 3 provides a broad overview of the 23 review articles selected to be included in this review of reviews paper. The year of publication of these articles ranges from 2007 to 2022, with the majority (7) from 2022. These articles also stem from a diverse group of research journals, with only *Education and Training* and *Management Review Quarterly* comprising more than one article selected for this paper (each consisting of two). Of the 23 articles, only 13 mentioned a publication year limitation within their inclusion criteria, with the article by Aparicio et al. (2019) including the oldest articles in their review from 1987. Four review articles did not mention the number of articles they included within their study (Nabi & Liñán, 2011; Pittaway & Cope, 2007; Singh et al., 2022; Sivarajah & Achchuthan, 2013). Based on the other 19 articles, the average number of articles included in the review papers is calculated to be 121. However, this average is skewed, with four articles having more than 290+ (290; 325; 259; 454), while the median is 73 articles. Based on the analysis of the review articles, seven major factor categories were identified as having been investigated in terms of influencing SEI, including contextual, demographical, social, environmental, educational, cognitive and personality factors. The most common factor categories discussed in the review articles to influence SEI are educational factors (21) and demographical factors (13).

3.2. Theories used to investigate the factors influencing student entrepreneurial intentions

From the 23 review articles included in this study, 13 mentioned the theories most used by the articles they reviewed to investigate the factors influencing SEI. It is evident that the TPB (Ajzen, 1991) is the most common (articles 1, 4–10, 12, 17, 19, 21 and 22). According to the TPB, an individual's behaviour is predicted by three variables, namely personal attitude, subjective norms and perceived behavioural control (Ajzen, 1991; Tingting et al., 2022). Gabbianelli et al. (2021) explain that, unlike the other models, the TPB allows scholars to investigate and predict entrepreneurial intentions by focusing on both personal and social factors. The second most often used theory is

Table 3. Overview of included review papers.

Authors (year)	Title	Journal	Paper inclusion years	# of papers included	Factors included						
					Contextual factors	Demographical factors	Social factors	Environmental factors	Educational factors	Cognitive factors	Personality factors
[1]Al-Lawati et al. (2022)	Entrepreneurial culture in educational institutions: a scoping review	Cogent Business and Management	2003– 2021	94					X		
[2]Carpenter and Wilson (2022)	A systematic review looking at the effect of entrepreneurship education on higher education student	The International Journal of Management Education	2016– 2019	10		X			X	X	X
[3]Kumar et al. (2022)	Entrepreneurial intention among university students: does family background matter? A narrative review	Malaysian Journal of Social Sciences and Humanities	–	34		X					
[4]Maheshwari et al. (2022)	Factors affecting students' entrepreneurial intentions: a systematic review (2005–2022) for future direction in theory and practice	Management Review Quarterly	2005–2022	290	X	X	X	X	X	X	X
[5]Massouati and Abdelbaki (2022)	A review of the literature on factors that may influence entrepreneurial intention among university students	European Scientific Institute	–	25		X	X	X	X		X
[6]Singh et al. (2022)	Impact of entrepreneurship education on entrepreneurial intention among millennial generation in India: a review	International Journal of Business and General Management	–	–					X	X	
[7]Tingting et al. (2022)	A bibliometric analysis of college students' entrepreneurial intention from 2000 to 2020: research trends and hotspots	Frontiers in Psychology	2000–2020	454	X	X	X	X	X	X	X
[8]Aziz et al. (2021)	Role of educational institutions in influencing entrepreneurial intentions: a scoping review	Audit and Accounting Review	–	15					X		
[9]Gabbianelli et al. (2021)	An overview of students' entrepreneurial intention antecedents	Piccola Impresa Small Business	2006–2020	127		X	X	X	X	X	X
[10]Bazan et al. (2020)	A systematic literature review of the influence of the university's environment and support system on the precursors of social entrepreneurial intention of students	Journal of Innovation and Entrepreneurship	2011–2018	28			X	X	X	X	X
[11]Brune and Lutz (2020)	The effect of entrepreneurship education in schools on entrepreneurial outcomes: a systematic review	Management Review Quarterly	1997–2017	21		X			X		
[12]Ketemaw (2020)	Determinants of entrepreneurial intentions in university graduating students, Ethiopia	International Research Journal of Science and Technology	2013–2019	16					X	X	X
[13]Swarupa and Goyal (2020)	Entrepreneurial intentions of students: review of academic literature	International Journal of Scientific and Engineering Research	2014–2019	100		X	X		X		

(*Continued*)

Table 3. Continued.

Authors (year)	Title	Journal	Paper inclusion years	# of papers included	Factors included						
					Contextual factors	Demographical factors	Social factors	Environmental factors	Educational factors	Cognitive factors	Personality factors
[14]Aamir et al. (2019)	A review of entrepreneurship education research in the special issues of Education plus Training journal	Education and Training	2011–2018	59					X		
[15]Aparicio et al. (2019)	Conceptual structure and perspectives on entrepreneurship education research: a bibliometric review	European Research on Management and Business Economics	1987–2017	325					X		
[16]Kaur and Bhinder (2019)	Influence of demographic factors on the entrepreneurial intentions: literature review in context of university students	Think India Journal	–	52		X	X	X		X	
[17]Huang-Saad et al. (2018)	Entrepreneurship assessment in higher education: a research review for engineering education researchers	Journal of Engineering Education	–	359					X		
[18]Nabi et al. (2017)	The impact of entrepreneurship education in higher education: a systematic review and research agenda	Academy of Management Learning and Education	2004–2016	159		X	X		X		
[19]Wu and Wu (2017)	A decade of entrepreneurship education in the Asia pacific for future directions in theory and practice	Management Decision	2007–2016	75		X			X		X
[20]Bae et al. (2014)	The relationship between entrepreneurship education and entrepreneurial intentions: a meta-analytic review	Entrepreneurship Theory and Practice	–	73		X	X		X		
[21]Sivarajah and Achchuthan (2013)	Entrepreneurial intentions among undergraduates: review of literature	European Journal of Business and Management	–	–					X	X	X
[22]Nabi and Liñán (2011)	Graduate entrepreneurship in the developing world: intentions, education and development	Education and Training	–	–				X	X	X	X
[23]Pittaway and Cope (2007)	Entrepreneurship education a systematic review of the evidence	International Small Business Journal	–	–		X		X	X	X	

the entrepreneurial event theory (EET) (articles 4, 5, 7–9 and 17), developed by Shapero and Sokol (1982), and defines three antecedents – perceived desirability, perceived feasibility and the propensity to act. The TPB and the EET are often used together to investigate and predict entrepreneurial intentions (Tingting et al., 2022). The other theories identified by the review articles include the social cognitive theory (articles 9 and 17), the expectancy theory (article 4), the TPB entrepreneurial model (article 4), the entrepreneurial intention model (article 4), the social cognitive career theory model (article 4) and the Luthje and Franke model (article 4).

3.3. Factors influencing student entrepreneurial intention

3.3.1. Contextual factors

Only two of the 23 review articles refer to contextual factors influencing SEI. Based on the articles reviewed, the contextual factor group includes job satisfaction, social status, opportunities and unemployment (see Table 4). Figure 2 presents an overview of the relationships stemming from contextual factors.

Although both studies referred to job satisfaction and its influence on SEI, Maheshwari et al. (2022) (article 1) only mentioned that there is an influence without further elaboration. Tingting et al. (2022) (article 2), however, explained that individuals who are happy and enjoying their current employment are less likely to have entrepreneurial intentions, indicating that job satisfaction has a significant negative correlation with SEI. Maheshwari et al. (2022) (article 1) only mentioned social status, opportunities and unemployment as influencing factors without further elaboration on the specific influence.

Table 4. Articles focusing on contextual factors.

	Contextual factors			
Authors (year)	Job satisfaction	Social status	Opportunities	Unemployment
[1]Maheshwari et al. (2022)	X	X	X	X
[2]Tingting et al. (2022)	X			

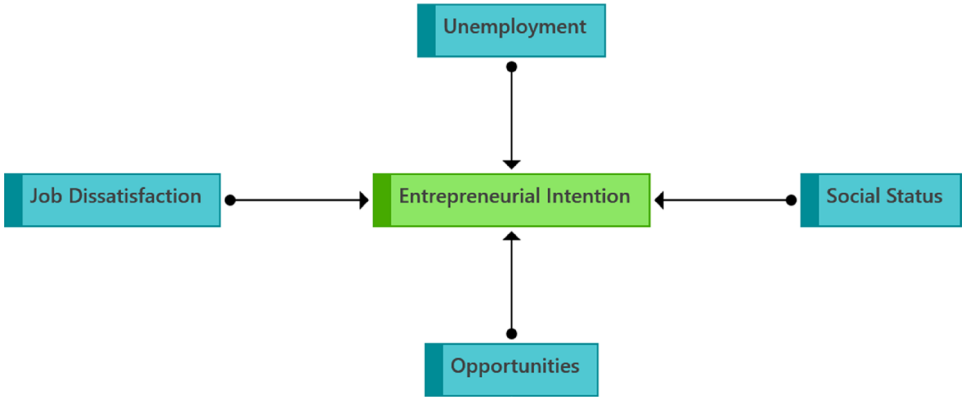

Figure 2. Relationships stemming from contextual factors.
Legend: Light blue = Contextual factors.

3.3.2. Demographical factors

The second-factor group was identified as demographical factors, referred to by 13 of the 23 review articles and consisted of family background, gender, age, educational level, education major and nationality (see Table 5). Figure 3 presents an overview of the relationships stemming from demographical factors.

The most referred to demographical factors by the review articles include gender (10), followed by family background (8) and age (7). Of the ten review articles that mentioned gender within their

Table 5. Articles focusing on demographical factors.

	Demographical factors					
Authors (year)	Family background	Gender	Age	Educational level	Education major	Nationality
[1]Carpenter and Wilson (2022)	X		X			
[2]Kumar et al. (2022)	X					
[3]Maheshwari et al. (2022)		X	X	X	X	X
[4]Massouati and Abdelbaki (2022)			X			
[5]Tingting et al. (2022)		X				
[6]Gabbianelli et al. (2021)	X	X	X	X		
[7]Brune and Lutz (2020)		X	X			
[8]Swarupa and Goyal (2020)		X				
[9]Kaur and Bhinder (2019)	X	X	X		X	
[10]Nabi et al. (2017)	X	X				X
[11]Wu and Wu (2017)	X	X				
[12]Bae et al. (2014)	X	X				
[13]Pitteway and Cope (2007)	X	X	X	X		

analyses and findings, three (articles 6, 10 and 11) only mentioned that gender influences SEI. The review articles that elaborated more on the influence of gender on SEI (articles 3, 5, 7–9, 12 and 13) all arrived at a similar conclusion that gender influences SEI and that men tend to be more entrepreneurially inclined. Although Maheshwari et al. (2022) (article 3) note that gender differences do not play a role in the self-efficacy of individuals, other review articles (articles 5, 7 and 12) claim that due to gender stereotypes, females are less likely to pursue a career in entrepreneurship due to the perceived lack of necessary skills. Females also tend to be less aggressive and competitive, which could lead to them being unable to meet the demands of becoming an entrepreneur (article 7).

Of the eight review articles including family background in their findings, two only mentioned an influence on SEI without further elaboration (articles 1 and 6). Kumar et al. (2022) (article 2) found that the research findings on the influence of family background on SEI are contradictory, with numerous studies indicating a significant positive relationship (articles 9, 11 and 13) and others finding no significant relationship (article 12). They do, however, come to a broader conclusion that family business background can act as both a pull and push factor, as entrepreneurial parents can be parental role models and provide family support but can also discourage students when the family business is not doing well, influencing students outlook on entrepreneurial activities (article 2). Furthermore, Nabi et al. (2017) (article 10) explained that students from entrepreneurial families experience a weaker impact of entrepreneurship education on their entrepreneurial intentions, which contradicts that of Kumar et al. (2022) (article 2), who found that family business background enhances the positive effect of entrepreneurship education on SEI, as the students experience non-formal training and experiences.

All seven of the review articles that mention or discuss age and its influence on SEI consider it an important factor to consider. While articles 1, 3, 4, 6 and 13 only mention its importance, the other two review articles (articles 7 and 9) conclude that younger individuals tend to be more entrepreneurially inclined than older individuals. Based on the articles reviewed by Brune and Lutz (2020) (article 7), older age groups could be more difficult to convince of the attractiveness of starting a new business, which is in line with the findings of Kaur and Bhinder (2019) (article 9), mentioning that young students are more likely to be entrepreneurially inclined. Kaur and Bhinder (2019) (article 9) also note that people aged 25–30 are more active and prepared to take the risk associated with starting one's own business and have sufficient knowledge to do so.

Both Kaur and Bhinder (2019) (article 9) and Maheshwari et al. (2022) (article 3) conclude that the specific field of study followed by students (their major) influences their SEI. Overall, the findings seem to suggest that business and economics students and engineering students tend to be more entrepreneurially inclined than those following a different major. The review articles that included educational level (articles 3, 6 and 13) and nationality (articles 3 and 10) within their discussion only mentioned that these factors are important to consider and have an influence on SEI. No further elaboration was provided in terms of the influence.

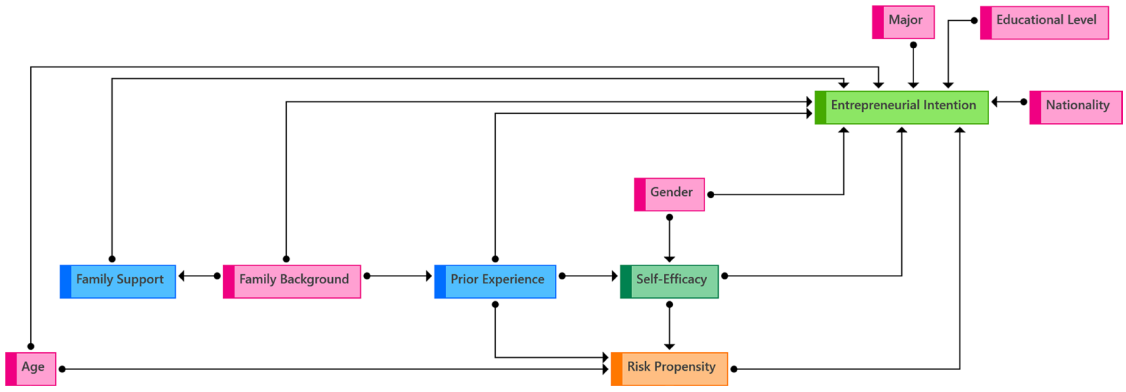

Figure 3. Relationships stemming from demographical factors.
Legend: Pink = Demographical factors; Blue = Social factors; Green = Cognitive factors.

3.3.3. Social factors

The third-factor group is social factors, and in total, nine review articles that mentioned or discussed social factors that influenced SEI were included in this article. These social factors include family support, friends support, moral obligation, prior experience, life experience and country culture (see Table 6). Figure 4 presents an overview of the relationships stemming from social factors.

The social factors referred to the most by the reviewed articles included in this study include country culture (5) (articles 1, 2, 4, 8 and 9) and prior experience (5) (articles 1, 2, 5, 7 and 8). Although five studies mentioned the importance of country culture and its influence on SEI, none of these review articles elaborated on how the culture impacts SEI. Nabi et al. (2017) (article 8) did, however, mention that although culture and national context are considered essential factors, they are rarely tested directly as most studies in their review focus on a single country or cultural context. Regarding prior entrepreneurial experience, the consensus from the included review articles is that a positive influence exists on SEI (articles 1, 2, 5, 7 and 8). Although generally having a positive influence on SEI, if the prior entrepreneurial experience was negative, it could increase students' fear and insecurities, ultimately decreasing their entrepreneurial intention (Maheshwari et al., 2022) (article 1). Prior experience can also indirectly influence SEI through mediating factors, specifically self-efficacy (article 5), empathy (articles 1 and 5), moral obligation (articles 1 and 5) and perceived social support (articles 1 and 5).

The support received from family and friends influences SEI (articles 2, 3 and 6). While Massouati and Abdelbaki (2022) (article 2) only mentioned that an influence exists between these factors, Tingting et al. (2022) (article 3) also explains that a supportive environment from family and friends also reduces the fear of failure experienced by student entrepreneurs during their entrepreneurial process. Swarupa and Goyal (2020) (article 6) also mentioned that a supportive family was positively related to perceived desirability and feasibility. Students' moral obligation also influences their entrepreneurial intentions, and even more so when it comes to social entrepreneurship (article 5). Individuals who see it as their moral obligation to assist marginalised people are more likely to strive to become social entrepreneurs and address these issues (articles 3 and 5). Although included in Table 6, life experience was only mentioned by Maheshwari et al. (2022) (article 1) as an influential factor but was not elaborated upon except that it could lead to greater self-efficacy and ultimately influence entrepreneurial intention.

Table 6. Articles focusing on social factors.

	Social factors					
Authors (year)	Family support	Friends support	Moral obligation	Prior experience	Life experience	Country culture
[1]Maheshwari et al. (2022)				X	X	X
[2]Massouati and Abdelbaki (2022)	X	X		X		X
[3]Tingting et al. (2022)	X	X	X			
[4]Gabbianelli et al. (2021)						X
[5]Bazan et al. (2020)			X	X		
[6]Swarupa and Goyal (2020)	X					
[7]Kaur and Bhinder (2019)				X		
[8]Nabi et al. (2017)				X		X
[9]Bae et al. (2014)						X

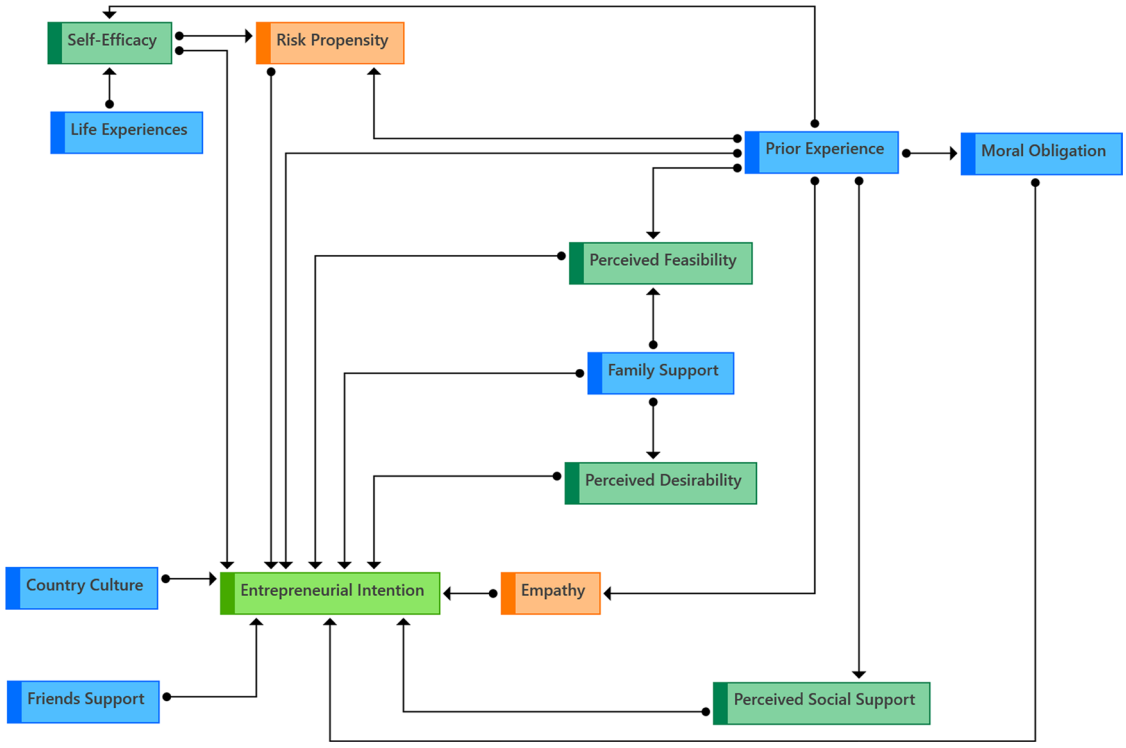

Figure 4. Relationships stemming from social factors.
Legend: Blue = Social factors; Green = Cognitive factors; Orange = Personality factors.

3.3.4. Environmental factors

The fourth-factor group is environmental factors, which consist of networking, level of economic development, institutional infrastructure, business support, human resources, social capital, government support, country norms, physical infrastructure, legal institutions and access to capital (see Table 7). Eight of the selected review articles within this study referred to one or multiple of these factors. Figure 5 presents an overview of the relationships stemming from environmental factors.

Business support was the factor most mentioned (4) by the reviewed articles in this study as influencing SEI (articles 2, 4, 5 and 8). However, three of these four articles only mentioned that an influence exists, and Pittaway and Cope (2007, p. 493) (article 8) was the only one that noted that 'business support infrastructures can have a profound impact on the level of student intentionality in different countries'.

Business support is followed by the level of economic development (2) (articles 3 and 7) and government support (2) (articles 1 and 4) as the environmental factors referred to the most by the included review articles. Nabi & Liñán, 2011) (article 7) found that, in general, entrepreneurial intentions tend to be higher in developing countries than in developed countries. Tingting et al. (2022) (article 3) take this argument further, explaining that the social valuation of entrepreneurs is higher in developed countries, while closer valuation is more important in developing countries. The higher social valuation has a significant positive impact on subjective norms and perceived behavioural control, while the higher closer valuation can predict behaviour attitudes and subjective norms (article 3). Government support was mentioned by Maheshwari et al. (2022) (article 1) and Gabbianelli et al. (2021) (article 4) as influencing factors, but no elaboration was provided on the level of influence.

The environmental factors influencing SEI referred to by only one article include networking, institutional infrastructure, human resources, social capital, country norms, physical infrastructure, legal institutions and access to capital. From these eight factors, five were only mentioned as influencing SEI, namely networking (article 4), human resources (article 1), social capital (article 4), country norms (article 4) and legal institutions (article 4). Maheshwari et al. (2022) (article 1) elaborated that institutional and physical structural support significantly impacts SEI and that greater comprehensive support is needed to

Table 7. Articles focusing on environmental factors.

	Environmental factors										
Authors (year)	Networking	Level of economic development	Institutional infrastructure	Business support	Human resources	Social capital	Government support	Country norms	Physical infrastructure	Legal institutions	Access to capital
[1]Maheshwari et al. (2022)			X		X		X		X		X
[2]Massouati and Abdelbaki (2022)				X							
[3]Tingting et al. (2022)		X									
[4]Gabbianelli et al. (2021)	X			X		X	X	X		X	
[5]Bazan et al. (2020)				X							
[6]Kaur and Bhinder (2019)											
[7]Nabi and Liñán (2011)		X									
[8]Pittaway and Cope (2007)				X							

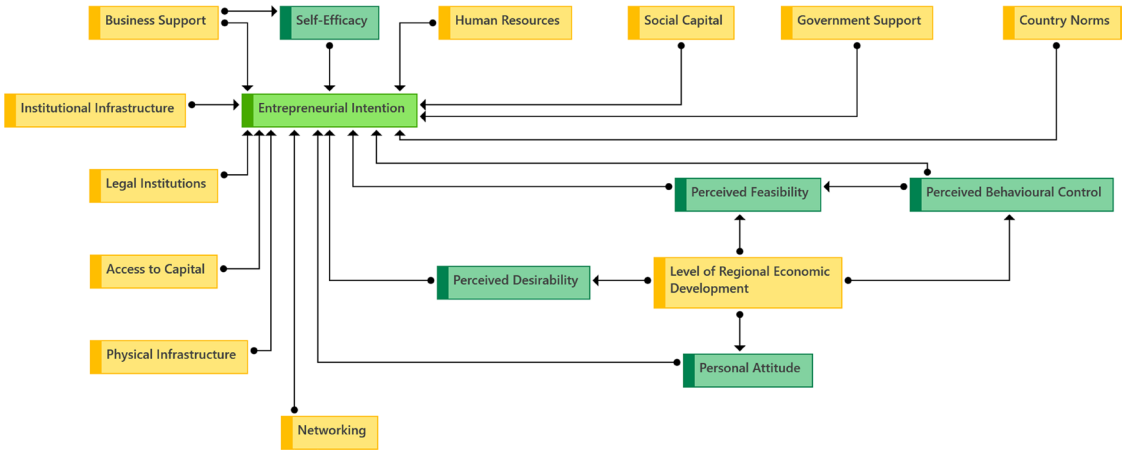

Figure 5. Relationships stemming from environmental factors.
Legend: Yellow = Environmental factors; Green = Cognitive factors.

stimulate entrepreneurial intentions among young people. Furthermore, access to capital generally correlates negatively and significantly with SEI (article 1).

3.3.5. Educational factors

The fifth-factor group is educational factors, consisting of educational courses (curriculum), extracurricular activities and a supportive university environment (see Table 8). Twenty-one of the selected review articles within this study referred to one or multiple factors. Figure 6 presents an overview of the relationships stemming from educational factors.

Table 8. Articles focusing on educational factors.

	Educational factors		
Authors (year)	Entrepreneurial courses (curriculum)	Extracurricular activities	University supportive environment
[1]Tingting et al. (2022)	X		
[2]Carpenter and Wilson (2022)	X	X	
[3]Maheshwari et al. (2022)	X	X	X
[4]Massouati and Abdelbaki (2022)	X		
[5]Singh et al. (2022)	X		
[6]Al-Lawati et al. (2022)	X		X
[7]Aziz et al. (2021)	X		
[8]Gabbianelli et al. (2021)	X		X
[9]Bazan et al. (2020)	X		
[10]Brune and Lutz (2020)	X		
[11]Ketemaw (2020)	X		
[12]Swarupa and Goyal (2020)	X		
[13]Aamir et al. (2019)	X		
[14]Aparicio et al. (2019)	X		
[15]Huang-Saad et al. (2018)	X		
[16]Nabi et al. (2017)	X		X
[17]Wu and Wu (2017)	X		
[18]Sivarajah and Achchuthan (2013)	X		
[19]Bae et al. (2014)	X		
[20]Nabi and Liñán (2011)	X		
[21]Pittaway and Cope (2007)	X		

All 21 review articles in this study that refer to educational factors influencing SEI mentioned entrepreneurial courses (curriculum). However, seven of these 20 (articles 4, 7, 8, 13–15 and 18) only mentioned that it influenced SEI and did not elaborate any further on what the influence consists of. Overall, there seemed to be a consensus between the findings of the review articles, with the majority indicating that entrepreneurial courses (curriculum) positively influence SEI (articles 1–3, 5, 6, 9–12, 16, 17 and 19–21). Nevertheless, Tingting et al. (2022) (article 6) emphasise explicitly the fact that other variables need to be accounted for when considering the impact of entrepreneurial courses (curriculum) on SEI.

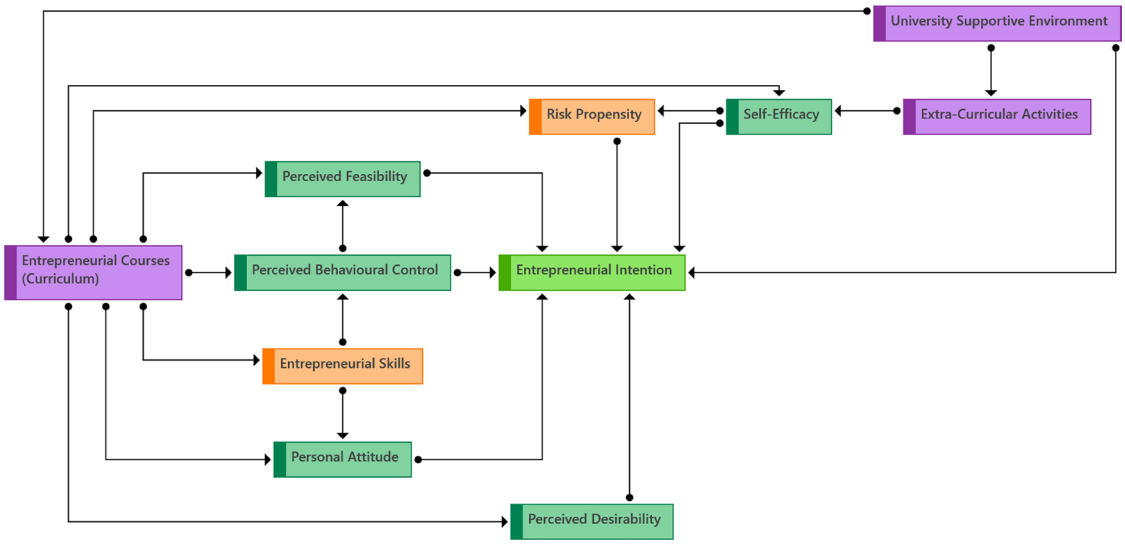

Figure 6. Relationships stemming from educational factors.
Legend: Purple = Educational factors; Green = Cognitive factors; Orange = Personality factors.

These variables include prior exposure to entrepreneurship, initial entrepreneurial intention, entrepreneurship course type (elective or compulsory/theoretically or practically oriented/semester or workshop format), entrepreneurship course content (business planning/venture creation), method of assessment and cultural context. The effect of entrepreneurial courses (curriculum) on entrepreneurial intention, subjective norms and behavioural control tends to be greater (although not always significant) among students with less previous exposure to entrepreneurial activities (articles 6 and 11). Furthermore, the impact of education is also reduced when the students have a greater initial entrepreneurial intention (article 6). While whether the course is formulated as a semester or workshop format does not influence the SEI (article 6), elective courses tend to be more influential (articles 2 and 6), as well as practically oriented courses (article 6). Carpenter and Wilson (2022) (article 2) mention that the findings regarding compulsory entrepreneurial courses on SEI are mixed, and further research needs to be conducted on this topic. The entrepreneurship course content was found not to have an impact on the influence of entrepreneurial courses (curriculum) on SEI (article 6), but the impact was greater when the method of assessment consisted of continuous assessment (article 6). In a cultural context where high in-group collectivism, low gender egalitarianism and low uncertainty avoidance are experienced, entrepreneurial courses (curriculum) have also been found to have a greater influence on SEI (article 6). Pittaway and Cope (2007) (article 21) also mention that entrepreneurship educational programmes can shift intentionality and perceptions regarding the desirability and feasibility of becoming an entrepreneur. Over and above the direct effects of entrepreneurial courses (curriculum), several articles (articles 3, 5 and 20) also mention the positive effect on self-efficacy, sometimes increasing risk propensity, leading to greater entrepreneurial intentions.

Alternatively, extracurricular entrepreneurship activities have positively impacted students' attitudes towards entrepreneurship and their intentions to act entrepreneurially (articles 2 and 3). Considering the influence of both curriculum and extracurricular entrepreneurial activities, several review articles (articles 1, 3, 8 and 16) also concluded that a supportive university entrepreneurial environment leads to greater entrepreneurial intentions among students. This supportive environment directly impacts their intentions to act entrepreneurially and influences how education influences their intentions (articles 1 and 16).

3.3.6. Cognitive factors

The sixth-factor group is cognitive factors, consisting of subjective norms, personal attitude, perceived behavioural control, perceived feasibility, perceived desirability, self-efficacy, the propensity to act, the expected value of starting a business, perceived support and barriers and perceived social support (see

Table 9). Eleven of the selected review articles within this study referred to one or multiple of these factors. Figure 7 presents an overview of the relationships stemming from cognitive factors.

As seen from Table 9, the cognitive factors mentioned by most review articles included in this study (8) are personal attitude, subjective norms and perceived behavioural control (articles 2, 4–9 and 11). This is consistent with the fact that these cognitive factors make up the TPB, which was noted as the most used theory when investigating the effects of factors on entrepreneurial intention and behaviour. Gabbianelli et al. (2021) (article 5) is the only article of these eight that only mentions that there is an influence between personal attitude, subjective norms, personal behavioural control and SEI and does not elaborate more on this influence or impact. The other seven articles concluded that these three factors generally positively affect SEI and can be used to predict behaviour and intentions. However, Tingting et al. (2022) (article 4) argue that personal attitude and perceived behavioural control have a more significant effect on entrepreneurial intentions among students than subjective norms. This is not

Table 9. Articles focusing on cognitive factors.

	Cognitive factors									
Authors (year)	Personal attitude	Subjective norms	Perceived behavioural control	Perceived feasibility	Perceived desirability	Self-efficacy	Propensity to act	Expected value of starting a business	Perceived support and barriers	Perceived social support
[1]Carpenter and Wilson (2022)						X				
[2]Maheshwari et al. (2022)	X	X	X	X	X	X		X	X	
[3]Singh et al. (2022)						X				
[4]Tingting et al. (2022)	X	X	X	X	X	X				X
[5]Gabbianelli et al. (2021)	X	X	X	X	X	X		X		
[6]Bazan et al. (2020)	X	X	X	X	X	X	X			
[7]Ketemaw (2020)	X	X	X							
[8]Kaur and Bhinder (2019)	X	X	X							
[9]Wu and Wu (2017)	X	X	X							
[10]Sivarajah and Achchuthan (2013)				X	X					
[11]Nabi and Liñán (2011)	X	X	X							

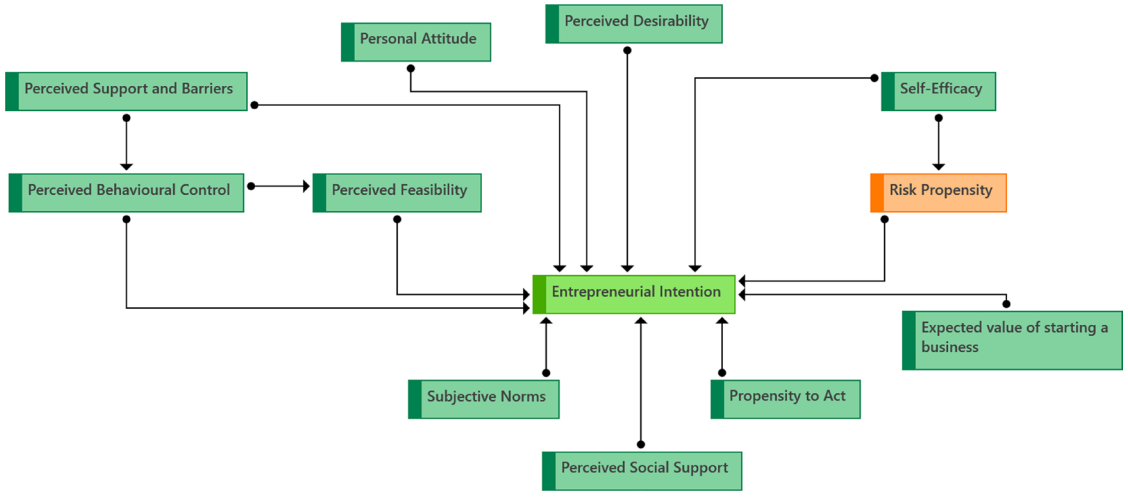

Figure 7. Relationships stemming from cognitive factors.
Legend: Green = Cognitive factors; Orange = Personality factors.

always the case, as subjective norms play an important role in influencing the entrepreneurial intentions of students who wish to become social entrepreneurs (article 6).

Several review articles (articles 1–4 and 6) concluded that self-efficacy has a positive influence on the entrepreneurial intentions of students, with Gabbianelli et al. (2021) (article 5) only mentioning that an influence exists. The more students believe in their entrepreneurial abilities and in successfully conducting entrepreneurial actions, the more likely they are to have entrepreneurial intentions (article 4). Several articles (articles 2, 3 and 11) also mention the positive effect of self-efficacy on risk propensity, leading to greater entrepreneurial intentions. As indicated in previous sections, self-efficacy also acts as a mediator between other variables in other factor groups, indirectly affecting entrepreneurial intentions.

Five review articles referred to perceived desirability and perceived feasibility and their influence on SEI (articles 2, 4–6 and 10), and there is consensus that while perceived desirability has a significant effect on SEI, perceived feasibility does not (articles 1 and 4) except when it comes to social entrepreneurship (article 6). Moreover, these two variables can positively predict SEI, but their relationship is negative (article 4). Furthermore, the propensity to act was found to have a significant positive relationship with SEI, specifically in the sphere of social entrepreneurship (article 6), and the expected value of starting a business (articles 2 and 5), perceived support and barriers (article 2) and perceived social support (article 4) was only mentioned as influencing factors without further explanation.

3.3.7. Personality factors

The seventh-factor group is personality factors, consisting of 23 variables. However, most were only mentioned as influencing factors without further elaborations, including psychological traits (article 5), opportunity recognition (article 5), entrepreneurial skills (article 5), individual personality patterns (article 5), outcome expectations (article 4), stress tolerance (article 5), need for freedom (article 3), abstract thinking (article 5), need for power (article 3), need for autonomy (articles 3, 5 and 9), tolerance for ambiguity (articles 2 and 9), need for satisfaction (article 2), desire for independence (article 2) and entrepreneurial identity (article 5). The other variables elaborated on regarding their influence include risk propensity, need for achievement, internal locus of control, creativity/innovativeness, intrinsic and extrinsic motivation, empathy, openness to change and pro-activeness (see Table 10). Ten of the selected review articles within this study referred to one or multiple of these factors. Figure 8 presents an overview of the relationships stemming from personality factors.

Several review articles (articles 2–5, 9 and 10) concluded that students with a greater risk propensity tend to be more likely to have entrepreneurial intentions. While Tingting et al. (2022) (article 4) mentioned that risk propensity has a direct impact on SEI, Maheshwari et al. (2022) (article 2) further elaborate that the influence is significantly positive, especially with the existence of the TPB antecedents evident. While Gabbianelli et al. (2021) (article 5) and Sivarajah and Achchuthan (2013) (article 9) only mention the need for achievement as influencing SEI, other review articles specifically mention that the influence is positive (articles 1, 2, 4 and 7). Students' need for achievement can also indirectly influence their entrepreneurial intentions (article 4) through entrepreneurial attitudes and perceived behavioural control (article 2). Furthermore, students' internal locus of control also positively affects their entrepreneurial intentions, with six review articles coming to similar conclusions (articles 2, 4, 5 and 7–9).

More creative and innovative students tend to have greater entrepreneurial intentions, as they can develop new solutions to solve problems from an entrepreneurial perspective (article 4). Considering this argument, several other review articles also mention this influence (articles 3, 5 and 9), and another two specifically indicate that the influence is direct and positive (articles 2 and 4). Moreover, both intrinsic and extrinsic motivation have an influence on SEI (articles 2 and 3), with Maheshwari et al. (2022) (article 2) explaining that entrepreneurs with intrinsic motivations will demonstrate more effective performance, more persistence and greater autonomy, leading to dynamic entrepreneurs, and those with extrinsic motivations will be less persistent when confronting challenges, more likely to discontinue nascent behaviourism and concentrate on external achievement. The three other variables considered to have a positive influence on SEI, specifically among social entrepreneurs, include empathy (articles 4 and 6), openness to change (article 4) and pro-activeness (articles 5 and 6).

Table 10. Articles focusing on personality factors.

	Personality factors																						
Authors (year)	Psychological traits	Opportunity recognition	Intrinsic motivation	Extrinsic motivation	Entrepreneurial skills	Need for achievement	Internal locus of control	Creativity / innovativeness	Individual personality patterns	Empathy	Need for autonomy	Outcome expectations	Stress tolerance	Risk propensity	Need for freedom	Openness to change	Abstract thinking	Need for power	Pro-activeness	Tolerance of ambiguity	Need for satisfaction	Desire for independence	Entrepreneurial identity
[1]Carpenter and Wilson (2022)						X																	
[2]Maheshwari et al. (2022)			X	X		X	X	X						X						X	X	X	
[3]Massouati and Abdelbaki (2022)			X	X				X			X			X	X			X					
[4]Tingting et al. (2022)						X	X	X		X		X		X		X							
[5]Gabbianelli et al. (2021)	X	X			X	X	X	X	X		X		X	X			X		X				X
[6]Bazan et al. (2020)										X									X				
[7]Ketemaw (2020)						X	X																
[8]Wu and Wu (2017)							X																
[9]Sivarajah and Achchuthan (2013)						X	X	X			X			X						X			
[10]Nabi and Liñán (2011)														X									

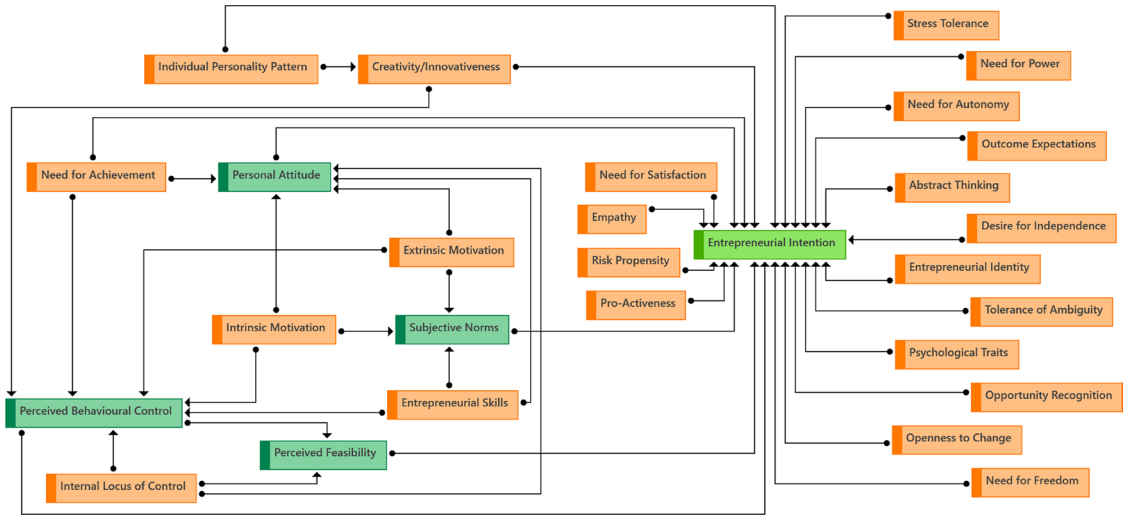

Figure 8. Relationships stemming from personality factors.
Legend: Orange = Personality factors; Green = Cognitive factors.

4. Discussion and recommendations for future research

This study investigated the factors influencing SEI and how they are interrelated. This was achieved by conducting a SLR focusing on review articles aimed at antecedents of SEI. This approach was adopted as, although numerous review articles regarding this topic exist, results and interrelatedness are relatively scattered (Lihua, 2021). Moreover, several theories and models exist and are adopted in the review articles, with some consisting of different variables and constructs (Jena, 2020). These existing review articles also do not generally refer to the interrelatedness between the various antecedents of entrepreneurial intentions (for example, Gabbianelli et al., 2021). Considering these aspects, this study included 23 review articles focusing on the antecedents of SEI.

From a theoretical perspective, this review of reviews study aimed to investigate the factors studied by past scholars influencing SEI. Furthermore, the study also strived to develop an overview of the interrelationship between these various factors and how that influences SEI. Thus, this research aims to contribute to the literature on entrepreneurship intentions, which could guide both scholars in future research as well as practitioners in establishing a conducive environment to foster SEIs. To provide a more visual overview of the factors influencing SEI and their interrelatedness, the findings of this study were used to develop an online interactive tool titled 'The Student Entrepreneurial Intention Cloud: An interactive tool to better understand factors influencing student entrepreneurial intentions', available at https://bit.ly/TheStudentEntrepreneurialIntentionCloud. Based on the insights garnered from this study, we propose theoretical implications and key directions for future research endeavours. These include: (i) advocating for the diversification and integration of theoretical frameworks to explore SEI, (ii) emphasising the importance of comprehensive research on the interconnectedness of factors affecting SEI, (iii) exploring mechanisms to enhance SEI, (iv) encouraging further cross-cultural investigations to understand the variabilities in factors influencing SEI across different cultures, (v) highlighting the necessity for longitudinal studies to capture the dynamic nature of SEI over time, as well as measuring its long-term influence, (vi) recommending the exploration of various methodologies and paradigms to enrich the understanding of SEI and (vii) focusing on primary and secondary education students. We also offer a suggestion for practice based on the developed interactive tool.

4.1. Diversification and integration of theoretical frameworks

First, in this study, we highlighted the theoretical foundations underpinning SEI research, allowing researchers to better understand the factors contributing to SEI. This knowledge can serve as a foundation for future research and guide the development of new theoretical frameworks that capture the

complexity of SEI. Our review showed that the most common theory employed to study SEI is the TPB, followed by the EET. Both theories consist of cognitive constructs. Interestingly, our review uncovered a wide variety of factors influencing SEI, and many other factor groups, aside from cognitive factors, turned out to influence SEI. This calls for the adoption of other theories, or the development of new theories allowing for interrelatedness between various factor groups, to investigate SEI. More specifically, the findings of the review articles revealed various factors (63 in total) influencing SEI. These 63 factors, including those generally investigated using the TPB and EET, were grouped according to seven-factor groups, namely contextual-, demographical-, social-, environmental-, educational-, cognitive- and personality factors. The factor groups influencing SEI can be further categorised as individual factors (cognitive, demographical and personality) and external factors (contextual, social, environmental and educational).

The findings of the reviewed review articles indicated that the most common factor group investigated to influence SEI is the cognitive factor group, which aligns with the fact that the TPB is the most adopted theory to investigate SEI. As previously mentioned, the TPB believes that an individual's behaviour is predicted by three variables, namely personal attitude, subjective norms and perceived behavioural control (Ajzen, 1991; Tingting et al., 2022), which are cognitive factors (Anjum et al., 2022; Lu et al., 2021). From the findings, it is evident that cognitive factors directly influence SEI, but also act as mediators in almost all other factor groups influencing SEI (except for contextual factors). The fact that the findings do not indicate cognitive factors as possible mediators between contextual factors and SEI, could possibly be attributed to the fact that only 2 of the 23 reviewed review articles (Maheshwari et al., 2022; Tingting et al., 2022) mentioned factors categorised as contextual factors (job satisfaction, social status, opportunities and unemployment). Thus, the importance of investigating cognitive factors is not argued against, as by considering cognitive factors, researchers can gain a deeper understanding of the complex interplay between different variables. However, future researchers are also urged to consider other factors from other factor groupings during their investigation, and the importance of external factors should not be ignored.

To do so, a wider variety of theoretical lenses could be adopted or integrated with the TPB or EET to explore the factors influencing SEI. For example, the resource-based view (RBV) highlights the critical role of tangible and intangible resources in the development of entrepreneurial intentions and ventures (Zahra, 2021). It suggests that students' access to resources (e.g. financial, human and social capital) and their ability to leverage these resources effectively are key determinants of their entrepreneurial intentions (Politis et al., 2012;). Moreover, understanding the challenges related to resource acquisition and management can provide insights into the barriers and enablers of student entrepreneurship.

Additionally, human capital theory (HCT) can be considered to investigate the factors influencing SEI. HCT suggests that higher education and specific entrepreneurship education programs contribute to the development of entrepreneurial skills and knowledge, which are crucial for recognising and exploiting entrepreneurial opportunities (Passaro et al., 2018). Research indicates that entrepreneurship education and training, as components of human capital, have a significant relationship with entrepreneurship-related human capital assets and entrepreneurship outcomes, including entrepreneurial intentions (Martin et al., 2013).

Thus, combining other theories such as the RBV or HCT with the predominant theories of TPB and EET, can offer a more comprehensive understanding of the factors influencing SEIs. This integrated approach can elucidate the complex interplay between individual capabilities, resource availability and entrepreneurial intentions, as well as offer a more nuanced understanding of how personal attributes (such as skills, knowledge and experience) and psychological factors (such as attitudes, subjective norms and perceived behavioural control) interact to influence entrepreneurial intentions.

4.2. Comprehensive research on the interrelatedness of factors influencing SEI

In addition to considering factors other than the traditional cognitive factors, the cruciality of understanding the interrelatedness among factors and factor groups should not be disregarded to develop a comprehensive understanding of SEI. Maheshwari et al. (2022) argued that considering the interrelatedness among factors and factors groups will bring out a more holistic overview of factors affecting SEI. Without considering the interrelatedness among factors and factor groups and their mediating

and moderating effects, it may be difficult to identify specific determinants of entrepreneurial intentions among students (Anjum et al., 2022; Nitu-Antonie et al., 2022). This can be done by adopting, for example, systems theory that offers a more holistic view on factors affecting SEI intentions. Unlike theories that focus predominantly on cognitive aspects, such as the TPB and EET, systems theory emphasises the interconnectedness and interdependence of various elements within the entrepreneurial ecosystem. This approach allows for the examination of how external factors such as educational support, social norms and environmental conditions interact with internal factors like personal attitudes, self-efficacy and individual motivations (Nabi et al., 2018; Liu et al., 2019). By applying systems theory, research can explore, for example, how different elements of entrepreneurial education programs, such as curriculum design, teaching methods and extracurricular activities, interact with students' personal attributes and external factors to influence their entrepreneurial intentions (Zollo et al., 2017).

The importance of considering such interrelatedness is evident by, for example, the findings of Georgescu and Herman (2020). Georgescu and Herman (2020) investigated the main factors directly influencing SEI, particularly entrepreneurial family background (demographical factor), the effectiveness of entrepreneurship education (educational factor), and entrepreneurial personality traits (personality factors). The results indicated that students with an entrepreneurial family background (demographical factor) had higher entrepreneurial intentions than those without such a background. Moreover, entrepreneurship education (educational factor) was found to have a positive direct effect on SEI, especially among younger individuals (Georgescu & Herman, 2020). Entrepreneurial personality traits were also found to have a significantly positive influence on SEI, with Georgescu and Herman (2020) explicitly mentioning innovativeness, risk-taking propensity, sense of self-confidence, optimism and competitiveness. Interestingly, entrepreneurial family background (demographical factor) was also found to, although marginally, negatively moderate entrepreneurial education (educational factor) (Georgescu & Herman, 2020). Overall, all three independent variables were found to be statistically significant, having a positive influence on SEI, with entrepreneurial personality traits receiving the strongest weight, followed by entrepreneurial family background, and then effective entrepreneurship education (Georgescu & Herman, 2020).

4.3. Mechanisms enhancing SEI

Future research can delve deeper into these factor groups and explore the specific mechanisms through which they jointly influence SEI. By doing so, they would add to the results of scholars like Schimperna et al. (2021), who found several support initiatives that could possibly directly and/or indirectly influence SEI. These initiatives include, but are not limited to, entrepreneurship courses, entrepreneurship-related games, seminars, workshops, summer schools, business plan competitions, grants, and business support programmes (Schimperna et al., 2021). The influence of some of these mechanisms was considered by Nguyen et al. (2021), who investigated the effect of entrepreneurship extracurricular activities on SEI. The results of their study indicated that extracurricular entrepreneurial activities and entrepreneurial inspiration significantly correlate with SEI and that entrepreneurial self-efficacy partially mediates these relationships (Nguyen et al., 2021). Moreover, entrepreneurship education was also found to have a varying effect on SEI depending on students' field of study, with technical students benefiting more from entrepreneurship education than business and economics students (Nguyen et al., 2021). Considering the numerous curricular and extracurricular mechanisms that can be implemented to influence SEI, it would be interesting for future researchers to examine the relations between these mechanisms and SEI while also considering various other mediating and moderating variables (such as educational or demographical background).

4.4. Need for cross-cultural studies on factors influencing SEI

Future research could also consider conducting cross-cultural studies, as different cultural contexts could directly influence SEI or indirectly influence one or more of the other factors identified within this study. Such studies could also lead to more comparative studies on factors influencing SEI to determine whether

the existing theories and models hold true across different cultural or geographical settings (Nitu-Antonie & Feder, 2017; Tomal & Szromnik, 2021). Indeed, in a study conducted by Rajar et al. (2022), the socio-cultural context was found to play a significant role in influencing entrepreneurial intentions. Factors such as collectivism, power distance and uncertainty avoidance were negatively correlated with entrepreneurial intentions (Rajar et al., 2022). The study suggested that prevalent family culture and gender-role orientation can impact entrepreneurial spirit, with masculine gender orientation being associated with a vibrant entrepreneurial mindset (Rajar et al., 2022). Furthermore, a study exploring entrepreneurial intentions in European post-communist states found that entrepreneurial self-efficacy was the most important factor influencing intentions (Tomal & Szromnik, 2021). However, the impact of entrepreneurial self-efficacy was found to vary based on the cultural values of the respondents' countries (Tomal & Szromnik, 2021). Thus, cross-cultural studies could provide more insights into country differences and inform policymakers and educators about the need for tailored programs and measures to encourage entrepreneurial intentions and behaviours that consider cultural values (Nitu-Antonie & Feder, 2017). Moreover Gabbianelli et al. (2021) emphasise that personality traits, contextual/situational factors, and factors related to personal background can vary based on cultural difference, and different results could emerge.

4.5. Longitudinal studies based on factors influencing SEI

Our study highlights the need for longitudinal research to capture the dynamic nature of SEI. Understanding how student entrepreneurship intentions evolve can provide valuable insights into the factors that influence the sustainability of these intentions. Longitudinal studies can track changes in SEI over time, providing insights into how these intentions develop and evolve (Belchior & Lyons, 2021). This information can be used to develop more effective interventions and support programs for aspiring student entrepreneurs. Moreover, longitudinal studies can also help identify the barriers and challenges that students face when pursuing entrepreneurship and possibly shed light on the effectiveness of interventions and policies promoting SEI (O'Loughlin, 2019). By understanding these challenges, educators and policymakers can develop targeted interventions to address them.

4.6. Diversification of methodologies and paradigms

Fourth and finally, the findings of our study indicate that numerous empirical and conceptual research have been conducted focusing on identifying the factors influencing SEI. However, although these factors have been identified, the research consists predominantly of quantitative research (Maheshwari et al., 2022). As a result, the investigation into the interrelationships between these factors remains vague, and SEI's 'dynamic nature' continues to be a 'black box' issue. Moreover, entrepreneurship research was found to be mainly located within the bounds of the functionalist paradigm (Jennings et al., 2005). By predominantly adopting the same paradigm, researchers forgo the opportunity to investigate factors influencing entrepreneurial intentions through a different lens, leading to them being stuck in single-loop learning (Argyris, 1976). In single-loop learning, researchers would essentially 'stay within the same frame' and not fundamentally question or change their underlying assumptions or values (Argyris, 1976). Thus, an argument can be made for researchers to adopt a more comprehensive array of methodologies to investigate the factors influencing SEI, for example, using experimental research designs that could lead to the identification of causal relationships between the factors under investigation. Furthermore, future researchers should consider investigating factors influencing SEI through different philosophical lenses and paradigms, which could alter their study results compared to those already conducted following the traditional paradigms.

4.7. Expanding research sample to primary and secondary education students

The promotion of entrepreneurial education within secondary schools is increasingly recognised as a crucial component for bolstering innovation systems and fostering a culture of entrepreneurship (Iizuka et al., 2024; Gregorio & Oliver, 2022). Several studies have emphasised claimed further underscore the

necessity of embedding entrepreneurial education early in the academic journey, positing that entrepreneurial skills are more effectively developed when introduced during formative educational years (Elert et al., 2015; Huber et al., 2014). Despite the acknowledgement of the importance of early entrepreneurial development, there remains a notable gap in studies focusing on primary and secondary education levels (Iizuka et al., 2024; Gregorio & Oliver, 2022). Iizuka et al. (2024) suggest that the exploration of SEI determinants, well-documented in the context of higher education, could be extended to investigate their impact during the different developmental stages encountered in primary and secondary schooling. Thus, future research can focus more predominantly on investigating the antecedents of SEI among primary and secondary students, which could differ from those of tertiary students. Moreover, investigating students at such a young age could also offer the opportunity for longitudinal studies, following the same student during the education period from primary to tertiary education.

4.8. Practical implications

The effectiveness of entrepreneurship education in fostering the development of entrepreneurs has been widely recognised (Pittaway & Cope, 2007). However, there seems to be no clear consensus on how entrepreneurship should be taught (Pittaway & Cope, 2007; Thein et al., 2023). Sarasvathy (2001) developed the effectuation approach, which has since become a well-researched topic within entrepreneurship research and education (Sioukas, 2022). As opposed to focusing on causation (taking a particular effect as given and focusing on selecting between means to create that effect) (Sarasvathy, 2001), effectuation 'takes a set of means as given and focuses on selecting between possible effects that can be created with that set of means' (Sarasvathy, 2001, p. 245). Effectuation considers the logic of control rather than the logic of prediction, meaning that the focus is more on an individual's existing means and their preferred level of risk (Karami et al., 2023), focusing on the questions of 'who am I'?, 'what do I know?' and 'who do I know'?

The findings of this study and the developed interactive tool can guide coaches and educational staff in adopting an effectuation approach to educating students by focusing on those factors influencing SEI. For example, based on the findings of this study, creativity and self-efficacy are drivers of SEI. Knowing this, educators and coaches can design their curricula in such a way as to stimulate these aspects. By fostering creativity and self-efficacy, educators can encourage students to think in terms of effectuation, focusing on the resources and means at their disposal rather than on predetermined goals (Shi et al., 2020).

The findings of this study also indicated that SEI is influenced by their personal attitudes, which are shaped by their personality traits and perception of the university environment. Effectuation involves adapting to and co-creating with the environment rather than trying to predict and control it (Sarasvathy, 2001). Educators can help students develop this adaptability by creating learning experiences that mimic the unpredictability of real-world entrepreneurship (Neck & Greene, 2011). Courses can include modules that teach students to be comfortable with uncertainty and to view every outcome as a learning opportunity (Neck & Greene, 2011).

5. Conclusion

In conclusion, this SLR of review articles has shed light on the factors influencing SEI and provided a broad overview of the most common theories used to investigate the antecedents of SEI. The findings of this study have identified various factors that influence SEI and highlighted the interrelated relationships between these factors. By synthesising the existing knowledge, this SLR has not only filled gaps in the literature but has also identified trends and provided recommendations for future research in this area. Overall, this SLR has provided valuable insights into the factors influencing SEI and paved the way for future research. By building upon the findings of this study, researchers can delve deeper into specific factors, explore new dimensions and contribute to the ongoing discourse on fostering entrepreneurial intentions among students.

Acknowledgements

This work has been made possible by the financial support of the Flemish government to the Centre for R&D Monitoring (ECOOM). Any opinions in the article are the authors' and not necessarily those of the government. Funding was also received from a BOF-DOCPRO project for the doctoral scholarship of the first author from the University of Antwerp.

Ethics approval/consent

No ethical approval or consent was required for this study as only secondary sources were used.

Author's contribution

Riyaad Ismail, Johanna Vanderstraeten and Hendrik Slabbinck were involved in the conception and design of the study. Material preparation and data collection were performed by Riyaad Ismail, while Johanna Vanderstraeten and Hendrik Slabbinck were also involved in the data analysis process to increase the rigour of the study. The first draft of the manuscript was written by Riyaad Ismail, and all authors commented on and edited previous versions of the manuscript. Riyaad Ismail, Johanna Vanderstraeten and Hendrik Slabbinck critically revised the study for intellectual content, as well as read and approved the final manuscript. All authors agree to be accountable for all aspects of the work.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work has been made possible by the financial support of the Flemish government to the centre for R&D Monitoring (ECOOM). Funding was also received from a BOF-DOCPRO project for the doctoral scholarship of the first author from the University of Antwerp.

About the authors

Riyaad Ismail is a doctoral candidate at the Management department of the University of Antwerp in Belgium. His research primarily focuses on entrepreneurship, with specific interests in entrepreneurial universities, student entrepreneurship, international entrepreneurship, and organisational sponsorship. Through his work, Riyaad aims to explore how academic institutions can foster entrepreneurial spirit among students and the broader impact of global entrepreneurial initiatives. His studies also delve into the role of organizational support in nurturing entrepreneurial ecosystems.

Johanna Vanderstraeten (PhD) works at the University of Antwerp as associate professor at the Management department of the Faculty of Business and Economics (FBE). Her research expertise lies in International Entrepreneurship, Organizational Sponsorship, Student-Entrepreneurship, and Technology and Academic Entrepreneurship. Johanna published in journals such as Technovation, Business Strategy and the Environment, Journal of Business Research, Industrial Marketing Management, Small Business Economics, and International Marketing Review. She is Chair of the Commission and Task Force Entrepreneurship of the University of Antwerp, coordinates the major 'Innovation Management and Entrepreneurship' at the Faculty of Business and Economics, and co-founded the Antwerp Centre for Entrepreneurship Research (AntwerpCER).

Hendrik Slabbinck (PhD) works at Ghent University as associate professor at the Marketing, Innovation and Organization department of the Faculty of Economics and Business Administration. Hendrik is a multidisciplinary researcher with a special interest in sustainable practices in Entrepreneurship and Consumer Research. He cofounded the BE4LIFE research center and is member of the Ghent University Centre For Entrepreneurship Research. His research has been published in journals such as Small Business Economics, Frontiers in Psychology, Plos One, Environment and Behavior, and Business Strategy and the Environment.

ORCID

Riyaad Ismail http://orcid.org/0000-0001-9253-7734
Johanna Vanderstraeten http://orcid.org/0000-0003-1768-3437
Hendrik Slabbinck http://orcid.org/0000-0003-0589-2952

Data availability statement

Data sharing not applicable to this article as no datasets were generated or analysed during this study.

References

Aamir, S., Atsan, N. F., & Erdem, A. F. (2019). A review of entrepreneurship education research in the special issues of Education and Training journal. *Education + Training*, *61*(9), 1–27. https://doi.org/10.1108/ET-02-2019-0027

Adams, R. J., Smart, P., & Huff, A. S. (2017). Shades of grey: Guidelines for working with the grey literature in systematic reviews for management and organisational studies. *International Journal of Management Reviews*, *19*(4), 432–454. https://doi.org/10.1111/ijmr.12102

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Al-Lawati, E. H., Kohar, U. H. A., & Suleiman, E. S. (2022). Entrepreneurial culture in educational institutions: A scoping review. *Cogent Business & Management*, *9*(1), 1–59. https://doi.org/10.1080/23311975.2021.1997237

Anjum, T., Amoozegar, A., Farrukh, M., & Heidler, P. (2022). Entrepreneurial intentions among business students: The mediating role of attitude and the moderating role of university support. *Education + Training*, *65*(4), 587–606. https://doi.org/10.1108/ET-01-2021-0020

Aparicio, G., Iturralde, T., & Maseda, A. (2019). Conceptual structure and perspectives on entrepreneurship education research: A bibliometric review. *European Research on Management and Business Economics*, *25*(3), 105–113. https://doi.org/10.1016/j.iedeen.2019.04.003

Argyris, C. (1976). Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly*, *21*(3), 363–375. https://doi.org/10.2307/2391848

Astuty, E., Yustian, O. R., & Ratnapuri, C. I. (2022). Building student entrepreneurship activities through the synergy of the university entrepreneurship ecosystem. *Frontiers in Education*, *7*, 1–19. https://doi.org/10.3389/feduc.2022.757012

Aziz, O., Shaaban, S., & Aziz, A. (2021). Role of educational institutions in influencing entrepreneurial intentions: A scoping review. Journal of *Audit and Accounting Review*, *1*(1), 30–60. https://doi.org/10.32350/aar.11.03

Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review. *Entrepreneurship Theory and Practice*, *38*(2), 217–254. https://doi.org/10.1111/etap.12095

Bazan, C., Gaultois, H., Shaikh, A., Gillespie, K., Frederick, S., Amjad, A., Yap, S., Finn, C., Rayner, J., & Belal, N. (2020). A systematic literature review of the influence of the university's environment and support system on the precursors of social entrepreneurial intention of students. *Journal of Innovation and Entrepreneurship*, *9*(1), 1–28. https://doi.org/10.1186/s13731-020-0116-9

Bazkiaei, H. A., Heng, L. H., Khan, N. U., Saufi, R. B. A., & Kasim, R. S. R. (2020). Do entrepreneurial education and big-five personality traits predict entrepreneurial intention among university students? *Cogent Business & Management*, *7*(1), 1801217. https://doi.org/10.1080/23311975.2020.1801217

Belchior, R. F., & Lyons, R. M. (2021). An exploration of changing student entrepreneurial motivators – a longitudinal analysis. *International Journal of Entrepreneurial Behavior & Research*, *28*(1), 151–181. https://doi.org/10.1108/IJEBR-05-2021-0417

Bergmann, H., Hundt, C., & Sternberg, R. (2016). What makes student entrepreneurs? On the relevance (and irrelevance) of university and the regional context for student start-ups. Journal of *Small Business Economics*, *47*(1), 53–76. https://doi.org/10.1007/s11187-016-9700-6

Brüne, N., & Lutz, E. (2020). The effect of entrepreneurship education in schools on entrepreneurial outcomes: A systematic review. *Management Review Quarterly*, *70*(2), 275–305. https://doi.org/10.1007/s11301-019-00168-3

Carpenter, A., & Wilson, R. (2022). A systematic review looking at the effect of entrepreneurship education on higher education student. *The International Journal of Management Education*, *20*(2), 100541. https://doi.org/10.1016/j.ijme.2021.100541

Elert, N., Andersson, F. W., & Wennberg, K. (2015). The impact of entrepreneurship education in high school on long-term entrepreneurial performance. *Journal of Economic Behavior & Organization*, *111*, 209–223. https://doi.org/10.1016/j.jebo.2014.12.020

Elnadi, M., & Gheith, H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *The International Journal of Management Education*, *19*(1), 100458. https://doi.org/10.1016/j.ijme.2021.100458

Faulkner, G., Fagan, M. J., & Lee, J. (2022). Umbrella reviews (systemtic review of reviews). *International Review of Sport and Exercise Psychology*, *15*(1), 73–90. https://doi.org/10.1080/1750984X.2021.1934888

Gabbianelli, L., Bonfanti, A., Mion, G., & Adaui, C. R. L. (2021). An overview of students' entrepreneurial intention antecedents. *Piccola Impresa Small Business*, *1*(1), 48–77. https://doi.org/10.14596/pisb.2841

Gates, M., Gates, A., Guitard, S., Pollock, M., & Hartling, L. (2020). Guidance for overviews of reviews continues to accumulate, but important challenges remain: A scoping review. *Systematic Reviews*, *9*(1), 254. https://doi.org/10.1186/s13643-020-01509-0

Georgescu, M. A., & Herman, E. (2020). The impact of the family background on students' entrepreneurial intentions: An empirical analysis. *Sustainability*, *12*(11), 4775. https://doi.org/10.3390/su12114775

Global Entrepreneurship Monitor. (2023). *Global entrepreneurship monitor 2022/2023 global report: Adapting to a new normal*. GEM.

Global University Entrepreneurial Spirit Students' Survey. (2021). *Global student entrepreneurship 2021: Insights from 58 countries*. Global University Entrepreneurial Spirit Students' Survey.

Gregorio, S. M., & Oliver, A. (2022). Measuring entrepreneurship intention in secondary education: Validation of the entrepreneurial intention questionnaire. *Journal of Psychoeducational Assessment*, *40*(4), 499–513. https://doi.org/10.1177/07342829211069222

Gupta, P., Chauhan, S., Paul, J., & Jaiswal, M. P. (2020). Social entrepreneurship research: A review and future research agenda. *Journal of Business Research*, *113*(1), 209–229. https://doi.org/10.1016/j.jbusres.2020.03.032

Huang-Saad, A. Y., Morton, C. S., & Libarkin, J. C. (2018). Entrepreneurship assessment in higher education: A research review for engineering education researchers. *Journal of Engineering Education*, *107*(2), 263–290. https://doi.org/10.1002/jee.20197

Huber, L. R., Sloof, R., & van Praag, M. (2014). The effect of early entrepreneurship education: Evidence from a field experiment. *European Economic Review*, *72*, 76–97. https://doi.org/10.1016/j.euroecorev.2014.09.002

Jena, R. K. (2020). Measuring the impact of business management student's attitude towards entrepreneurship education on entrepreneurial intention: A case study. *Computers in Human Behavior*, *107*, 106275. https://doi.org/10.1016/j.chb.2020.106275

Jennings, P. L., Perren, L., & Carter, S. (2005). Guest editors' introduction: Alternative perspectives on entrepreneurship research. *Entrepreneurship Theory and Practice*, *29*(2), 145–152. https://doi.org/10.1111/j.1540-6520.2005.00073.x

Karami, M., Ojala, A., & Saarenketo, S. (2023). Entrepreneurial orientation and international opportunity development by SMEs: The mediating role of decision-making logic. *Journal of Small Business Management*, *61*(2), 994–1022. https://doi.org/10.1080/00472778.2020.1824529

Kaur, G., & Bhinder, H. S. (2019). Influence of demographic factors on the entrepreneurial intentions: Literature review in context of university students. *Think India Journal*, *22*(14), 4315–4334. https://thinkindiaquarterly.org/index.php/think-india/article/view/13279/8537

Ketemaw, A. (2020). Determinants of entrepreneurial intentions in university graduating students, Ethiopia. *International Research Journal of Science and Technology*, *1*(4), 292–298. https://doi.org/10.46378/irjst.2020.010404

Kitchenham, B. A., & Charters, S. M. (2007). *Guidelines for performing systematic literature reviews in software engineering*. Technical report, EBSE Technical Report EBSE-2007-01. https://www.cs.auckland.ac.nz/~norsaremah/2007%20Guidelines%20for%20performing%20SLR%20in%20SE%20v2.3.pdf

Kraus, S., Breier, M., & Dasí-Rodríguez, S. (2020). The art of crafting a systematic literature review in entrepreneurship research. *International Entrepreneurship and Management Journal*, *16*(3), 1023–1042. https://doi.org/10.1007/s11365-020-00635-4

Kumar, K. A., George, A. J. Z., Orwa, N. A. B., Jayabalan, A., Othaman, N. S. B., Jeppu, A. K., & Azam, S. M. F. (2022). Entrepreneurial intention among university students: Does family background matter? A narrative review. *Malaysian Journal of Social Sciences and Humanities*, *7*(8), 1–11. https://doi.org/10.47405/mjssh.v7i8.1680

Li, J., Huang, S., Chau, K. Y., & Yu, L. (2021). The influence of undergraduate entrepreneurship education on entrepreneurial intention: Evidence from universities in China's Pearl River Delta. *Frontiers in Psychology*, *12*, 732659. https://doi.org/10.3389/fpsyg.2021.732659

Lihua, D. (2021). An extended model of the theory of planned behaviour: An empirical study of entrepreneurial intention and entrepreneurial behaviour in college students. *Frontiers in Psychology*, *12*, 627818. https://doi.org/10.3389/fpsyg.2022.627818

Linnenluecke, M. K., Marrone, M., & Singh, A. K. (2020). Conducting systematic literature reviews and bibliometric analyses. *Australian Journal of Management*, *45*(2), 175–194. https://doi.org/10.1177/0312896219877678

Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in Psychology*, *10*, 869. https://doi.org/10.3389/fpsyg.2019.00869

Iizuka, E. S., de Moraes, G. H. S. M., & de Souza, M. G. (2024). College environment and entrepreneurial intention in high school. *Revista de Gestão*, *31*(1), 101–114. https://doi.org/10.1108/REGE-10-2021-0189

Lu, G., Song, Y., & Pan, B. (2021). How university entrepreneurship support affects college students' entrepreneurial intentions: An empirical analysis from China. *Sustainability*, *13*(6), 3224. https://doi.org/10.3390/su13063224

Maheshwari, G., Kha, K. L., & Arokiasamy, A. R. A. (2022). Factors affecting students' entrepreneurial intentions: A systematic review (2005–2022) for future directions in theory and practice. *Management Review Quarterly*, *73*, 1903–1970. https://doi.org/10.1007/s11301-022-00289-2

Martin, B., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, *28*(2), 211–224. https://doi.org/10.1016/j.jbusvent.2012.03.002

Massouati, L., & Abdelbaki, N. (2022). A review of the literature on factors that may influence entrepreneurial intention among university students. *European Scientific Journal*, *9,* 646–662. https://doi.org/10.19044/esipreprint.9.2022.p646

Moher, D., Liberati, A., Tetzlaff, J., & Altman, G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, *18*(1), 143. https://doi.org/10.1186/s12874-018-0611-x

Nabi, G., & Liñán, F. (2011). Graduate entrepreneurship in the developing world: Intentions, education and development. *Education + Training*, *53*(5), 325–334. https://doi.org/10.1108/00400911111147668

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, *16*(2), 277–299. https://doi.org/10.5465/amle.2015.0026

Nabi, G., Walmsley, A., Liñán, F., Akhtar, I., & Neame, C. (2018). Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration. *Studies in Higher Education*, *43*(3), 452–467. https://doi.org/10.1080/03075079.2016.1177716

Neck, H., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. *Journal of Small Business Management*, *49*(1), 55–70. https://doi.org/10.1111/j.1540-627X.2010.00314.x

Nguyen, T. T., Nguyen, L. T. P., Phan, H. T. T., & Vu, A. T. (2021). Impact of entrepreneurship extracurricular activities and inspiration on entrepreneurial intention: Mediator and moderator effect. *SAGE Open*, *11*(3), 215824402110321. https://doi.org/10.1177/21582440211032174

Nitu-Antonie, R. D., & Feder, E. S. (2017). Entrepreneurial intentions amongst students in diverse cultural contexts. *Business Excellence and Management*, *7*(1), 14–27. https://www.ceeol.com/search/article-detail?id=841739

Niţu-Antonie, R. D., Feder, E.-S., & Stamenovic, K. (2022). Incentives for sustainable entrepreneurial intentions of youth with higher educatio studies in Romania. *Studia Universitatis Babeş-Bolyai Negotia*, *67*(1), 27–44. https://doi.org/10.24193/subbnegotia.2022.1.02

O'Loughlin, A. (2019). Key drivers of student entrepreneurship: Experiences from an Australian university. *Societal entrepreneurship and competitiveness* (pp. 77–92). Emerald Publishing Limited.

Passaro, R., Quinto, I., & Thomas, A. (2018). The impact of higher education on entrepreneurial intention and human capital. *Journal of Intellectual Capital*, *19*(1), 135–156. https://doi.org/10.1108/JIC-04-2017-0056

Paul, J., & Barari, M. (2022). Meta-analysis and traditional systematic literature reviews – what, why, when, where, and how? *Psychology & Marketing*, *39*(6), 1099–1115. https://doi.org/10.1002/mar.21657

Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies*, *45*(4), 1–16. https://doi.org/10.1111/ijcs.12695

Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal: Researching Entrepreneurship*, *25*(5), 479–510. https://doi.org/10.1177/0266242607080656

Politis, D., Winborg, J., & Dahlstrand, Å. (2012). Exploring the resource logic of student entrepreneurs. *International Small Business Journal: Researching Entrepreneurship*, *30*(6), 659–683. https://doi.org/10.1177/0266242610383445

Porfirio, J. A., Felicio, J. A., Carrilho, T., & Jardim, J. (2023). Promoting entrepreneurial intentions from adolescence: The infleunce of entrepreneurial culture and education. *Journal of Business*, *156*, 1–10. https://doi.org/10.1016/j.jbusres.2022.113521

Rajar, A., Khoso, I., & Qureshi, M. (2022). Determinants of entrepreneurial intentions: Impact of culture, gender, self-esteem, and self-efficacy on university students. *Journal of Entrepreneurship, Management, and Innovation*, *4*(1), 259–277. https://doi.org/10.52633/jemi.v4i1.187

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *The Academy of Management Review*, *26*(2), 243–263. https://doi.org/10.2307/259121

Schimperna, F., Nappo, F., & Marsigalia, B. (2021). Student entrepreneurship in universities: The state-of-the-art. *Administrative Sciences*, *12*(1), 5. https://doi.org/10.3390/admsci12010005

Shaffril, H. A. M., Samsuddin, S. F., & Samah, A. A. (2021). The ABC of systematic literature review: The basic methodological guidance for beginners. *Quality & Quantity*, *55*(4), 1319–1346. https://doi.org/10.1007/s11135-020-01059-6

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent, D. Sexton and K. Vesper (Eds.), *Encyclopaedia of entrepreneurship* (pp. 72–90). Prentice-Hall.

Shi, Y., Yuan, T., Bell, R., & Wang, J. (2020). Investigating the relationship between creativity and entrepreneurial intention: The moderating role of creativity in the theory of planned behavior. *Frontiers in Psychology*, *11*, 1209. https://doi.org/10.3389/fpsyg.2020.01209

Siegel, D. S., & Wright, M. (2015). Academic entrepreneurship: Time for a rethink? *British Journal of Management*, *26*(4), 582–595. https://doi.org/10.1111/1467-8551.12116

Singh, V., Sharief, Z., & Pant, V. (2022). Impact of entrepreneurship education on entrepreneurial intention among millennial generation in India: A review. *International Journal of Business and General Management*, *11*(2), 15–24. https://www.iaset.us/download/archives/20-10-2022-1666246314-7-IJBGM-3.%20Reviewed%20-%20IJBGM-IMPACT%20OF%20ENTREPRENEURSHIP%20EDUCATION.pdf

Sioukas, A. (2022). Effectuation and causation in the entrepreneurship classroom: Learning obstacles of college students. *Entrepreneurship Education*, *5*(1), 1–19. https://doi.org/10.1007/s41959-022-00065-z

Sivarajah, K., & Achchuthan, S. (2013). Entrepreneurial intention among undergraduates: Review of literature. *European Journal of Business and Management*, *5*(5), 172–186. https://core.ac.uk/download/pdf/234624613.pdf

Swarupa, S. G., & Goyal, R. K. (2020). Entrepreneurial intentions of students: Review of academic literature. *International Journal of Scientific & Engineering Research*, *11*(1), 1146–1168. https://doi.org/10.14299/ijser.2020.01.02

Thein, K. S., Takahashi, Y., & Soe, A. T. (2023). The impact of action planning after causation-and-effectuation-based entrepreneurship education. *Behavioral Sciences*, *13*(7), 569. https://doi.org/10.3390/bs13070569

Thomé, A. M. T., Scavarda, L. F., & Scavarda, A. J. (2016). Conducting systematic literature review in operations management. *Production Planning & Control*, *27*(5), 408–420. https://doi.org/10.1080/09537287.2015.1129464

Tingting, G., Jiangfeng, Y., & Yinghua, Y. (2022). A bibliometric analysis of college students' entrepreneurial intention from 2000 to 2020: Research trends and hotspots. *Frontiers in Psychology*, *13*(1), 865629. https://doi.org/10.3389/fpsyg.2022.865629

Tomal, M., & Szromnik, A. (2021). Determinants of entrepreneurial intentions of university students in selected post-communist countries in Europe: Investigating cross-cultural differences. *Journal of Business Economics and Management*, *23*(1), 60–81. https://doi.org/10.3846/jbem.2021.15546

Wu, Y. C. J., & Wu, T. (2017). A decade of entrepreneurship education in the Asia Pacific for future directions in theory and practice. *Management Decision*, *55*(7), 1333–1350. https://doi.org/10.1108/MD-05-2017-0518

Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research*, *39*(1), 93–112. https://doi.org/10.1177/0739456X17723971

Zahra, S. (2021). The resource-based view, resourcefulness, and resource management in startup firms: A proposed research agenda. *Journal of Management*, *47*(7), 1841–1860. https://doi.org/10.1177/01492063211018505

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. https://doi.org/10.1108/JMD-06-2016-0093