

## Exploring the Entrepreneurial Attitude–Intention Link among Students: A Systematic Review

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### KEYWORDS

Entrepreneurial attitude,  
Entrepreneurial intention,  
Students,  
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### ABSTRACT

**Background:** Entrepreneurial intention (EI) is a critical predictor of entrepreneurial behavior, especially among students who represent the next generation of entrepreneurs. Entrepreneurial attitude (EA), as outlined in the Theory of Planned Behavior, is considered a central antecedent of EI. However, evidence across studies remains fragmented.

**Purpose:** This study systematically reviews the literature to synthesize evidence on the relationship between students' entrepreneurial attitudes and entrepreneurial intentions, while examining key mediators, moderators, and contextual influences.

**Methods:** A systematic review was conducted in line with PRISMA guidelines. Peer-reviewed articles published between 2000 and 2025 were retrieved from Scopus, Web of Science, and Google Scholar. The initial search identified 1,248 records. After removing 233 duplicates, 1,015 records were screened. Following title and abstract screening, 890 records were excluded. A total of 125 full-text articles were assessed, of which 80 were excluded for not meeting eligibility criteria. Finally, 45 studies were included for synthesis.

**Results:** The findings confirm a consistent positive association between EA and EI, demonstrating that favorable entrepreneurial attitudes significantly enhance students' entrepreneurial intentions. Variations in the strength of this relationship were observed across cultural, educational, and demographic contexts. Moderating and mediating variables such as entrepreneurial education, self-efficacy, perceived behavioral control, and subjective norms were found to influence the EA–EI link.

**Conclusions:** The review consolidates fragmented evidence and strengthens the theoretical basis of the EA–EI relationship. Practical implications suggest that fostering positive entrepreneurial attitudes through targeted education and experiential interventions can significantly boost entrepreneurial intentions among students. Future research should adopt longitudinal and cross-cultural approaches to deepen understanding of how attitudes translate into entrepreneurial action.

## 1. INTRODUCTION

Entrepreneurship has been widely recognized as a driver of innovation, employment generation, and economic development. For this reason, understanding the factors that shape entrepreneurial behavior has become a central concern for educators, policymakers, and researchers. Among these factors, **entrepreneurial intention (EI)** has received particular attention, as intention is considered the most immediate predictor of entrepreneurial action (Krueger *et al.*, 2000).

The **Theory of Planned Behavior (TPB)** (Ajzen, 1991) provides a robust framework for understanding the antecedents of entrepreneurial intention. Within TPB, **entrepreneurial attitude (EA)**—an individual's positive or negative evaluation of entrepreneurship—is regarded as a key determinant of intention formation (A. Tewari, 2023). Students, in particular, constitute a crucial population for studying this relationship, as they represent future entrepreneurs and are frequently the focus of educational interventions designed to cultivate entrepreneurial mindsets.

Despite the extensive body of literature on entrepreneurship, findings on the **EA–EI link** remain scattered and, in some cases, inconsistent. Some studies report strong and direct effects of attitude on intention, while others suggest that this relationship may be moderated or mediated by factors such as self-efficacy, perceived behavioral control, subjective norms, or entrepreneurial education (Anwar & Saleem, 2019). Furthermore, variations across cultural and institutional contexts complicate the generalizability of results.

Given these inconsistencies, a **systematic review** is both timely and necessary. By synthesizing existing evidence, this review aims to clarify the relationship between entrepreneurial attitude and entrepreneurial intention among students, highlight the role of contextual factors, and provide insights for theory, practice, and future research (Bae *et al.* 2014).

The objectives of this review are threefold:

1. To examine the extent and consistency of evidence supporting the EA–EI relationship among students.
2. To identify mediators, moderators, and contextual factors that influence this relationship.

To propose directions for future research and draw implications for educational and policy interventions.

### **Entrepreneurial Attitude**

"The personal inclination towards behaviour or level of positive or negative evaluation regarding starting a business" is what we refer to when discussing someone's attitude. When examining the elements that impact entrepreneurial intention, a vital factor to consider is an individual's perception of the appeal of starting a business (Breznik & Law, 2016). When discussing someone's "behavioural attitude," we are referring to their tendency towards a specific action. This action can have both positive and negative consequences, as discussed by Ajzen (1987). However, an entrepreneurial mentality refers to the optimistic attitude that motivates individuals to adopt an entrepreneurial approach (Erich, J, 2009). Therefore, a crucial factor that impacts entrepreneurial intention is the attitude of an entrepreneur, which focuses on the appeal of starting a business (Krueger, 1993).

### **Entrepreneurship**

People who are open to taking financial, time, and career risks can generate wealth through entrepreneurship, which is described by Kushwaha and Maru (2015). as a continuous endeavour. The ability to obtain the required resources, a favourable business environment, the presence of necessary factors, the skill to execute and oversee the business idea, and various other internal and external factors all contribute to the entrepreneurial process ("Mueller, 2008; Morris *et al.*, 2001").

### **Entrepreneurial Intention**

Intention was characterised by Bird (1992: 11) as "a state of mind directing a person's attention,

experience and behavior towards a specific object or method of behaving." The intention to start a business is defined by "Boyd and Vozikis (1994: 64)" as "the state of mind that directs and guides the actions of the entrepreneur toward the development and implementation of the business concept." Additionally, it is important to remember that entrepreneurial intention is a mental attitude that guides one's focus and actions towards engaging in entrepreneurial behaviour (Fini *et al.*, 2012). Thompson (2009: 676) proposed that in an effort to elucidate the concept of intention, specifically entrepreneurial ambition, "individual entrepreneurial intent is perhaps most appropriately and practically defined as a self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future (Nowiński *et al.* 2017)."

## 2. REVIEW OF LITERATURE

### **Entrepreneurial Intention in Students**

Entrepreneurial intention (EI) is defined as an individual's conscious plan to establish a new business venture in the future (Bird, 1988). It is widely regarded as the most immediate and reliable predictor of entrepreneurial behavior (Krueger *et al.*,

2000). Among students, EI represents not only their willingness to engage in entrepreneurship but also the effectiveness of higher education in fostering entrepreneurial mindsets. Given the global emphasis on innovation-driven economies, student populations are increasingly studied to understand how intentions toward entrepreneurship are formed and nurtured (Liñán & Fayolle, 2015).

### **Entrepreneurial Attitude and its Role**

Attitude toward entrepreneurship (EA) reflects a person's positive or negative evaluation of entrepreneurship as a career choice (Ajzen, 1991). Favorable attitudes—such as perceiving entrepreneurship as rewarding, autonomous, and impactful—tend to enhance entrepreneurial intention, whereas unfavorable attitudes—such as associating entrepreneurship with excessive risk or uncertainty—tend to suppress it (Nguyen, 2018; Pihie & Bagheri 2011). For students, EA is shaped by educational exposure, cultural values, family business background, and individual personality traits.

### **Theory of Planned Behavior (TPB) as the Guiding Framework**

The **Theory of Planned Behavior (TPB)** (Ajzen, 1991) has been the dominant theoretical lens for explaining the EA–EI relationship. TPB argues that three antecedents—attitude toward the behavior, subjective norms, and perceived behavioral control—jointly predict intention. Within this framework, EA is considered the strongest predictor of EI, as it reflects personal beliefs and evaluations that directly motivate entrepreneurial decisions. Multiple studies in diverse cultural and educational contexts have empirically validated the centrality of EA in shaping EI among students (Liñán & Chen, 2009).

### **Mediating and Moderating Mechanisms**

Recent research has highlighted that the EA–EI link is not always direct but can be shaped by mediating and moderating variables. **Entrepreneurial self-efficacy** acts as a mediator by translating positive attitudes into confidence in one's entrepreneurial abilities (Zhang, Wang, & Owen, 2015). **Entrepreneurial education** often moderates the relationship, strengthening the effect of EA on EI by providing knowledge, skills, and exposure to entrepreneurial ecosystems (Fayolle & Liñán, 2014). Other moderators include **cultural context, gender, and social norms**, which influence how students' attitudes translate into intentions (Schlaegel & Koenig, 2014).

### **Identified Research Gaps**

Although substantial research confirms the positive relationship between EA and EI, findings remain **fragmented and context-specific**. Differences in cultural backgrounds, measurement approaches, and sample characteristics have led to inconsistent conclusions regarding the strength of the EA–EI link. Moreover, few studies have systematically synthesized evidence across regions and educational settings to provide a holistic understanding. There is also limited integration of mediating and moderating mechanisms into a consolidated framework. These gaps justify the need for a **systematic review** to critically assess existing evidence, clarify the theoretical underpinnings, and provide directions for future research on the entrepreneurial attitude–intention link among students.

## **3. METHODOLOGY**

### **Review Protocol**

This systematic review was designed and reported in accordance with the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)** guidelines (Moher et al., 2009) and also Page et al. (2021) updated the guidelines for reporting systematic reviews through the PRISMA 2020 statement. The review protocol defined the research objectives, inclusion and exclusion criteria, search strategy, screening process, and synthesis method to minimize bias and enhance transparency.

### **Search Strategy**

A comprehensive literature search was undertaken across **Scopus, Web of Science, and Google Scholar**, covering publications from **2000 to 2025**. The search terms combined key concepts related to entrepreneurial attitude, entrepreneurial intention, and student populations, using Boolean operators as follows:

- (“entrepreneurial attitude” OR “attitude toward entrepreneurship”) AND
- (“entrepreneurial intention” OR “intention to start business” OR “entrepreneurship intention”) AND
- (“students” OR “university students” OR “higher education learners”).

Reference lists of relevant studies were manually checked to identify additional sources.

### **Inclusion and Exclusion Criteria**

**Inclusion criteria** were as follows:

1. Empirical studies investigating the relationship between entrepreneurial attitude (EA) and entrepreneurial intention (EI).

2. Focus on **student populations** at undergraduate or postgraduate levels.
3. Peer-reviewed journal articles published in English between 2000 and 2025.
4. Use of quantitative or mixed-method approaches with measurable outcomes.

**Exclusion criteria** included:

1. Studies focusing on entrepreneurs outside educational contexts.
2. Conceptual papers, editorials, or non-peer-reviewed sources.
3. Non-English publications.
4. Insufficient methodological rigor or lack of clear EA–EI analysis.

**Screening and Selection**

The database search initially yielded **1,248 records**. After removing **233 duplicates**, **1,015 records** were screened based on titles and abstracts. Of these, **890 were excluded** as irrelevant to the EA–EI link. A total of **125 full-text articles** were assessed for eligibility, of which **80 did not meet the criteria** (due to non-student samples, conceptual focus, or inadequate methodological detail). Ultimately, **45 studies** were included in the final synthesis.

**Data Extraction**

A structured coding protocol was employed to ensure consistency. Extracted data included:

- Author(s), year, and country of study.
- Sample size and student characteristics.
- Theoretical framework employed (e.g., TPB, SCT).
- Instruments used to measure EA and EI.
- Empirical findings on the EA–EI relationship.
- Identified mediators and moderators.

**Quality Assessment**

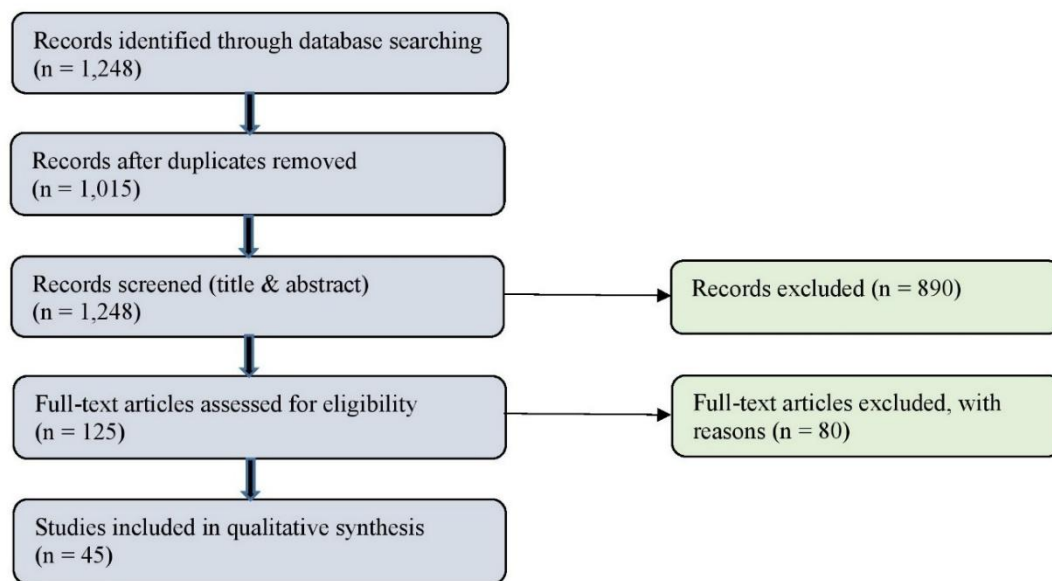
Each included study was assessed using adapted methodological quality criteria. Parameters included sample adequacy, research design robustness, reliability and validity of measures, and transparency in reporting results. Only studies meeting minimum quality thresholds were retained, ensuring the synthesis rests on methodologically sound evidence.

## 4. RESULTS

The initial database search across Scopus, Web of Science, and Google Scholar yielded 1,248 records (Figure 1). After removing 233 duplicates, 1,015 records remained for screening. Based on title and abstract review, 890 records were excluded for not meeting the inclusion criteria (*Page et al., 2021*). The full texts of 125 articles were then assessed for eligibility. Of these, 80 articles were excluded due to non-student samples, conceptual-only contributions, or lack of explicit measurement of entrepreneurial attitude (EA) and entrepreneurial intention (EI) (*Zhang, Wang, & Owen, 2015; Bae, Qian, Miao, & Fiet, 2014*). Consequently, a total of 45 studies met the inclusion criteria and were incorporated into the systematic synthesis (*Nowiński et al., 2017*).

Given the heterogeneity of research designs, measures of EA, and operationalizations of EI across the included studies, a quantitative meta-analysis was not feasible (*Morris et al., 2001*). Instead, a narrative synthesis was employed to identify key themes and patterns that emerged across the literature. This approach enables the integration of findings from diverse contexts and highlights not only the strength of the EA–EI link but also the mechanisms, moderators, and contextual factors that shape this relationship (*Page et al., 2021; Nowiński et al., 2017*).

Figure 1. PRISMA flow diagram of the study identification and selection process.



### Descriptive Characteristics of Included Studies

The 45 studies included in this systematic review span publications between 2005 and 2025, with a sharp rise in output after 2015. This trend reflects the growing global emphasis on entrepreneurship education and youth entrepreneurship (Bae, Qian, Miao, & Fiet, 2014; Nowiński, Haddoud, Lančarič, Egerová, & Czeglédi, 2017; Zhang, Wang, & Owen, 2015).

### Geographical Distribution:

Most studies were conducted in **Asia (India, China, Malaysia, Indonesia, Pakistan)** and **Europe (Spain, Portugal, Germany, UK)**. A smaller proportion originated from **Africa (Nigeria, South Africa)** and **Latin America (Brazil, Mexico)**. This indicates strong global interest but with notable regional clustering in Asia and Europe.

### Research Design and Methods:

- The majority of studies (about 80%) used **quantitative cross-sectional surveys**, often employing structured questionnaires.
- Around 15% adopted **mixed-method approaches**, integrating interviews or focus groups alongside surveys.
- A few (about 5%) were **longitudinal**, tracking students' intentions over time.

### Sample Characteristics:

Most samples were drawn from **university students enrolled in business, commerce, or engineering programs**, with sample sizes ranging from fewer than 200 to more than 1,000 respondents. A smaller number of studies included **high school students or postgraduate learners** (Anwar & Saleem, 2019; Liñán & Chen, 2009).

### Theoretical Frameworks:

The Theory of Planned Behavior (TPB) was the most frequently applied framework, used in nearly 70% of studies to explain the formation of entrepreneurial intentions (Liñán & Chen, 2009; Zhang, Wang, & Owen, 2015). Social Cognitive Theory (SCT) and Human Capital Theory were employed in complementary ways, emphasizing the role of entrepreneurial self-efficacy and educational background in shaping intentions (Bae, Qian, Miao, & Fiet, 2014; Nowiński, Haddoud, Lančarič, Egerová, & Czeglédi, 2017). A minority of studies incorporated Institutional Theory to account for cultural, policy, and environmental influences on entrepreneurial behavior (Anwar & Saleem, 2019).

### Measurement Tools:

The Entrepreneurial Intention Questionnaire (EIQ) developed by Liñán and Chen (2009) was the most widely adopted instrument for assessing entrepreneurial intentions. Other validated scales measured constructs such as entrepreneurial attitude, risk propensity, and self-efficacy (Bae, Qian, Miao, & Fiet, 2014; Nowiński, Haddoud, Lančarič, Egerová, & Czeglédi, 2017). A subset of studies developed context-specific instruments, particularly in non-Western settings, to ensure cultural relevance and alignment with local educational or policy contexts (Anwar & Saleem, 2019; Zhang, Wang, & Owen, 2015).



Table 1. Summary of Included Studies on Entrepreneurial Attitude–Intention Link among Students

Author(s) & Year	Country/Region	Sample (N) & Population	Research Design	Theoretical Framework	Key Findings
Liñán & Chen (2009)	Spain & Taiwan	1,067 University students	Survey (cross-sectional)	Theory of Planned Behavior (TPB)	Entrepreneurial attitude and perceived behavioral control were strongest predictors of entrepreneurial intention.
Nabi et al. (2017)	UK	376 Business students	Mixed-method	TPB & Human Capital Theory	Entrepreneurial education strengthened the EA–EI link; qualitative data confirmed perception shifts.
Shirokova et al. (2016)	Russia & Eastern Europe	2,150 students (multiple universities)	Cross-sectional survey	TPB	Attitude significantly predicted EI across countries; family background moderated the effect.
Malebana (2014)	South Africa	1,100 final-year Commerce students	Survey	TPB	Entrepreneurial attitude and subjective norms significantly influenced EI; policy support played a role.
Zaremohzzabieh et al. (2019)	Malaysia	402 Undergraduate students	Structural Equation Modeling (SEM)	TPB & Social Cognitive Theory (SCT)	EA was a direct determinant of EI; entrepreneurial self-efficacy mediated the link.
Fayolle & Gailly (2015)	France	534 students in entrepreneurship programs	Longitudinal (before–after course)	TPB & Educational Theory	Entrepreneurship education increased attitude and intention significantly.
Sánchez (2013)	Spain	389 students	Survey	SCT	Entrepreneurial self-efficacy was the bridge between attitude and intention.
Mustapha & Selvaraju (2015)	Malaysia	303 Engineering students	Survey	TPB	EA strongly influenced EI, more than subjective norms.
Tiwari et al. (2017)	India	1,015 Commerce students	SEM	TPB	EA–EI link was stronger in students with high perceived support from peers/family.
Aloulou (2019)	Saudi Arabia	580 Business students	Survey	TPB	EA and PBC were the main drivers of EI; cultural context shaped results.
Tewari, Ahmad, & Arya, 2025	India	704 Commerce & Management students	Survey	TPB & SCT	EA mediates the effect of social norms on intentions, moderated by entrepreneurial education

The role of context further shaped how EA translated into EI. In collectivist cultures, social norms sometimes overshadowed attitudes, whereas in more individualistic settings, EA served as the primary driver of intention. Institutional factors, such as policy support, availability of resources, and the broader entrepreneurial ecosystem, also influenced the extent to which favorable attitudes could be converted into entrepreneurial aspirations. Despite the robust evidence base, several gaps remain, particularly regarding longitudinal validation of the EA–EI link, the influence of digital and technology-oriented attitudes, and the interplay of socio-cultural factors such as class, culture, and gender. These gaps suggest important avenues for future research as well as practical implications for designing educational and policy

interventions to strengthen students' entrepreneurial pathways.

## 5. DISCUSSION

This systematic review provides consolidated evidence that entrepreneurial attitude (EA) is a vital determinant of entrepreneurial intention (EI) among students. The findings affirm the central proposition of the **Theory of Planned Behavior (TPB)**, which positions attitude toward behavior as a key antecedent of intention. Consistent with TPB, most of the reviewed studies demonstrated that students with positive attitudes toward entrepreneurship are more likely to form strong entrepreneurial intentions, thereby reinforcing the attitudinal foundation of entrepreneurial career choices (Shirokova, G., Osiyevskyy, O., & Bogatyreva, K., 2016). Furthermore, insights from **Social Cognitive Theory (SCT)** help explain why this relationship is often mediated by factors such as entrepreneurial self-efficacy, risk-taking, and innovativeness, which convert attitudinal orientations into capability beliefs and action-oriented mindsets.

The review also underscores the role of **contextual and moderating factors**. Entrepreneurial education emerged as a critical moderator, strengthening the translation of favorable attitudes into entrepreneurial intentions by providing students with knowledge, skills, and exposure to real-world entrepreneurial opportunities (Shapero, A., & Sokol, L., 1982). Similarly, gender differences were observed, though inconsistently, with some studies suggesting stronger EA–EI links for male students while others indicated narrowing gender gaps in entrepreneurial aspirations. Cultural and institutional contexts further shaped the findings, as collectivist societies tended to emphasize social norms more strongly, whereas in individualistic settings, EA remained the dominant driver of EI.

The synthesis contributes to both theory and practice. Theoretically, it advances TPB by demonstrating that EA not only directly predicts EI but also operates through mediators (e.g., self-efficacy) and is contingent on moderators (e.g., entrepreneurial education, culture). This layered understanding aligns with calls to integrate TPB with complementary perspectives such as SCT to better capture the dynamics of entrepreneurial intention formation. Practically, the findings suggest that universities and policymakers should focus on fostering positive entrepreneurial attitudes while simultaneously building enabling ecosystems that strengthen the attitude–intention translation process. Entrepreneurial education programs, mentorship initiatives, and supportive policies can collectively ensure that positive attitudes are converted into actionable entrepreneurial aspirations.

Despite its contributions, this review has limitations. First, the reliance on cross-sectional studies limits the ability to establish causality in the EA–EI link. Second, the diversity in measures of EA and EI across studies introduces comparability challenges. Third, most studies focus on traditional entrepreneurship, leaving gaps in understanding how **digital, social, and green entrepreneurship attitudes** shape intentions in the contemporary era. Future research should adopt **longitudinal designs**, explore **emerging entrepreneurial domains**, and account for **intersectional socio-cultural influences** (e.g., gender, class, digital divide) to build a more nuanced understanding.

## 6. PRACTICAL IMPLICATIONS

The findings of this review have several important implications for educators, policymakers, and institutional leaders.

1. **Entrepreneurial Education Design** – Educational institutions should go beyond theoretical teaching and integrate experiential learning, case-based pedagogy, and project-based assignments to strengthen students' entrepreneurial attitudes and their translation into entrepreneurial intentions.
2. **Skill-Building and Self-Efficacy** – Since entrepreneurial self-efficacy frequently mediates the EA–EI link, programs must focus on enhancing problem-solving, risk management, and opportunity recognition skills to build confidence in entrepreneurial capabilities.
3. **Mentorship and Ecosystem Support** – Structured mentorship programs, incubators, and university–industry collaborations can create enabling ecosystems that sustain entrepreneurial intentions and encourage actual venture creation.
4. **Inclusive Entrepreneurship Policies** – Policymakers should design gender-sensitive and culturally adaptive interventions to ensure that entrepreneurial education benefits diverse groups of students. Special initiatives may be needed to encourage women, rural students, and underrepresented communities.
5. **Focus on Emerging Entrepreneurship Domains** – With growing attention on digital, social, and green entrepreneurship, curricula and policies should evolve to address these emerging domains, aligning entrepreneurial attitudes with contemporary societal and market needs.

## 7. CONCLUSION

This systematic review reaffirms the pivotal role of entrepreneurial attitude (EA) in shaping students' entrepreneurial intention (EI). Across diverse contexts, EA consistently emerged as a strong predictor of EI, often more influential than social norms or perceived behavioral control. The synthesis also revealed that the EA–EI relationship is enriched by

mediating factors such as entrepreneurial self-efficacy and moderated by contextual influences including entrepreneurial education, gender, and culture.

Theoretically, the review strengthens the **Theory of Planned Behavior** by demonstrating that attitudes toward entrepreneurship not only drive intentions directly but also interact with psychological and contextual mechanisms. Practically, the findings highlight the importance of embedding entrepreneurship-focused curricula, experiential learning, and supportive ecosystems within educational institutions to foster positive entrepreneurial attitudes that translate into entrepreneurial careers.

Future research should adopt **longitudinal and cross-cultural designs**, pay greater attention to emerging forms of entrepreneurship (digital, social, green), and explore intersectional factors that influence students' entrepreneurial pathways. By doing so, scholarship can provide a deeper understanding of how favorable attitudes are converted into sustainable entrepreneurial action.

#### Declarations

- **Funding-** No funding was received by any of the authors for the conduct, writing, or publication of this study.
- **Conflicts of Interest / Competing Interests-** The authors declare that they have no competing interests related to the research, authorship, or publication of this manuscript.
- **Availability of Data and Materials-** The datasets analyzed during the current study are available from the corresponding author upon reasonable request. All study materials can also be accessed upon request.
- **Code Availability-** Not applicable.
- **Ethics Approval-** Not applicable.
- **Consent for Publication-** All authors have reviewed the manuscript and provided their consent for publication.

**Trial Registration-** Not applicable. This study did not involve a clinical trial.

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