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Research Article

The role of entrepreneurship education, curriculum, lecturer competency on students' entrepreneurial intentions: A multiple mediator analysis

Tuatul Mahfud[1]

Vu Hung Dang[2]

Yogiana Mulyani[3]

ABSTRACT

Entrepreneurship in many countries is recognized as a driving factor for economic growth. The trend regarding the importance of entrepreneurship in triggering development and economic change in a country shows an increasing trend. Although many experts have highlighted the vital role of entrepreneurship education on entrepreneurial intentions, until now, there has been no clarity on the impact of entrepreneurship education on entrepreneurial tendencies because of different research findings among experts. Therefore, this study aims to analyze the role of entrepreneurship education factors, curriculum, lecturer competence, entrepreneurial self-efficacy, and creative self-efficacy on students' entrepreneurial intentions. This study involved university students in Indonesia and Vietnam to express their perceptions of entrepreneurship education, curriculum, lecturer competence, entrepreneurial self-efficacy, creative self-efficacy, and students' entrepreneurial intentions. Data analysis used Structural Equation Modeling (SEM) with the help of SmartPLS software. This study's findings indicate that entrepreneurship education and entrepreneurial self-efficacy directly influence students' entrepreneurial intentions. Other predictors, such as curriculum relevance, lecturer competence, and creative self-efficacy, have not been shown to influence students' entrepreneurial intentions directly. Another finding is that entrepreneurship education indirectly affects entrepreneurial intention through students' entrepreneurial self-efficacy. Similar results also showed that self-efficacy successfully mediated the influence of lecturer competence on students' entrepreneurial intention.

Keywords:
Entrepreneurial intention; Education; curriculum; entrepreneurial self-efficacy; Creative self-efficacy

1. Introduction

In recent years, entrepreneurship has been acknowledged as a catalyst for economic progress in numerous countries (Kumar & Raj, 2019). The significance of entrepreneurship as a catalyst for growth and economic transformation in a country is on the rise (Işik et al., 2019). The fundamental rationale is quite logical; namely, the establishment of new enterprises is regarded as a viable option to address the issues of economic crises, unemployment, and insufficient innovation (Xu et al., 2021). Consequently, numerous scholars and public policymakers are endeavouring to foster entrepreneurial behaviour and implement diverse entrepreneurship programs within educational institutions. They regard entrepreneurship education as an effective policy instrument to promote entrepreneurial activities and foster entrepreneurial goals. Numerous nations have prioritised the promotion of entrepreneurship within educational institutions, focussing on the development of entrepreneurship education curricula, the establishment of startup

[1] Corresponding Author, Assoc. Prof. Dr., Balikpapan State Polytechnic, Indonesia, tuatul.mahfud@poltekba.ac.id, ORCID: 0000-0002-6081-6306

[2] Dr., An Giang University, Vietnam, dhvu@agu.edu.vn , ORCID: 0000-0001-6472-7952

[3] Assist, Prof. Dr.., Balikpapan State Polytechnic, Indonesia, yogiana.mulyani@poltekba.ac.id, ORCID: 0000-0001-8525-3637

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training and funding initiatives, and other programs aimed at enhancing students' entrepreneurial skills (OECD, 2020; Salamzadeh et al., 2022).

Many scholars have highlighted the importance of the role of universities in mentoring graduates to enhance their entrepreneurial intentions. Researchers have long sought to identify the ideal content, methodologies, and timing of university instruction to foster entrepreneurial initiatives (Krueger et al., 2000; Liñán & Chen, 2009; Mahfud et al., 2020). Studies indicates that enterprises established by university alumni significantly contribute to economic growth, particularly in job creation and income generation (Carree & Thurik, 2003). In this context, universities are anticipated to play a crucial role in promoting entrepreneurship and motivating students to consider it as a viable career path. Support from universities significantly influences students' inclination to pursue entrepreneurship as a career (Kraaijenbrink et al., 2010).

Although many scholars emphasising the significant influence of entrepreneurship education on entrepreneurial intents, there remains ambiguity regarding its effect on entrepreneurial tendencies due to varying research outcomes among scholars. Prior research predominantly indicates a favourable link between entrepreneurship education and entrepreneurial inclinations (Hou et al., 2023; Nowiński et al., 2019; Sutiadiningsih & Mahfud, 2023), although other scholars present contradictory results (Díaz-Casero et al., 2012; Oosterbeek et al., 2010). Moreover, another research indicates that, despite the availability of vocational education programs and entrepreneurship support, graduates infrequently regard entrepreneurship as a viable career option or express enthusiasm in pursuing entrepreneurial endeavours (Rudhumbu et al., 2016).

In the framework of this study, entrepreneurship education substantially influences students' entrepreneurial intentions. Educational programs that promote comprehension of business principles, inventiveness, and entrepreneurial competencies enable students to cultivate favourable intents to initiate and oversee their own enterprises. Moreover, including entrepreneurship education within the university curriculum can furnish students with a profound comprehension of business principles, risks, and innovation. Previous research have also examined the significant influence of the curriculum on the development of entrepreneurial intents (Arranz et al., 2017; Iwu et al., 2021; Khezrabadi et al., 2023). Given the significant significance of entrepreneurship in the economy, nearly all colleges endeavour to develop curricula and extracurricular activities that foster entrepreneurial intents among their students (Arranz et al., 2017).

Moreover, the execution of the curriculum is significantly reliant on lecturers' capacity to convey curricular knowledge to students. The ability to instruct and inspire students in entrepreneurship is suggested as a factor influencing the development of their entrepreneurial intentions. Competent lecturers who assist and mentor students in cultivating business concepts and entrepreneurial abilities are also significant (Alshebami et al., 2022; Ismail, 2022; Iwu et al., 2021). Alshebami et al. (2022), assert that innovative educators can stimulate students' desire to become entrepreneurs. The ability of lecturers is regarded as the primary determinant in fostering students' entrepreneurial intents via university education (Adnan, 2015). Lecturers are anticipated to utilise their expertise to impart entrepreneurial knowledge to pupils via mentoring programs designed to enhance entrepreneurial intentions.

Interestingly, entrepreneurial intention is influenced not only by external antecedent elements, such as entrepreneurship education, curriculum, and lecturer competence, but also by significant personal factors that shape individual intentions (Ajzen, 1991). The personal factor that is widely highlighted by academics is self-efficacy (Bandura, 1997). In the realm of entrepreneurship, self-efficacy serves as a significant determinant that favourably impacts entrepreneurial intention (Elnadi & Gheith, 2021; Mahfud et al., 2020; Nowiński et al., 2019; Tsai et al., 2016; Uysal et al., 2022). Moreover, recent studies have associated creative self-efficacy with the intention to establish a new firm (Kumar & Shukla, 2019; Tantawy et al., 2021). By integrating high-quality entrepreneurship education, relevant curriculum, and competent lecturers, alongside the expression of self-efficacy (both entrepreneurial and creative), students will be motivated to cultivate robust entrepreneurial intentions, foster innovation, and positively impact the business sector. Therefore, this study seeks to investigate the antecedent elements influencing students' entrepreneurial intents, including entrepreneurship education, relevant curriculum, lecturer competency, entrepreneurial self-efficacy, and creative self-efficacy.

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2. Conceptual Framework

2.1. Entrepreneurial Intention

The term "intention" was initially introduced by Ajzen in 1991 to denote an individual's preparedness to act (Ajzen, 1991). Aboobaker and Renjini (2020), entrepreneurial intention is characterized by experts as a demonstration of individual determination. Certain specialists contend that an individual's personal determination influences and directs their conduct and endeavours in the pursuit of establishing a business (Gartner et al., 1992). Consequently, entrepreneurship is a conscious and planned action (Mahfud et al., 2020; Munir et al., 2019). The Theory of Planned Behaviour (TPB) posits that intention about a specific activity can forecast its outcome, as intention is a deliberate action (Ajzen, 1991; Mahfud et al., 2020). Entrepreneurial intent is a crucial determinant of entrepreneurial activity and acts as a direct connection to the execution of entrepreneurial actions (Jena, 2020; Krueger et al., 2000). Entrepreneurial intention is a characteristic that drives an individual to engage in entrepreneurship or establish their own enterprise (Pérez-Campdesuñer et al., 2021).

Lans et al. (2010) identified three categories of entrepreneurial intentions. Entrepreneurial intention, in a classical context, denotes the resolve and belief of an individual to initiate a new organisation, possess a business, and develop a new venture with a definitive execution strategy at a certain future period (Thompson, 2009). Secondly, alternative entrepreneurial intention pertains to the administration of a business that has been inherited or acquired. Generally, there exists a distinction in intention or motivation between entrepreneurs who establish their own enterprises and those who are appointed or hired. In this setting, persons who inherit or acquire firms occupy an intermediary position, reflecting a variety of motivations, objectives, and mindsets (Cooper & Dunkelberg, 1986). The third category of entrepreneurial intention is intrapreneurial intention. Intrapreneurial intention denotes the aspiration to become an intrapreneur or corporate entrepreneur. Fitzsimmons and Douglas (2011) asserted that entrepreneurial behaviour can manifest inside a corporate career setting. Corporate entrepreneurship entails individuals embracing and advocating for entrepreneurial conduct within their organisation.

Two prominent theories elucidate the elements influencing entrepreneurial intention: the Entrepreneurial Event Model (EEM) and the Theory of Planned Behaviour (TPB). The Entrepreneurial Event Model (EEM) posits that entrepreneurial intention is shaped by a desire of starting a business and the perceived feasibility of such an endeavour, alongside catalytic events, including both positive and negative developments (Ali et al., 2012; Shapero & Sokol, 1982). EEM posits that desire, feasibility, and the propensity to act indirectly influence the formation of entrepreneurial intention (Shapero & Sokol, 1982). Meanwhile, the theory of planned behaviour (TPB) posits that individual intention is shaped by three key factors: attitude towards behaviour, subjective norm, and perceived control (Ajzen, 1991). In this study, attitude towards entrepreneurial behaviour denotes the assessment of engaging in entrepreneurial activities. Subjective norm denotes the endorsement or social pressure exerted over entrepreneurial conduct. Perceived control refers to an individual's assessment of their capacity to regulate the behaviours essential for entrepreneurship.

2.2. Entrepreneurship Education: Curriculum and Lecturer Competencies

Theory of human capital substantiates the connection between entrepreneurship education and entrepreneurial intention. Human capital theory posits that an individual's knowledge and skills, acquired via education and work experiences, constitute human capital (Bae et al., 2014). According to Human Capital Theory (HCT), formal entrepreneurship education can enhance an individual's self-efficacy and mentally prepare them to confront challenges in establishing a new enterprise. Entrepreneurship education imparts knowledge on business establishment and management while cultivating creative thinking, exploration, and enhancing self-esteem and discipline. Entrepreneurship education aims to provide graduates with entrepreneurial competencies to foster sustainable economic development (Consortium of Entreprenuership Education, 2013). Moreover, entrepreneurship education facilitates the acquisition of entrepreneurial knowledge, skills, attitudes, and behaviours (Pulka et al., 2015). Graduates of entrepreneurship programs typically possess creative and innovative skills, along with the capacity to identify and capitalise on opportunities by founding new enterprises (Gerba, 2012). Entrepreneurship education might theoretically enhance students' entrepreneurial consciousness by engaging them in the process of initiating and managing a firm.

Prior research regarding the influence of entrepreneurship education on entrepreneurial intentions has yielded incongruous findings, indicating positive, negative, and insignificant effects (Mustafa et al., 2023; Oosterbeek et al.,

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2010; Qudsia Yousaf et al., 2022). The statistics suggest that the effects of entrepreneurship education may differ, either owing to variations in the quality of the education provided or the characteristics of the participants. Consequently, there is an imperative need to perform a thorough analysis of the impact of entrepreneurship education on students' entrepreneurial intentions. Elements frequently linked to entrepreneurship education include the curriculum and the proficiency of instructors (Arranz et al., 2017; Iwu et al., 2021). The inclusion of entrepreneurship education in the curriculum can enhance an individual's propensity to pursue entrepreneurship (Peterman & Kennedy, 2003). Participants in the entrepreneurship education program exhibited no significant difference in entrepreneurial intentions compared to pupils who did not get such education (Overwien et al., 2024).

Another facet pertaining to education is the proficiency of instructors. Lecturers proficient in teaching entrepreneurship can foster the enhancement of students' entrepreneurial intentions (Iwu et al., 2021). Numerous prior studies have demonstrated that lecturers' capabilities positively influence the enhancement of students' entrepreneurial intents at universities (Adnan, 2015; Alshebami et al., 2022; Ismail, 2022). The efficacy of imparting entrepreneurship curriculum knowledge to students is significantly reliant on the proficiency of the instructors. Consequently, in this investigation, we put out the following hypothesis:

First hypothesis: Entrepreneurship education has a positive influence on increasing students' entrepreneurial intentions.

Second hypothesis: Curriculum has a positive influence on increasing students' entrepreneurial intentions.

Third hypothesis: Lecturer competence has a positive influence on increasing students' entrepreneurial intentions.

2.3. Entrepreneurial Self-Efficacy

Entrepreneurial self-efficacy refers to an individual's confidence in their capacity to do tasks and obligations associated with entrepreneurial results, significantly impacting their choice to embark on an entrepreneurial career (Newman et al., 2019). Entrepreneurial self-efficacy originated from the fundamental notion of self-efficacy introduced by Bandura (1997). Self-efficacy refers to an individual's capacity to act, maintain motivation, and exhibit behaviour in a specific domain (Bandura, 1997). The social-cognitive theory of career and academic interest posits that job-specific self-efficacy, as opposed to general self-efficacy, influences career growth and performance (Lent et al., 1994). In entrepreneurship, entrepreneurial self-efficacy is a key psychological concept in entrepreneurship research. Substantial research indicates that entrepreneurship education enhances entrepreneurial self-efficacy in college students (Newman et al., 2019).

According to the Theory of Planned Behavior (TPB), planned behavior is influenced by attitudes and perceived behavioral control of individuals (Ajzen, 1991). Entrepreneurial self-efficacy is similarly related to behavioural control in the Theory of Planned Behaviour (TPB). Entrepreneurial self-efficacy is a crucial factor influencing the intention to participate in entrepreneurial activities (Mahfud et al., 2020; Nowiński et al., 2019). Substantial favourable impacts of entrepreneurial self-efficacy on entrepreneurial intentions have been observed in both undergraduate and graduate students, as well as in the broader community (Newman et al., 2019). Prior studies indicate that successful entrepreneurship education can augment entrepreneurial self-efficacy (Tantawy et al., 2021; Yeh et al., 2021). Entrepreneurship education can augment entrepreneurial self-efficacy by providing aspiring entrepreneurs with the requisite knowledge and skills necessary for initiating and managing their enterprises. The development of curricula and the training of lecturers capable of teaching entrepreneurship are crucial for enhancing the preparatory program for aspiring new businesses. Consequently, this study posits the subsequent hypothesis:

Fourth hypothesis: Entrepreneurial self-efficacy has a positive influence on increasing students' entrepreneurial intentions.

Fifth hypothesis: Entrepreneurial self-efficacy mediates the relationship between entrepreneurship education and students' entrepreneurial intentions.

Sixth hypothesis: Entrepreneurial self-efficacy mediates the relationship between curriculum and students' entrepreneurial intentions.

Seventh hypothesis: Entrepreneurial self-efficacy mediates the relationship between lecturer competence and students' entrepreneurial intentions.

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2.4. Creative Self-Efficacy

Creativity is a crucial element of entrepreneurship since it enables the generation of creative and valuable concepts (Amabile, 1996). Entrepreneurs employ creativity to identify opportunities and generate novel and innovative concepts. Individuals with creativity are more inclined to establish their own enterprises (Bellò et al., 2018). Research indicates that the efficacy of entrepreneurial endeavours is significantly affected by the ability of individuals to realise their creative thinking capabilities (Ferreira-Neto et al., 2023; Jiatong et al., 2021; Kumar & Shukla, 2019).

Creative self-efficacy is an elaboration of Bandura's (1971, 1997) notion of self-efficacy. The concept of creative self-efficacy was first presented by Tierney and Farmer (2002). Creative self-efficacy pertains to an individual's motivation to independently engage in creative or entrepreneurial activities, since it enhances self-competence similarly to general self-efficacy perspectives (Gong et al., 2009). Creative self-efficacy, defined as an individual's confidence in their capacity to produce creative and inventive ideas, significantly influences a person's entrepreneurial ambitions. Entrepreneurship fundamentally necessitates creativity, encompassing imagination and perseverance to transform ideas into actions (Rauch et al., 2009). Individuals with elevated creative self-efficacy exhibit greater confidence in exploring novel ideas, addressing difficulties, and recognising opportunities in their environment.

Creative self-efficacy offers a significant psychological advantage to navigate the uncertainties and risks associated with entrepreneurship. Moreover, creative self-efficacy can enhance intrinsic drive to devise innovative solutions to corporate challenges (Tantawy et al., 2021). Consequently, creative self-efficacy serves not just to enhance creativity but also to establish a robust foundation that motivates individuals to pursue strong and lasting business objectives.

Eighth hypothesis: Creative self-efficacy has a positive influence on increasing students' entrepreneurial intentions.

Ninth hypothesis: Creative self-efficacy mediates the relationship between entrepreneurship education and students' entrepreneurial intentions.

Tenth hypothesis: Creative self-efficacy mediates the relationship between curriculum and students' entrepreneurial intentions.

Eleventh hypothesis: Creative self-efficacy mediates the relationship between lecturer competence and students' entrepreneurial intentions.

The literature review and prior research elucidate the relationship among the variables of entrepreneurship education, curriculum, lecturer competence, entrepreneurial self-efficacy, creative self-efficacy, and entrepreneurial intention. Figure 1 illustrates the correlation between the independent variables—entrepreneurship education, curriculum, and lecturer competence—and the dependent variable, entrepreneurial intention, incorporating entrepreneurial self-efficacy and creative self-efficacy as mediating factors.

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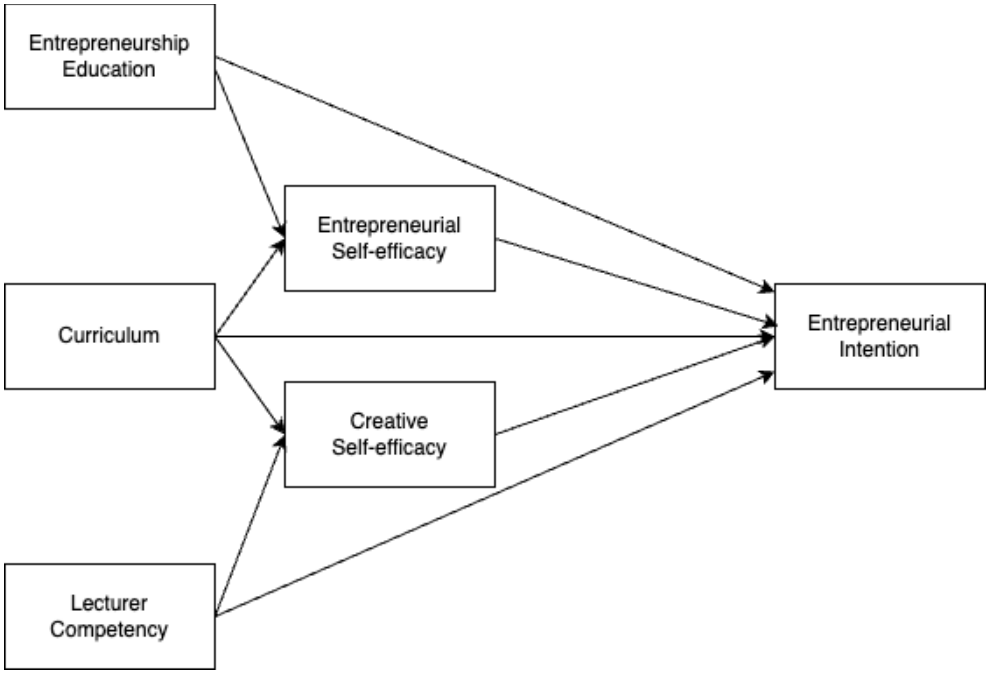

Figure 1. Conceptual Model of Formation of Students' Entrepreneurial Intentions

3. Method

3.1. Participants

Two student parties from Indonesia and Vietnam participated in this investigation. The total number of respondents in this survey was 243, with 151 students from Vietnam and 92 students from Indonesia respectively. Additionally, the gender distribution of respondents indicated that the majority of respondents were female, comprised of 198 students (81%). Additionally, there were 45 male respondents, which accounted for 19% of the total. The majority of respondents (61%) had GPA values between 3.01 and 4.00, as indicated by their GPA values. In the meantime, 95 pupils (39% of the total) had a GPA between 2.01 and 3.00.

3.2. Procedure

Self-report was employed to gather students' perspectives regarding entrepreneurial education, curriculum, lecturer competence, entrepreneurial self-efficacy, creative self-efficacy, and entrepreneurial intention. Utilising the Google Forms platform, they independently submitted their perspectives via an online questionnaire. The data collection procedure commenced in May 2024 and lasted for one month. The online questionnaire was distributed to students with the help of lecturer representatives at each university. Furthermore, we distributed random incentives to students who satisfactorily completed the online survey. The online questionnaire for this investigation required approximately seven minutes to complete.

3.3. Data Collection Tools

This study adapted and developed a questionnaire from a previous study by Iwu et al. (2021) to assess entrepreneurship education, curriculum relevance, and lecturer competency. The adaptation process was carried out by adjusting the questions to suit the local context and characteristics of the respondents in this study, without changing the essence of the constructs being measured. In addition, several items were further developed to capture the dynamics and actual needs in the higher education environment in Indonesia and Vietnam. This effort was made so that the questionnaire remained conceptually valid and contextually relevant, in accordance with the research objectives and institutional conditions being studied. This study's questionnaire comprises 10 items on entrepreneurship education (e.g., Entrepreneurship education on my campus facilitates business development among students), 10 items on curriculum relevance (e.g., The curriculum on my campus offers flexibility to align with my career needs and interests), and 9 items on lecturer competence (e.g., Lecturers motivate students to engage

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in entrepreneurship-related activities). The measurement scale employs a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5).

Furthermore, we created a student self-efficacy questionnaire pertaining to general entrepreneurial activities. The questionnaire developed refers to previous research (Zhao et al., 2005). The entrepreneurial self-efficacy questionnaire aims to assess students' confidence in recognising new business possibilities, developing innovative products, engaging in creative thinking, and commercialising novel ideas or advancements. Six items have been prepared for the entrepreneurial self-efficacy questionnaire (e.g., I feel confident in my ability to successfully manage a new business idea). Simultaneously, the creative self-efficacy questionnaire was designed based on the fundamental principles of self-efficacy (Bandura, 1997) and creativity (Amabile, 1996). Furthermore, we utilised other academic sources to create this questionnaire, including the research undertaken by Tierney and Farmer (2002). Additionally, we designed questionnaire items that encapsulate students' confidence in their creative capabilities within entrepreneurial endeavours. The creative self-efficacy questionnaire comprises a total of 8 items (e.g., I find it easy to generate new ideas or concepts). The measurement scale employs a 5-point Likert scale ranging from "not confident" (1) to "completely confident" (5).

The assessment of students' perspectives regarding their entrepreneurial intentions was conducted by a questionnaire based on the framework established by Liñán & Chen (2009). This study involved the creation of a questionnaire tailored to assess students' aspirations and intentions about entrepreneurship. An illustration of one of the items is “I am prepared to undertake any endeavour to become an entrepreneur.” This questionnaire employs a Likert scale ranging from “Strongly Agree” (5) to “Strongly Disagree” (1).

3.4. Data analysis

This study employed structural equation modelling (SEM) for data analysis, facilitating the examination of relationships between construct factors, including both exogenous and endogenous variables, while accounting for measurement errors (Bollen, 1989). The SEM analysis employed is grounded in Partial Least Squares (PLS). Partial Least Squares (PLS) is highly effective for multivariate data analysis in management and strategy domains (Valaei, 2017). The benefits of employing PLS include the non-requirement for normal data distribution, applicability for analysis including reflective or formative indicators, and capability to examine relationships between variables with limited sample sizes (Ghozali, 2014; Hair et al., 2010).

This analysis employs SmartPLS 3.0 software. Partial Least Squares is a type of structural equation modelling (SEM) that concurrently evaluates the measurement model and the structural model (Hartono & Abdillah, 2009). The Outer Model in PLS-SEM analysis elucidates the function of indicators in the development of their latent variables. Evaluating the measurement model employs loading factor parameters and Average Variance Extracted (AVE) values. The employed criterion include loading factor parameters exceeding 0.7 and AVE values surpassing 0.5 (Ghozali & Fuad, 2008). Additionally, the minimum requirements for assessing the fit of a structural model in PLS-SEM are presented in Table 1.

Table 1. Summary of Model Fit Statistics

Criteria	Cut off value
NFI	> 0.800
SRMR	< 0.080

4. Result

Data regarding students' entrepreneurial intentions, influenced by criteria such as entrepreneurship education, curriculum relevance, lecturer competency, creative thinking self-efficacy, and entrepreneurial self-efficacy, was collected through an online questionnaire using Google Forms. The acquired data were analysed via the SmartPLS-SEM software. The PLS-SEM diagram seen in Figure 2 was derived from the PLS-SEM diagram test.

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Figure 2. Data Processing Results using SmartPLS

Note: EntreEdu= entrepreneurship education; CumRel= curriculum relevance; LectComp= lecturer competency; EntreSE= entrepreneurial self-efficacy; CreatSE= creative self-efficacy; EntreInt= entrepreneurial intentions

The data processing results from this initial stage indicated that all questionnaire items for each variable were deemed legitimate. Additionally, a progressive assessment phase was conducted, encompassing the investigation of both the outer model and the inner model.

4.1. Outer Model Analysis

The assessment of the outer model is conducted by examining the validity and reliability metrics of the model's measures. This study employs a convergent validity test for measuring validity. The assessment of convergent validity is conducted by the loading factor parameter and the Average Variance Extracted (AVE) result. Measurement is deemed to possess strong convergent validity when the loading factor exceeds 0.7 and the AVE surpasses 0.5 (Ghozali, 2014). According to Ghozali (2014), an outer loading value ranging from 0.5 to 0.6 is deemed enough for satisfying the criteria for convergent validity. Convergent validity refers to the correlation between the indicator score and its corresponding construct score. The outer loading or loading factor value is utilised to assess convergent validity. An indicator is classified as exhibiting convergent validity in the good category if the outer loading value exceeds 0.7. The external loading value of each item in the research variable is presented in Table 2.

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Table 2. Outer Loading Measurement Model

Variables	Items	Outer Loading
Entrepreneurship Education	EE1 - EE10	0.837 – 0.879
Curriculum Relevance	CR1 -CR10	0.842 – 0.895
Lecturer Competency	LC1 – LC9	0.867 – 0.912
Creative Self-efficacy	CSE1 – CSE8	0.864 – 0.899
Entrepreneurial Self-efficacy	ESE1 -ESE6	0.879 – 0.911
Entrepreneurial Intention	EI1 – EI6	0.893 – 0.940

According to Table 2, all items or indicators exhibit an outer loading value exceeding 0.7. The convergent validity study results demonstrate that all items are valid, as none exhibit an outer loading value < 0.7. Moreover, all elements are deemed practical or relevant for research purposes and are available for additional investigation. Simultaneously, the reliability assessment of the questionnaire in this study was conducted by evaluating the composite reliability and Cronbach's alpha coefficients. Composite reliability assesses the reliability levels of indicators associated with a variable. Ghozali asserts that a construct is deemed reliable if its composite reliability or Cronbach's alpha exceeds 0.70 (Ghozali, 2014). Table 3 presents the composite reliability values for each variable in this investigation.

Table 3. Reliability Test Results

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Creative Self-efficacy	0,954	0,955	0,961	0,757
Curriculum Relevance	0,968	0,969	0,972	0,774
Entrepreneurship Education	0,96	0,961	0,965	0,736
Entrepreneurial Intention	0,963	0,963	0,97	0,843
Entrepreneurial Self-efficacy	0,951	0,951	0,961	0,802
Lecturer Competency	0,966	0,967	0,97	0,784

Table 3 indicates that the composite dependability value exceeds the requisite threshold of 0.7. The reliability testing of the instrument is further evidenced by the Cronbach's alpha value presented in Table 3. The Cronbach's alpha values presented in Table 3 indicate that the reliability criteria have been satisfied, since each variable's instrument exhibits a Cronbach's alpha value exceeding 0.6. These results demonstrate that the measurement instrument utilised in this investigation is dependable for assessing the examined variables.

4.2. Hypothesis Testing

Data obtained from self-administered online questionnaires concerning student perceptions of entrepreneurial intentions, entrepreneurship education, curriculum relevance, lecturer competence, creative thinking self-efficacy, and entrepreneurial self-efficacy were analysed using the SmartPLS-SEM software program. Subsequent to the analysis of the outer model or measurement model, the hypothesis was evaluated. The subsequent phase involved doing route analysis in PLS-SEM through an inner model evaluation or structural model test to assess the direct and indirect effects among variables. The assessment of the inner model using PLS-SEM encompasses a model fit evaluation and a path coefficient acquisition analysis.

4.2.1. Goodness of Fit Test

Model fit testing is crucial prior to hypothesis testing to verify that the model fits the goodness of fit criteria. Evaluating the goodness of fit criterion involves obtaining NFI (Normed Fit Index) and SRMR (Standardized Root Mean Square Residual) values. A model is considered fit if it possesses an NFI value exceeding 0.8 and an SRMR below 0.08 (Ghozali, 2017; Hair et al., 2010). The model fit test results from SmartPLS-SEM yield NFI and SRMR values that satisfy the criteria, as presented in Table 4.

Table 4. Results of the Goodness of Fit Model Test

Criteria	Saturated Model	Estimated Model
NFI	0.819	0.814
SRMR	0.043	0.077

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4.2.2. Path Coefficient Test

The final phase of PLS-SEM analysis is the evaluation of the inner model. Assessment of the inner model or structural model to examine the direct and indirect impacts among factors. The direct impact route coefficient results from the PLS-SEM analysis in Table 5 provide insights into the relationship between the independent and dependent variables.

Table 5. Direct Effect Between Research Variables

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
CreatSE -> EntreInt	0,091	0,086	0,059	1,537	0,125
CurriRel -> CreatSE	-0,11	-0,093	0,16	0,686	0,493
CurriRel -> EntreInt	-0,103	-0,109	0,074	1,401	0,162
CurriRel -> EntreSE	-0,02	0,004	0,167	0,118	0,906
EntreEdu -> CreatSE	0,242	0,252	0,107	2,266	0,024
EntreEdu -> EntreInt	0,132	0,137	0,056	2,358	0,019
EntreEdu -> EntreSE	0,208	0,22	0,11	1,891	0,059
EntreSE -> EntreInt	0,769	0,768	0,048	15,947	0,000
LectComp -> CreatSE	0,601	0,57	0,156	3,84	0,000
LectComp -> EntreInt	0,05	0,052	0,075	0,668	0,505
LectComp -> EntreSE	0,459	0,423	0,177	2,597	0,010

Note: CurriRel= curriculum relevance; EntreEdu= entrepreneurship education; LectComp= lecturer competency; CreatSE= creative self-efficacy; EntreSE= entrepreneurial self-efficacy; EntreInt= entrepreneurial intentions

Table 5 indicates that students' entrepreneurial intentions are directly affected by entrepreneurship education and entrepreneurial self-efficacy. Conversely, factors such as curriculum relevance, lecturer competency, and creative self-efficacy do not exert a direct influence on students' entrepreneurial intentions. Another finding indicates that students' entrepreneurial self-efficacy is directly affected by the ability of lecturers in instruction. It was also determined that creative self-efficacy is directly influenced by lecturer competence and entrepreneurship education. This study also sought to analyse the indirect influence among variables. Table 6 presents the findings of the indirect influence analysis. The findings of the indirect influence analysis demonstrate that entrepreneurship education indirectly affects entrepreneurial intentions via students' entrepreneurial self-efficacy. Furthermore, it is demonstrated that lecturer competency indirectly influences entrepreneurial intentions via students' entrepreneurial self-efficacy. Furthermore, entrepreneurial self-efficacy has failed to mediate the impact of curriculum relevance on students' entrepreneurial intentions. In past mediations, creative self-efficacy has failed to mediate the overall impact of independent factors (curriculum relevance, entrepreneurship education, lecturer competency) on students' entrepreneurial intentions.

Table 6. Indirect Effect Between Research Variables

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
CurriRel -> CreatSE -> EntreInt	-0,010	-0,008	0,018	0,566	0,572
EntreEdu -> CreatSE -> EntreInt	0,022	0,021	0,019	1,173	0,241
LectComp -> CreatSE -> EntreInt	0,054	0,049	0,037	1,472	0,142
CurriRel -> EntreSE -> EntreInt	-0,015	0,004	0,128	0,118	0,906
EntreEdu -> EntreSE -> EntreInt	0,160	0,168	0,083	2,014	0,046
LectComp -> EntreSE -> EntreInt	0,353	0,324	0,136	2,597	0,010

Note: CurriRel= curriculum relevance; EntreEdu= entrepreneurship education; LectComp= lecturer competency; CreatSE= creative self-efficacy; EntreSE= entrepreneurial self-efficacy; EntreInt= entrepreneurial intentions

4.2.3. Impact-Performance Map Analysis

The Impact-performance map (IPMA) analysis (refer to Figure 3) seeks to augment the reported PLS-SEM results from path coefficient estimation by employing analytical dimensions that account for the mean values of latent variable scores. IPMA specifically assesses the overall impact, signifying its significance in developing a construct

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with an average latent variable score that reflects its performance. The objective is to discern more significant components inside the construct (Ringle & Sarstedt, 2016). Figure 3 indicates that the least significant predictor of students' entrepreneurial intentions is creative self-efficacy, with an LV Performances value of 73.188. The primary determinant affecting students' entrepreneurial intentions is lecturer competence, evidenced by an LV Performances value of 78.776.

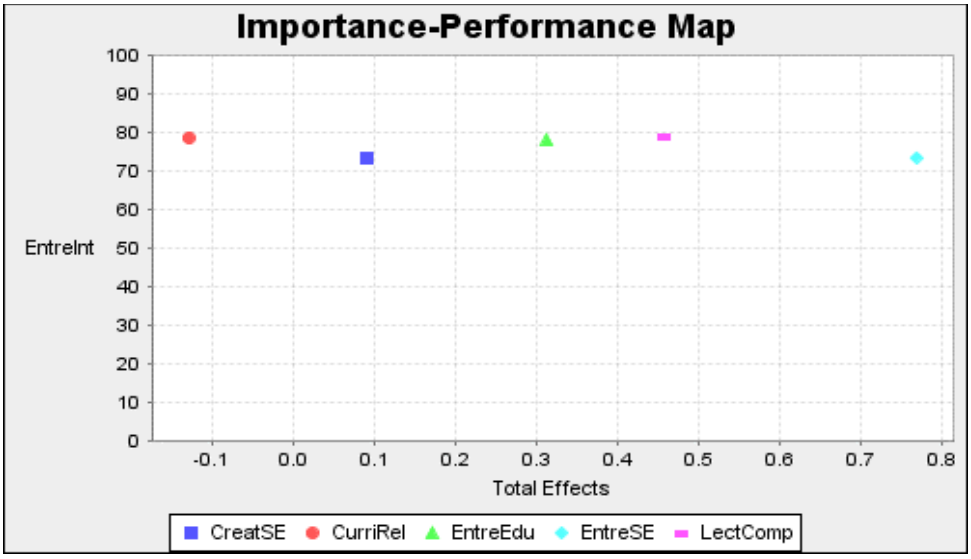

Figure 3. IPMA Factors Predicting Entrepreneurial Intentions

Note: CurriRel= curriculum relevance; EntreEdu= entrepreneurship education; LectComp= lecturer competency; CreatSE= creative self-efficacy; EntreSE= entrepreneurial self-efficacy; EntreInt= entrepreneurial intentions

5. Discussion

This study examines the predictive elements influencing students' entrepreneurial intentions, including entrepreneurship education, curriculum relevance, lecturer competency, creative self-efficacy, and entrepreneurial self-efficacy. Also, this study investigates the mediating effect of entrepreneurial self-efficacy and creative self-efficacy in the connection between independent factors (entrepreneurship education, curriculum relevance, lecturer competency) and the dependent variable (entrepreneurial intention) of students.

5.1. Predictor Factors of Students' Entrepreneurial Intentions

This study aims to investigate the predictive elements influencing students' entrepreneurial intentions, which include entrepreneurship education, curriculum relevance, lecturer competency, creative self-efficacy, and entrepreneurial self-efficacy. The SmartPLS analysis results indicate that students' entrepreneurial intentions are directly affected by entrepreneurship education and entrepreneurial self-efficacy. Conversely, factors such as curricular relevance, lecturer competence, and creative self-efficacy do not directly influence students' entrepreneurial intentions. This discovery reinforces the human capital theory, which posits that the knowledge and skills individuals acquire via education might enable them to initiate new enterprises (Bae et al., 2014). The findings of this study align with research indicating a direct correlation between entrepreneurship education and students' willingness to participate in entrepreneurial activities (Bae et al., 2014; Christina & Widjojo, 2023). Individuals that undergo entrepreneurship education are expected to acquire information, skills, and behaviours pertinent to entrepreneurship (Pulka et al., 2015). Ultimately, entrepreneurship education imparts knowledge and abilities that can enhance students' inclination to initiate a firm (Gerba, 2012).

Also, this study demonstrates that students' entrepreneurial intentions are highly affected by entrepreneurial self-efficacy. This discovery reinforces the Theory of Planned Behaviour, which identifies behavioural control as the most significant predictor of entrepreneurial aspirations (Ajzen, 1991). The role of behavioural control in the Theory of Planned Behaviour parallels entrepreneurial self-efficacy, highlighting an individual's confidence in their entrepreneurial capabilities. Mahfud (2020) also reported that entrepreneurial self-efficacy is a crucial factor in the intention to engage in entrepreneurial behaviour. Moreover, students who possess confidence in their capacity to excel in entrepreneurial pursuits are more inclined to cultivate the goal to establish their own enterprise (Biraglia &

Kadile, 2017; Botha & Taljaard, 2019). Individuals with elevated self-efficacy exhibit greater confidence in confronting challenges and dangers inherent in entrepreneurship, including market volatility and operational issues. They would feel more empowered to surmount challenges and devise innovative solutions, hence enhancing their propensity to undertake tangible actions in establishing a new enterprise.

Despite the significance of curricular relevance, lecturer competency, and creative self-efficacy in entrepreneurship development, this study's findings reveal that none of these elements significantly directly affect students' entrepreneurial intentions. One explanation is that while a pertinent curriculum and proficient instructors can impart valuable knowledge and abilities, these elements may be insufficient to cultivate entrepreneurial intents if students lack robust self-confidence in their capacity to manage a business. Brakaj and Šafránková (2024) contended that characteristics related to entrepreneurial education accounted for the majority of the variance in students' entrepreneurial intentions, suggesting that self-efficacy is a significant factor in shaping these intentions. Moreover, while creative self-efficacy is crucial for innovation and product development, it does not invariably influence the decision to initiate a firm, particularly if students perceive themselves as unprepared or apprehensive regarding the risks associated with entrepreneurship (Bandura, 1997). This indicates that while these characteristics enhance practical skills, they may be inadequate to stimulate entrepreneurial intentions without other internal elements, such as stronger entrepreneurial motivation and self-efficacy (Luthans et al., 2007).

5.2. Antecedent Factors of Entrepreneurial Self-Efficacy and Creative Self-Efficacy of Students

This study examined the predictive elements of entrepreneurial self-efficacy and creative self-efficacy as a mediating variable. This study finds that students' entrepreneurial self-efficacy is directly affected by lecturers' instructional ability. This study's findings corroborate other research indicating that lecturers with robust pedagogical skills and pertinent business expertise can significantly enhance students' self-confidence in their entrepreneurial capabilities (Brakaj & Šafránková, 2024; Christina & Widjojo, 2023). This association is significant as entrepreneurial self-efficacy constitutes a fundamental component in the development of students' entrepreneurial intentions. The competency of lecturers not only imparts essential knowledge and skills to students but also cultivates an environment that supports and encourages the exploration of their entrepreneurial potential. Students who interact with proficient lecturers are more inclined to assimilate the information imparted and cultivate confidence in their ability to excel in entrepreneurial ventures, hence enhancing their propensity to engage in entrepreneurial activities.

This study also demonstrated that creative self-efficacy is directly affected by the competence of lecturers and entrepreneurship education. Proficient lecturers significantly contribute to cultivating an environment that bolsters students' creative self-efficacy, as their competence and pedagogical approaches can motivate students to have confidence in their creative capabilities (Etikariena & Widyasari, 2020). When educators exhibit excellent pedagogical techniques and include students in innovative practices, they substantially enhance students' creative self-efficacy, which is crucial for entrepreneurial achievement. This association is significant because creative self-efficacy not only enables students to surmount obstacles with new solutions but also acts as a prelude to the development of entrepreneurial intentions. As students' confidence in their creative capabilities grows, they are more inclined to seek entrepreneurial ventures, thus connecting education with entrepreneurial activity.

5.3. The Mediating Role of Entrepreneurial Self-Efficacy and Creative Self-Efficacy

This study also examined the mediating role of entrepreneurial self-efficacy and creative self-efficacy. The two mediators seek to evaluate the indirect influence. This study's findings indicate that entrepreneurship education indirectly influences entrepreneurial intention via students' entrepreneurial self-efficacy. Previous research substantiate this link, demonstrating that entrepreneurship education provides students with critical knowledge and abilities, consequently enhancing their confidence in achieving success in entrepreneurial pursuits (Tantawy et al., 2021; Yeh et al., 2021). Students participating in entrepreneurship education cultivate enhanced confidence in their capacity to address the problems of initiating and maintaining a business, hence augmenting their entrepreneurial intention (Xu et al., 2023). The mediating function of entrepreneurial self-efficacy is crucial, as it serves as a conduit between educational experiences and students' drive to engage in entrepreneurial endeavours.

This study also reveals that lecturer competency indirectly affects entrepreneurial intention via students' entrepreneurial self-efficacy. Effective lecturers not only impart knowledge but also serve as role models, thereby shaping students' self-perceptions (Brakaj & Šafránková, 2024). Students gain trust and confidence in their entrepreneurial capabilities when they witness their lecturers exhibiting competence and proficient problem-solving

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skills (Christina & Widjojo, 2023). This trust is crucial as it cultivates an atmosphere in which students feel encouraged to take risks and pursue entrepreneurial ventures. Thus, as students' self-efficacy rises, their ambition to participate in entrepreneurial endeavours also grows, highlighting the significance of lecturer competency in cultivating entrepreneurial mindsets. This mediation effect underscores the significance of entrepreneurial self-efficacy as a crucial intermediary in the correlation between lecturer competence and entrepreneurial intention, indicating that educational institutions ought to prioritise enhancing lecturer competence to cultivate an entrepreneurial culture among students. Figure 3 illustrates that lecturer skill is the primary predictor of students' entrepreneurial intentions.

Also, this study demonstrates that entrepreneurial self-efficacy does not buffer the relationship between curriculum relevance and students' entrepreneurial intentions. A significant reason is that the curriculum may insufficiently cover the practical dimensions of entrepreneurship deemed pertinent by students. Adha et al. (2023) asserted that while entrepreneurship education can enhance students' intentions, it must also prioritise the cultivation of creative thinking and unique business concepts to achieve efficacy. In the absence of these features in the curriculum, students may not regard it as pertinent, thereby diminishing the likelihood of entrepreneurial self-efficacy influencing their entrepreneurial intentions. Furthermore, previous studies have highlighted that teaching methodology plays a significant role in shaping students' entrepreneurial intentions, suggesting that the effectiveness of a curriculum depends on the way it is delivered, not just the content (Karki et al., 2023). This suggests that entrepreneurial self-efficacy may not bridge the gap between curriculum relevance and entrepreneurial intentions if the curriculum fails to engage students meaningfully.

The results of other mediation role tests, creative self-efficacy, were proven not to mediate the overall effect of independent variables (curriculum relevance, entrepreneurship education, lecturer competence) on students' entrepreneurial intentions. This lack of mediation can be attributed to the specific nature of creative self-efficacy, which mainly focuses on individuals' beliefs in their creative abilities rather than their overall entrepreneurial competence. Previous studies have shown that although creativity is essential, its direct effect on entrepreneurial intentions is marginal when compared to the more substantial impact of entrepreneurial self-efficacy (Kumar & Shukla, 2019). In this context, belief in the ability to think creatively is not necessarily accompanied by confidence in managing risks, making business decisions, or executing ideas in the real context of entrepreneurship. Individuals with high creative self-efficacy may be confident in generating innovative ideas, but if they feel they do not have the resources, business skills, or environmental support, then these creative beliefs will not be enough to encourage the intention to actually start a business. In addition, in some cultural or social contexts, creativity is not always associated with entrepreneurial activities, so the effect of CSE on entrepreneurial intentions may be insignificant (Hsu et al., 2018). This means that a person's belief in their creative abilities will not have an effect if they feel that becoming an entrepreneur is not the right path for them.

The findings of this study offer significant implications for educators in higher education. Higher education institutions must enhance the entrepreneurship curriculum by incorporating materials pertinent to contemporary business developments and offering diverse practical experiences to bolster students' self-confidence and entrepreneurial skills. Instruction grounded on practical experience, case analyses, and authentic entrepreneurial ventures can enhance students' competencies in recognising business possibilities and navigating problems encountered in the commercial sphere. Moreover, it is essential to enhance the quality and proficiency of lecturers in entrepreneurship education through training and professional development that emphasises interactive and experiential teaching methodologies.

6. Conclusion

This investigation demonstrated that entrepreneurial self-efficacy and entrepreneurship education had a direct impact on students' entrepreneurial intentions. In contrast, it was not demonstrated that students' entrepreneurial intentions were directly influenced by other factors, including curriculum relevance, lecturer competence, and creative self-efficacy. This study also showed that students' entrepreneurial self-efficacy was directly influenced by lecturer competence in teaching. In addition, creative self-efficacy was directly influenced by lecturer competence and entrepreneurship education. Another finding was that entrepreneurship education had an indirect influence on entrepreneurial intentions through students' entrepreneurial self-efficacy. Similar results also showed that self-efficacy successfully mediated the influence of lecturer competence on students' entrepreneurial intentions. This study also succeeded in capturing findings that were different from previous studies, namely that entrepreneurial

self-efficacy had not been able to mediate the influence of curriculum relevance on students' entrepreneurial intentions. Creative self-efficacy had also not been able to mediate the overall influence of independent variables (curriculum relevance, entrepreneurship education, lecturer competence) on students' entrepreneurial intentions.

Based on the IPMA evaluation, it was found that the main predictor for forming students' entrepreneurial intentions was lecturer competence. This finding shows that the quality and capability of lecturers in delivering materials, providing inspiration, and guiding students in the context of entrepreneurship are essential in forming students' entrepreneurial intentions. Therefore, it is recommended that higher education institutions actively improve lecturer competence through ongoing training, capacity-building programs, involvement in entrepreneurship projects, and collaboration with industry players. In addition, it is also important to encourage lecturers to act as mentors and facilitators who can instill an entrepreneurial mindset in an applicable and contextual manner.

Exploration of the role of entrepreneurship education, curriculum relevance, lecturer competence, entrepreneurial self-efficacy, and creative self-efficacy in shaping students' entrepreneurial intentions revealed several limitations that require further investigation. This study involved student respondents from two countries, Indonesia and Vietnam, but it did not compare the formation of entrepreneurial intentions among students. Thus, future research needs to conduct further comparative studies on predictive factors of students' entrepreneurial intentions between countries. Another limitation is that this study uses a quantitative research method that is weak in terms of the depth of research meaning. Thus, future research needs to consider using a qualitative research approach to explore predictive factors of students' entrepreneurial intentions to provide a deeper understanding of how these factors influence students' entrepreneurial intentions.

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ETHICAL AND SCIENTIFIC PRINCIPLES STATEMENT OF RESPONSIBILITY

The authors declare that ethical rules and scientific citation principles were complied with throughout the preparation process of this study.

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CONFLICT OF INTEREST

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