

# How entrepreneurial environment and education influence university students' entrepreneurial intentions: the mediating role of entrepreneurial motivation

**Chahal, J., Haroon, S. & Ayoubi, R**

Author post-print (accepted) deposited by Coventry University's Repository

Original citation & hyperlink:

Chahal, J, Haroon, S & Ayoubi, R 2023, 'How entrepreneurial environment and education influence university students' entrepreneurial intentions: the mediating role of entrepreneurial motivation', *Higher Education, Skills and Work-based Learning*, vol. (In-Press), pp. (In-Press). <https://doi.org/10.1108/HESWBL-10-2022-0206>

DOI 10.1108/HESWBL-10-2022-0206

ISSN 2042-3896

Publisher: Emerald

'This author accepted manuscript is deposited under a Creative Commons Attribution Non-commercial 4.0 International (CC BY-NC) licence. This means that anyone may distribute, adapt, and build upon the work for non-commercial purposes, subject to full attribution. If you wish to use this manuscript for commercial purposes, please contact [permissions@emerald.com](mailto:permissions@emerald.com).'

## **How entrepreneurial environment and education influence university students' entrepreneurial intentions: the mediating role of entrepreneurial motivation**

### **Abstract**

**Purpose:** Underpinned by social cognitive and ecological systems theories, this research explored higher education students' entrepreneurial intentions (EI). It begins by exploring how various factors—including entrepreneurship education (EE), entrepreneurial motivation (EM), and entrepreneurial environment (EENV), contribute to the evolution of EI of students. Second, it examines the role of EM as an underlying mechanism between EE-EI and EENV-EI.

**Methodology:** The data was gathered from 366 college students pursuing higher education around India using a convenience sample technique. Partial least square structural equation modeling (PLS-SEM) was applied to SmartPLSv.3.3.9 software to analyze the data.

**Findings:** A direct relationship was found between EE, EENV, and EM with EI. Moreover, this research found a partial mediation of EM between EENV-EI and EE-EI paths.

**Practical implications:** This study offers valuable insights that can guide government agencies and higher education institutions (HEIs) in reshaping the landscape of entrepreneurial education at the university level. This transformation encompasses the integration of work-based learning experiences as a conduit for equipping students with tangible skills and exposing them to the realities of entrepreneurship in the real world.

**Originality:** This research considerably contributes to the current literature on entrepreneurship at HEIs by merging social cognitive and ecological systems theories. This research is a pioneering input to examine the underlying mechanism of entrepreneurial motivation between EENV, EE, and EI.

**Keywords:** entrepreneurial environment, entrepreneurship education, entrepreneurial motivation, entrepreneurial intentions.

## 1. Introduction

The pandemic context offers a variety of research options and a unique setting to test different theories (Wenzel *et al.*, 2020). COVID-19's consequences on educational practices have been the most notable and brought environmental changes in all business settings, even though crises are not new in education (Marits *et al.*, 2020). This has started a fresh debate on education's place in the modern world and its challenges. The societal changes brought by the COVID-19 pandemic and the environmental changes present opportunities for entrepreneurial modifications to promote competitiveness and growth (Ratten, 2021). Common goals of entrepreneurship education include developing students' capacity to function amid uncertainties, adaptability, and openness to change (Van Auken, 2013). It is important to consider how individuals interact with their surrounding environment while understanding learning (Hamburg, 2021). In fact, various higher education institutions in the modern digital age are trying to keep up with the ever-shifting dynamics of work-based learning (WBL) by encouraging students to think outside the box (Sudirman & Gemilang, 2020). With more research on the subject, entrepreneurship education has expanded quickly (Penaluna & Jones, 2022). This has strengthened its theoretical and methodological robustness and raised its profile in general education. Furthermore, entrepreneurship may also be a potent tool for achieving Sustainable Development Goals (SDGs) (Horne *et al.*, 2020). Assuring excellent education for everyone and expanding access to learning opportunities is essential to Goal 4 (education) of the SDGs. One of SDG4's Target 4.4s through 2030 is to raise the proportion of adults and young people with the skills essential to participate in the labour force or launch their own businesses (Hamburg, 2021).

Prior studies have shown that entrepreneurial education (EE) benefits HEIs (Jones & Penaluma, 2013; Jones & Penaluma, 2019). However, contemporary COVID-19 pandemic consequences must be addressed (Nabi *et al.*, 2018) despite its use in various settings (Van Auken, 2013). Given this backdrop, studying how EE and entrepreneurial motivation (EM) affect students' entrepreneurial intentions (EI) is crucial. The understanding of intention is crucial to determining the mindset of the young generation, especially HEIs students, and the creation of intent is profoundly influenced by the entrepreneurial environment (EENV) for entrepreneurship (Anwar *et al.*, 2021; Hassan *et al.*, 2021; Otache *et al.*, 2022). EI for startups is now the most studied phenomenon in HEIs because of their connections to actual startup activity, innovation, and EE (Shabbir *et al.*, 2022). Therefore, we aim to address the two main research issues in this work:

RQ1. What are the effects of the EENV and EE on EI in higher education?

RQ2. How can EM mediate to establish the link between EENV, EE, and EI?

This study makes two different theoretical contributions: First, this research extends the knowledge of social cognitive theory (SCT) (Bandura, 1978) by integrating ecological systems theory (EST) (Bronfenbrenner, 1976). SCT has limitations in explaining the dynamic interplay of behavior, person, and environment. Moreover, it is unclear in the literature to which extent the surrounding environment or systems influence these factors (Bandura, 1978). Therefore, we used EST, which is related to the interaction and interdependence of individuals with their surrounding environment and systems. Therefore, research is crucial in HEIs since entrepreneurship is rapidly becoming a critical engine of economic growth and development in many nations. Many entrepreneurs, however, confront various problems, including a lack of enthusiasm and insufficient support from the EENV. Insights on the role of the EENV in encouraging entrepreneurship and the elements that might boost EM are provided in this research. The second contribution is to analyze the fundamental process underpinning EM between EE-EI and EENV-EI relationships. It is also useful for policymakers, HEI practitioners, and entrepreneurs alike in their efforts to encourage entrepreneurship and discover solutions to the problems that today's young people confront.

Section 2 describes the studied constructs and reviews the literature on conceptual model hypotheses. The next section is about the research methods and analytical techniques. Section 4 reports the results of the study. The discussion and conclusion are in Section 5. The theoretical contributions and practical ramifications are discussed here as well.

## **2. Research model and hypotheses development**

### *2.1. Underpinning theories*

#### *2.1.1. Social cognitive theory (SCT)*

This theory contends that personality traits, environmental factors, and individual behavior influence people's actions, decisions, and goals (Bandura, 1978). According to the SCT, the dynamic interplay between person, behavior, and environment makes professional choice possible. Moreover, this theory persists that both internal (result expectancies) and external (social norms and support) variables contribute to EM (Bandura, 1978). SCT also argues that individual

differences in gender, age, occupation, beliefs, cognitive abilities, and emotional states are also hypothesized to influence how an individual perceives the environment and whether or not they choose to behave in response (Bandura, 2012). When it comes to picking up on cues from one's surroundings and deciding on a course of action, Biraglia & Kadile (2017) argue that cognitive abilities and emotional states can play a significant role. This theory, however, cannot explain the interaction of humans, people, and the environment, as well as how the surrounding environment influences these factors.

### *2.1.2. Ecological systems theory of diverse environment (EST)*

Contextual variables include a nation's physical and institutional infrastructure and the economic, political, and cultural circumstances that can affect entrepreneurial goals (Zovko *et al.*, 2020). The context, including the business environment, social support, and academic support, is crucial in determining students' intentions to become entrepreneurs (Kristiansen & Indarti, 2004). The present study also utilized this contextual variable through EST (Bronfenbrenner, 1976) by considering the role of environmental impact in forming entrepreneurial goals. A fundamental concept of EST is that a person's growth cannot be fully understood by focusing solely on them; rather, it must be comprehended in the context of their larger environment. EST has been used in several research areas, including entrepreneurship (Aggarwal & Shrivastava, 2021; Christensen, 2010; Lux *et al.*, 2020). Consequently, it is sensible to assume that the environment has a significant role in enabling the intention to investigate entrepreneurship. This study makes the case that the perception of an entrepreneurial environment's favorability in a particular country would either promote or restrict productive entrepreneurship.

Based on the integration of SCT and EST, our suggested model implies that EE and EENV can alter an individual's personal and environmental characteristics, raising their EM and the likelihood of entrepreneurship. To be more precise, "entrepreneurial motivation" may be seen as a cognitive mediator representing students' levels of belief in their own entrepreneurial abilities, optimism about the potential benefits of entrepreneurship, and determination to pursue this career path. According to SCT, human behavior is influenced by three components: personal factors (like values, opinions, and expectations), environmental factors (e.g., physical and social surroundings), and behavior itself. These three forces interact dynamically, affecting and molding an individual's behavior. Personal characteristics, including attitudes and expectations about entrepreneurship,

can be shaped by exposure to entrepreneurial education. Motivation for new venture creation has been greatly aided by a curricular emphasis on entrepreneurship in higher education, broadening the scope of SCT potential applications (Wang *et al.*, 2022). Education in entrepreneurship can provide students with the tools they need to recognize and seize promising business opportunities. The more people are educated on the processes involved in launching and maintaining a firm, the higher their chances of success. Their capacity for self-regulation (controlling their behavior and motivation) can improve. These external influences might encourage and inspire them to plunge into business ownership. It has been shown that multiple factors govern students' entrepreneurial ambition and must be investigated (Nwosu *et al.*, 2022).

With this background in mind, the authors conceptualize SCT and EST in an entrepreneurship context, examining how entrepreneurial education, motivation, and the environment shape entrepreneurial intentions. Following this, we'll have a more in-depth look at each of the identified main concepts:

## *2.2. Entrepreneurship education (EE)*

The field of EE has had phenomenal growth during the past few years and is considered important in HEIs (Nabi *et al.*, 2018; Zhao *et al.*, 2005). Numerous scholars argue that entrepreneurship is a lifelong activity in which education is crucial (Jones *et al.*, 2014; Bae *et al.*, 2014). There are numerous ways to characterize entrepreneurship education. Some scholars think that teaching and training are the main concerns in entrepreneurial education. Entrepreneurial education promotes business startup and entrepreneurship (Pittaway & Cope, 2007). Evidently, students who were interested in entrepreneurship classes had more entrepreneurial inclinations than those who did not (Asghar *et al.*, 2019). EE influences students' EI in HEIs in India (Paray & Kumar, 2020). Further, work-based learning (WBL) can also include entrepreneurship education (EE) components that teach students the skills and knowledge (Toledano-O'Farrill, 2017) necessary to start and grow a business. This approach also improves students' professional and personal growth, graduates' employability, and the capacity for universities to work with private and public sector organizations (Algers *et al.*, 2016; Jones & Panaluma, 2013). Scholars argue that individuals with more skills, knowledge, and abilities to become entrepreneurs can increase their motivation to achieve the desired goals, which SCT supports (Bandura, 2012). Furthermore, researchers found

an association between education and students' entrepreneurial intentions (Sherkat & Chenari, 2022). So, the following hypotheses have been made:

***Hypothesis 1.*** EE positively influences EI.

***Hypothesis 2.*** EE positively influences EM.

### *2.3. Entrepreneurial environment (EENV)*

EENV describes a set of interrelated variables that affect business creation and growth (Zamperi Ahmad & Xavier, 2012). SCT (Bandura, 1978) also suggests that the interplay of these elements is responsible for inculcating an individual's real behavior. However, it is unclear to what extent these factors influence each other if one has more influence than the other. The ecological systems theory (ECT) highlights the importance of the environment, which significantly affects individual behavior. Bronfenbrenner's ecological theory (1976) sheds light on how environments influence students' thoughts, impacting their intents. This theory shows that individual appraisals of entrepreneurial resources and support might affect entrepreneurial inclinations. Several scholars examined the environmental aspects that profoundly affect entrepreneurial intentions and discovered that the entrepreneurial environment predicts entrepreneurial inclinations (Wu & Mao, 2020; Essel *et al.*, 2020). For higher education institutions (HEIs) to meet the challenges posed by the current economic model, technological advancements, and societal shifts, the formation of partnerships with employers is seen as crucial. Higher education systems, however, have been notoriously sluggish to adjust their operations and, more importantly, their curricula, to reflect these shifts (Toledano-O'Farrill, 2017) hence, it is important to create an entrepreneurial environment where the work-based learnings may take root.

Furthermore, the academic atmosphere at schools and colleges has a huge potential to motivate students to pursue their interests in a way that encourages independence (Yusliza *et al.*, 2020). When the business environment is favorable, it modifies these relationships, strengthening the positive benefits and acting as a boundary condition for entrepreneurial intentions (Aggarwal & Shrivastava, 2021). The effect of the EENV on EE, EM, and EI is still underdeveloped. So, based on ECT theory, we hypothesized the following assumptions:

***Hypothesis 3.*** EENV positively influences EM.

**Hypothesis 4.** EENV positively influences EI

#### *2.4. Entrepreneurial motivation (EM)*

An urge or proclivity to organize and master things or ideas in a timely and self-sufficient manner is defined as entrepreneurial motivation. Entrepreneurial motivation is important in entrepreneurship because various factors motivate people to start their own businesses or work for themselves (Otache *et al.*, 2022). When starting a new business, a lack of motivation is unavoidable (Hessels *et al.*, 2008). EE has a direct, positive effect on EM (Barba-Sánchez *et al.*, 2022; Shah *et al.*, 2020; Solesvik, 2013; Zhang *et al.*, 2014), but it does not always motivate entrepreneurs to start a business (Cox *et al.*, 2002; Fayolle, 2005). EM was also a significant mediator for a link between students' behavior and intents (Alam *et al.*, 2019). In several research investigations (Antonioli *et al.*, 2016; Barba-Sánchez *et al.*, 2022; Hassan *et al.*, 2021; Otache *et al.*, 2022), entrepreneurial motivation played a significant mediation role that strengthened the association of EE and EI. Additionally, similar results were observed by Wu & Mao (2020), who identified that a supportive community for entrepreneurs has a significant and positive effect on the entrepreneurial drive of university students. Therefore, based on the previous discussion, examining the mediating effect of EM is crucial to see if EENV and EE have a better impact on EI. Hence, we put the following hypotheses:

**Hypothesis 5.** EM significantly influences EI.

**Hypothesis 6.** EM significantly mediates the relationship between EE and EI.

**Hypothesis 7.** EM significantly mediates the relationship between EENV-EI.

From the above discussion, the study frames following the conceptual model (see Figure 1)

[Insert Figure 1 here]

### **3. Methodology**

#### *3.1. Data collection*

College students in Haryana, India, served as the subjects for this study. The study used a non-random convenience sampling strategy since it is less expensive and takes less time, allowing for a larger data response (Easterby-Smith *et al.*, 2012). The total number of respondents was 366 higher education students from postgraduate and graduate programs who had taken any



entrepreneurship education. The minimum sample size for a sample of 200 participants for an effect size of 0.05 for a model with one latent variable and three observable variables with a 0.05 level of significance was calculated from an online sample size calculator for SEM (Christopher Westland, 2010; Cohen, 2013; Soper, 2022). In addition, the overall sample size of 366 is greater than the ten-times cut-off (Bentler & Chou, 1987; Hair *et al.*, 2017). The study employed an online survey through Google Forms, which was sent to students via email, WhatsApp Group, and college websites.

As shown in Table 1, most respondents were female students (53.8%) and were in an urban area (50.3%). The respondents' study fields differ; for example, 32.2% are from the science group, 36.3% are from the commerce and management group, and the remaining students are from the arts group.

[insert Table 1 here]

### 3.2. *Instrument of the study*

The study modified the previously measured and validated scales to meet the country context for the instrument's creation. Our structured questionnaire is comprised of two sections. First, students are asked if they agree or disagree with several study constructs. The following section dealt with demographic data. Entrepreneurship education was adopted by Linan *et al.* (2011.) The entrepreneurial motivation was followed by Solesvik (2013). In the case of the entrepreneurial environment, we used the scale from the work of Jena (2020) as it focussed on the Indian context. And finally, the items of entrepreneurial intentions are borrowed from (Liñán & Chen, 2009). Each construct has five statements, resulting in a total of twenty statements. All items of part one were asked on a 7-point Likert scale anchored with “strongly disagree: (1)” to “strongly agree: (7)”. Table 2 contains a description of the measurement scale employed in this study.

[insert Table 2 here]

### 3.3. *Data analysis procedure*

This study is distinct from the previous studies in the field of entrepreneurial intentions as it used the two-step approach for the mediation and moderation effect. The present work utilized PLS-SEM version 3.3.9 to evaluate the conceptual model (see Figure 1). PLS-SEM can assess the measurement and structural models (see Figure 2) (Chin, 2010). In the social sciences, PLS-SEM

is quite popular among researchers (Anjum *et al.*, 2022; Elnadi & Gheith, 2021). Initially, it checked the direct and indirect relationship among constructs, and then the moderation impact of EENV with slope analysis was analyzed. In the last stage, a study assessed PLS predict (Shmueli *et al.*, 2016) to measure the predictive power of the hypothesized model.

## 4. Results

### 4.1. Common method bias (CMB)

Due to persistent flaws, common method bias (CMB) may affect social science study outcomes (Schwarz *et al.*, 2017). Since we used a single instrument to gather exogenous and endogenous data, we examined common method bias (CBM). We first execute Harman's single factor given by Podsakoff *et al.* (2003) to achieve this. One factor's variance (48.85%) was below 50%, according to this test for our study. VIF-based whole collinearity test outcomes were also examined. This model's structures' VIF values (1.233 to 1.997) are less than 3.3 (Kock, 2015). Both tests show our data is CMB-free.

### 4.2. Measurement model assessment

Construct validity and reliability were calculated to gauge the outer model (Hair *et al.*, 2019). We first assessed construct reliability by examining composite reliability (CR) values (see Figure 2). All CR values were greater than 0.7, indicating a sufficient level of construct reliability (see Table 2). Furthermore, the average variance extracted (AVE) (0.719 to 0.773) and factor loadings (0.812 to 0.917) should both be higher than 0.7 and 0.5, respectively. These two requirements were met, indicating that convergent validity has been established. Lastly, Table 3 reveals that the square roots analyzed for the AVE (0.848 to 0.857) were higher than the correlations between the variables, supporting the Fornell & Larcker (1981) requirements. Additionally, none of the HTMT values (shown in brackets) surpasses 0.85 (Henseler *et al.*, 2015), and consequently, our model had no problems with discriminant validity.

[insert Figure 2 here]

[insert Table 3 here]

### 4.3. Structural model assessment

We accomplished structural model analysis after measuring model validation (Hair *et al.*, 2019). By doing this, we initially considered multicollinearity issues (O'Brien, 2007). For this, we

generated the Variance Inflation Factor (VIF) (see Table 2), which must be below 5 (Hair *et al.*, 2019). All VIF values in our sample are less than 5, indicating no multicollinearity. The PLS-SEM model's fit was assessed using SRMR and NFI (Hair, 2014). According to Hu & Bentler (1998), a strong model fit is with SRMR below 0.08 and NFI over 0.90. SRMR and NFI are 0.038 and 0.935, respectively, indicating a strong model fit. In the next step, to test the different direct, mediation, and moderation hypotheses, we used the bootstrapping process of PLS-SEM with 5000 samples at a 95% confidence interval (Hair *et al.*, 2022).

Construct direct impacts are shown in Table 4. EE significantly affects EI ( $\beta = 0.224$ ;  $p < 0.05$ ), although with a minor effect size ( $f^2 = 0.097$ ), supporting H1. H2 also showed a positive and significant impact of EE on EM ( $\beta = 0.460$ ;  $p < 0.05$ ) with a medium effect size ( $f^2 = 0.322$ ). The EENV has a positive and significant direct impact on EM ( $\beta = 0.342$ ;  $p < 0.05$ ) and EI ( $\beta = 0.303$ ;  $p < 0.05$ ) with a moderate effect of ( $f^2 = 0.178$ ) and ( $f^2 = 0.194$ ) respectively; thus, H3 and H4 are accepted. For H5, EM has a positive and significant direct influence on EI ( $\beta = 0.305$ ;  $p < 0.05$ ) with a medium-size effect ( $f^2 = 0.152$ ). These bootstrapping findings support all direct hypotheses H1-H5.

[insert Table 4 here]

For mediation analysis, we tested two hypotheses: a) mediating role of EM for EE-EI (H6) and EENV-EI (H7). In the mediating role of EM between EE and EI, the results showed a substantial indirect influence (H6:  $\beta = 0.104$ ;  $p < 0.05$ ). EI was significantly affected by EE ( $\beta = 0.365$ ;  $p < 0.05$ ). Even with the mediator, the same association had a substantial impact ( $\beta = 0.224$ ;  $p < 0.05$ ). This indicates EM's complementary partial mediation of EE-EI. H6 is supported (see Table 5). Our results revealed a significant indirect effect of EENV on EI through EM ( $\beta = 0.140$ ;  $p < 0.05$ ). The total effect of the ENV on EI was substantial ( $\beta = 0.566$ ;  $p < 0.05$ ); with the mediator, the same association remained significant ( $\beta = 0.303$ ;  $p < 0.05$ ). EM partially mediates the link between EENV and EI. H7 is, therefore, supported. Additionally, the variance accounted for (VAF) measured the mediating impact size. Hair *et al.* (2022) suggest that a VAF (Indirect Effect/Total Effect) value above 80% is considered full mediation; in our study, for both hypotheses H6 and H7, the VAF values are 28.49% and 24.27%, respectively, indicated the partial mediation.

In another step, the study also measured the predictive relevancy of the model ( $Q^2$ ) and coefficient of determination ( $R^2$ ). Table 4 shows the  $Q^2$  values (Geisser, 1974) calculated for predictive relevancy through a blindfolding process with 8 omission distances. The results indicated EM has medium predictive relevance with a value of 0.341, respectively, whereas EI (0.474) has considerable predictive relevance (Chin, 2010).

From a variance perspective,  $R^2$  values for two endogenous constructs are 0.466 (46.6%) and 0.695 (69.5%) for EM and EI, respectively. According to Chin's (2010) criterion, these values represent the moderate and substantial.

#### *4.4. Assessment of PLS Predict*

We also performed the PLS predict with the help of Smart PLS software version 3.3.9 to represent the PLS model's performance (Shmueli *et al.*, 2016). The SmartPLS team's two new benchmarks used “ $Q^2$ ”, “RMSE,” and “MAE” values from PLS and Linear Model (LM) assessments to evaluate a PLS path model's prediction ability (Ringle *et al.*, 2015). Results (see Table 6) showed that the PLS model has lower “RMSE” and “MAE” values than the LM model. Further, the PLS model's indicators have greater  $Q^2$  values than the LM model.  $Q^2$  values larger than zero and lower PLS-SEM scores than LM values suggest stronger predictive power (Shmueli *et al.*, 2016).

[insert Table 5 here]

## **5. Discussion and conclusion**

### *5.1. Results discussion*

The purpose of this research is to examine the relationship between college students' entrepreneurial intents (EI) and three factors: the students' entrepreneurial environment (EENV), their entrepreneurial motivation (EM), and their exposure to entrepreneurial education (EE). It explored the mediating role of entrepreneurial motivation for the link between EE-EI and EENV-EI.

In the case of EE, our findings corroborated those of several other studies (Hessels *et al.*, 2008; Paray & Kumar, 2020; Sherkat & Chenari, 2022; M. Solesvik *et al.*, 2014) that discovered a strong impact on EI, thus accepted (H1), but not with some empirical researches (Oosterbeek *et al.*, 2010; von Graevenitz *et al.*, 2010) where the unfavorable effect was noticed. This positive result of EE on EIs of higher education students suggested various customized entrepreneurship programs need

to be developed following industry demand (i.e., open-ended projects). The study's emphasis on application is consistent with the hands-on approach to learning that characterizes Work-Based Learning (WBL). Because of the positive impact of EE on students' EI, it is also recommended that they take advantage of WBL to acquire entrepreneurship-related skills and knowledge through various channels, including but not limited to aligning classroom learning with real-world scenarios, business simulations, and hands-on projects. It aids in developing students' strong entrepreneurship attitudes (Botha & Bignotti, 2016). In addition, the study discovered a positive and substantial influence of EE on EM (H2), suggesting that greater exposure to entrepreneurial education may inspire students to take the plunge and establish their own firms (Solesvik, 2013). These results also provide valuable insight for WBL planning. Students may increase their EM and motivation to follow entrepreneurial pathways by participating in real-world entrepreneurship and experiencing its obstacles and benefits themselves.

In the case of EENV, the study supported the direct hypotheses of H3, H4, and H5 relating to the relationship between EENV-EE, EENV-EM, and EENV-EI. The argument is that the environment positively affects. According to Timmons & Spinelli (2007), the business environment, resources, and entrepreneurial team should be the three driving reasons for beginning any entrepreneurial venture. In our work, EENV directly affects EM and EI. These findings match earlier ones (Aggarwal & Shrivastava, 2021; Jena, 2020; Subagia *et al.*, 2022). These findings imply that HEIs should prioritize creating a prosperous and entrepreneurially friendly ecosystem to entice college students to pursue entrepreneurial goals. In addition, our results supported H4; EENV has direct and positive effects on students' EM. This finding aligns with that of Wu & Mao (2020), who examined how college students' impressions of their local business context influenced their propensity to launch their own ventures. These researchers also supported the relationship between the socioeconomic environment and the drive to start their own businesses.

Furthermore, Wishnu Wardana et al. (2021) also demonstrated how the institutional context might explain entrepreneurial intentions and provide motivation for starting a business. The results indicate that the worldwide pandemic problem impacted educational practices in a changing environment (Ratten & Jones, 2021). According to the demands of the existing environment, it calls for radical reforms in the educational system; especially these results illuminate the value of WBL environments, which frequently include mentorship, industry linkages, and exposure to real-

world work situations, and so naturally contribute to a favorable entrepreneurial environment of the WBL.

In the case of entrepreneurial motivation (EM), the study confirmed the direct (H6) impact of EM on the EIs of higher education students. These outcomes coincide with those found by other researchers (Antonioli *et al.*, 2016; Barba-Sánchez *et al.*, 2022; Hassan *et al.*, 2021; Lang & Liu, 2019; Otache *et al.*, 2022). Therefore, our findings show that EM is critical for maturing EI.

This research demonstrated the complementary partial mediation of EM between EE->EI (H7) and EENV-> EI (H8) relationships. It was discovered that EENV has a considerable indirect influence on EI via the mediating action of EM. These results demonstrated that EI and EENV had a mediated interaction through EM (H8). The environment offered by a university can significantly improve a person's ability and motivation to begin a business idea (Tomy & Pardede, 2020). The results show EE and EIs have a stronger link due to EM (H7). Prior research shows that when students are inspired to pursue their own businesses, EE will help to increase their EI (Hassan *et al.*, 2021; Otache *et al.*, 2022; Subagia *et al.*, 2022). It implies that to increase students' entrepreneurial motivation, which would undoubtedly significantly impact their entrepreneurial intentions, these findings suggested developing a supportive entrepreneurial environment and enriched entrepreneurship curricula based on students' innovativeness, creativity, resilience, risk-taking capacity, and real-world problem-solving ability.

## 5.2. Theoretical implications

The vital importance of a college's entrepreneurial environment adds new dimensions to the bonding of the entrepreneurial environment and intent for entrepreneurship. As a first step, we conceptually advance the discussion of aspiring entrepreneurs among college students by bringing together SCT and EST in a multifaceted setting. Most common behavioral theories, such as the TPB, have been widely employed in researching entrepreneurship education and entrepreneurial intents; thus, it is time to apply a complete theoretical perspective to build a macro-level link between settings and intention (Bae *et al.*, 2014). SCT has limitations when addressing the dynamic interplay of behavior, environment, and person. This theory has limitations in explaining how these factors interact with one another. Therefore, it is necessary to consider how changing environmental dynamics affect entrepreneurship intentions generated by the entrepreneurial environment. As a result, we incorporate ecological system theory, which explains the interaction

and interdependence of individuals with their surrounding environment and systems, and we motivate individuals to take a comprehensive approach by evaluating social, physical, and cultural systems. Doing so helps cover a gap in the literature and advances the field of cognitive theory, especially SCT. This study's second original addition is its investigation of the mediation function of EM in the connections between EE-EI and EENV-EI. The results prove that entrepreneurial atmosphere, opportunity, and pertinent entrepreneurship curriculum motivate students to increase their intent to establish startups. Hence, it contributed to the existing knowledge that is already available on behavioral characteristics like entrepreneurial motivation that could improve students' entrepreneurial intentions.

### *5.3. Practical implications*

The findings provide several practical consequences about educational, economic, and societal, as well as policy implications, which are elaborated upon below:

**Improvements in Teaching and Learning:** Importantly, these results provide support to the continued use of Work-Based Learning (WBL) methodologies that may be included in entrepreneurship education to give students access to real-world experiences that will improve their practical abilities and help them bridge the gap between theory and practice (Toledano-O'Farrill, 2017). The results of EE and EI relationships bring insights for practitioners and policymakers to prioritize common entrepreneurship education goals, such as adaptability, openness to change, and the ability to perform effectively in a chaotic setting (Van Auken, 2013). In this situation, higher education institutions (HEIs) can carefully develop the entrepreneurship curriculum and pedagogical approaches for controlling expectations by training students on resilience (Ahmed *et al.*, 2020). As a result of EM's mediating function, practitioners can craft tactics focusing on motivation. Educational institutions may successfully affect students' entrepreneurial ambitions by encouraging them to believe in their own skills, encouraging them to engage in more entrepreneurial activities.

**Economic and Societal:** Our research findings have broader social significance since they can shape public opinion on entrepreneurship. The public's view of entrepreneurship may be improved by highlighting the significance of EE, EM, and EENV. Emphasizing entrepreneurial aspirations among college students may stimulate the economy and create new jobs (Al-Ghani *et al.*, 2022). This is because all three subjects have a favorable and significant effect on EI. The

ensuing technologies and new companies have the potential to boost economic growth and social well-being considerably.

Policy implications: Evidence of EENV's impact on EM and EI suggests policymakers can foster an environment conducive to startup businesses. Improve the general climate for potential entrepreneurs by investing resources to provide mentorship, finance, and networking opportunities. Our research provides valuable knowledge that can be used to allocate resources better to foster an environment for prospective business owners to thrive.

#### *5.4. Limitations and future directions*

Despite offering a valuable contribution, this research has several limitations. First, we used an endogenous variable (i.e., entrepreneurial intentions), which may not always translate into actual behavior because they can change over time (Ephrem *et al.*, 2019), so longitudinal or time-logged studies might be conducted in the future for changing the individual behavior over the time. Second, our model was quite complex, and we used a “7-point Likert” questionnaire for analyzing responses and a relatively simple data collection method (yes/no and then scale data collection methods) to investigate complex and connected phenomena. Thus, this paradigm may be contrasted with others (such as interviews and focus groups) in subsequent research. Scholars argue, however, that the gender differences of entrepreneurs influence their behavioral intentions (Paray & Kumar 2020). Therefore, future research may examine gender differences (male and female) as a moderator of entrepreneurial motivation and intentions. Also, researchers stated that the entrepreneurial environment has a substantial influence on entrepreneurial education (Essel *et al.*, 2020); however, we have not explored the direct influence of environment on education, which future academics can consider.

#### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

#### **Ethical disclosure statement**

This study was approved by the Ethical Committee at Government College for Women / Gohana Ref: GCWG/22/962A.



## References

- Aggarwal, A., & Shrivastava, U. (2021). Entrepreneurship as a career choice: Impact of environments on high school students' intentions. *Education + Training*, 63(7/8), 1073–1091. <https://doi.org/10.1108/ET-07-2020-0206>
- Ahmed, T., Chandran, V. G. R., Klobas, J. E., Liñán, F., & Kokkalis, P. (2020). Entrepreneurship education programmes: How learning, inspiration and resources affect intentions for new venture creation in a developing economy. *The International Journal of Management Education*, 18(1), 100327. <https://doi.org/10.1016/j.ijme.2019.100327>
- Al-Ghani, A., Al-Qaisi, B., & Gaadan, W. (2022). A Study on Entrepreneurial Intention Based on Theory of Planned Behaviour (TPB). 13(1), 10.
- Algers, A., Lindström, B., & Svensson, L. (2016). Work-based learning through negotiated projects – exploring learning at the boundary. *Higher Education, Skills and Work-Based Learning*, 6(1), 2–19. <https://doi.org/10.1108/HESWBL-01-2015-0003>
- 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*. <https://doi.org/10.1108/ET-01-2021-0020>
- Antonioli, D., Nicolli, F., Ramaciotti, L., & Rizzo, U. (2016). The Effect of Intrinsic and Extrinsic Motivations on Academics' Entrepreneurial Intention. *Administrative Sciences*, 6(4), 15. <https://doi.org/10.3390/admsci6040015>
- Anwar, I., Alalyani, W. R., Thoudam, P., Khan, R., & Saleem, I. (2021). The role of entrepreneurship education and inclination on the nexus of entrepreneurial motivation, individual entrepreneurial orientation and entrepreneurial intention: Testing the model using moderated-mediation approach. *Journal of Education for Business*, 1–11. <https://doi.org/10.1080/08832323.2021.1997886>
- Asghar, M. Z., Gul, F., Seitamaa Hakkarainen, P., & Taşdemir, M. Z. (2019). Validating Entrepreneurial Intentions Questionnaire to Assess the Impact of Entrepreneurship Education. *TED EĞİTİM VE BİLİM*. <https://doi.org/10.15390/EB.2019.6105>

- 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>
- Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy*, 1(4), 139–161. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4)
- Bandura, A. (2012). On the Functional Properties of Perceived Self-Efficacy Revisited. *Journal of Management*, 38(1), 9–44. <https://doi.org/10.1177/0149206311410606>
- Barba-Sánchez, V., Mitre-Aranda, M., & Brío-González, J. del. (2022). The entrepreneurial intention of university students: An environmental perspective. *European Research on Management and Business Economics*, 28(2), 100184. <https://doi.org/10.1016/j.iedeen.2021.100184>
- Bentler, P. M., & Chou, C.-P. (1987). Practical Issues in Structural Modeling. *Sociological Methods & Research*, 16(1), 78–117. <https://doi.org/10.1177/0049124187016001004>
- Biraglia, A., & Kadile, V. (2017). The Role of Entrepreneurial Passion and Creativity in Developing Entrepreneurial Intentions: Insights from American Homebrewers: Journal of Small Business Management. *Journal of Small Business Management*, 55(1), 170–188. <https://doi.org/10.1111/jsbm.12242>
- Botha, M., & Bignotti, A. (2016). Internships enhancing entrepreneurial intent and self-efficacy: Investigating tertiary-level entrepreneurship education programmes. *The Southern African Journal of Entrepreneurship and Small Business Management*, 8(1), 15. <https://doi.org/10.4102/sajesbm.v8i1.45>
- Bronfenbrenner, U. (1976). The Experimental Ecology of Education. *Teachers College Record: The Voice of Scholarship in Education*, 78(2), 1–37. <https://doi.org/10.1177/016146817607800201>

- Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 655–690). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-540-32827-8\\_29](https://doi.org/10.1007/978-3-540-32827-8_29)
- Christensen, J. (2010). Proposed Enhancement of Bronfenbrenner's Development Ecology Model. *Education Inquiry*, 1(2), 117–126. <https://doi.org/10.3402/edui.v1i2.21936>
- Christopher Westland, J. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications*, 9(6), 476–487. <https://doi.org/10.1016/j.elerap.2010.07.003>
- Cohen, J. (2013). *Statistical Power Analysis for the Behavioral Sciences* (0 ed.). Routledge. <https://doi.org/10.4324/9780203771587>
- Cox, L., Muelle, S., & Moss, S. (2002). The impact of entrepreneurship education on entrepreneurial self-efficacy. *International Journal of Entrepreneurship Education*, 1(1), 229–245.
- Easterby-Smith, M., Thorpe, R., & Jackson, P. (2012). *Management research* (4th ed). SAGE.
- Elnadi, M., & Gheith, M. 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>
- Ephrem, A. N., Namatovu, R., & Basalirwa, E. M. (2019). Perceived social norms, psychological capital and entrepreneurial intention among undergraduate students in Bukavu. *Education + Training*, 61(7/8), 963–983. <https://doi.org/10.1108/ET-10-2018-0212>
- Essel, E. O., Min, W., Essel, C. H., & Dumor, K. (2020). Unemployment Blues: Analysis of the Dual Mediating Effects of Knowledge and Perception on Entrepreneurial Intentions in the Environment. *SAGE Open*, 10(3), 215824402093621. <https://doi.org/10.1177/2158244020936218>

- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101–107. <https://doi.org/10.1093/biomet/61.1.101>
- Hair, J. F. (Ed.). (2014). *A primer on partial least squares structural equations modeling (PLS-SEM)*. SAGE.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (Third edition). SAGE.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*, 117(3), 442–458. <https://doi.org/10.1108/IMDS-04-2016-0130>
- Hamburg, I. (2021). COVID-19 as a Catalyst for Digital Lifelong Learning and Reskilling. *Advances in Research*, 21–27. <https://doi.org/10.9734/air/2021/v22i130282>
- Hassan, A., Anwar, I., Saleem, A., Alalyani, W. R., & Saleem, I. (2021). Nexus between entrepreneurship education, motivations, and intention among Indian university students: The role of psychological and contextual factors. *Industry and Higher Education*, 095042222110532. <https://doi.org/10.1177/09504222211053262>
- Hassan, A., Anwar, I., Saleem, I., Islam, K. M. B., & Hussain, S. A. (2021). Individual entrepreneurial orientation, entrepreneurship education and entrepreneurial intention: The

mediating role of entrepreneurial motivations. *Industry and Higher Education*, 35(4), 403–418. <https://doi.org/10.1177/09504222211007051>

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>

Hessels, J., van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, 31(3), 323–339. <https://doi.org/10.1007/s11187-008-9134-x>

Horne, J., Recker, M., Michelfelder, I., Jay, J., & Kratzer, J. (2020). Exploring entrepreneurship related to the sustainable development goals—Mapping new venture activities with semi-automated content analysis. *Journal of Cleaner Production*, 242, 118052. <https://doi.org/10.1016/j.jclepro.2019.118052>

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424–453. <https://doi.org/10.1037/1082-989X.3.4.424>

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>

Kock, N. (2015). Common Method Bias in PLS-SEM: A Full Collinearity Assessment Approach. *International Journal of e-Collaboration*, 11(4), 1–10. <https://doi.org/10.4018/ijec.2015100101>

Kristiansen, S., & Indarti, N. (2004). ENTREPRENEURIAL INTENTION AMONG INDONESIAN AND NORWEGIAN STUDENTS. *Journal of Enterprising Culture*, 12(01), 55–78. <https://doi.org/10.1142/S021849580400004X>

Jones, C., Penaluna, K. and Penaluna, A. (2019), "The promise of andragogy, heutagogy and academagogy to enterprise and entrepreneurship education pedagogy", *Education + Training*, Vol. 61 No. 9, pp. 1170-1186. <https://doi.org/10.1108/ET-10-2018->

- Jones, C. and Penaluna, A. (2013), "Moving beyond the business plan in enterprise education", *Education + Training*, Vol. 55 No. 8/9, pp. 804-814. <https://doi.org/10.1108/ET-06-2013-0077>
- Jones, C., Matlay, H., Penaluna, K. and Penaluna, A. (2014), "Claiming the future of enterprise education", *Education + Training*, Vol. 56 No. 8/9, pp. 764-775. <https://doi.org/10.1108/ET-06-2014-0065>
- Lang, C., & Liu, C. (2019). The entrepreneurial motivations, cognitive factors, and barriers to become a fashion entrepreneur: A direction to curriculum development for fashion entrepreneurship education. *International Journal of Fashion Design, Technology and Education*, 12(2), 235–246. <https://doi.org/10.1080/17543266.2019.1581844>
- Liñán, F., & Chen, Y. (2009). Development and Cross–Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2), 195–218. <https://doi.org/10.1007/s11365-010-0154-z>
- Lux, A. A., Macau, F. R., & Brown, K. A. (2020). Putting the entrepreneur back into entrepreneurial ecosystems. *International Journal of Entrepreneurial Behavior & Research*, 26(5), 1011–1041. <https://doi.org/10.1108/IJEBr-01-2020-0031>
- 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>
- Nwosu, H. E., Obidike, P. C., Ugwu, J. N., Udeze, C. C., & Okolie, U. C. (2022). Applying social cognitive theory to placement learning in business firms and students' entrepreneurial intentions. *The International Journal of Management Education*, 20(1), 100602. <https://doi.org/10.1016/j.ijme.2022.100602>

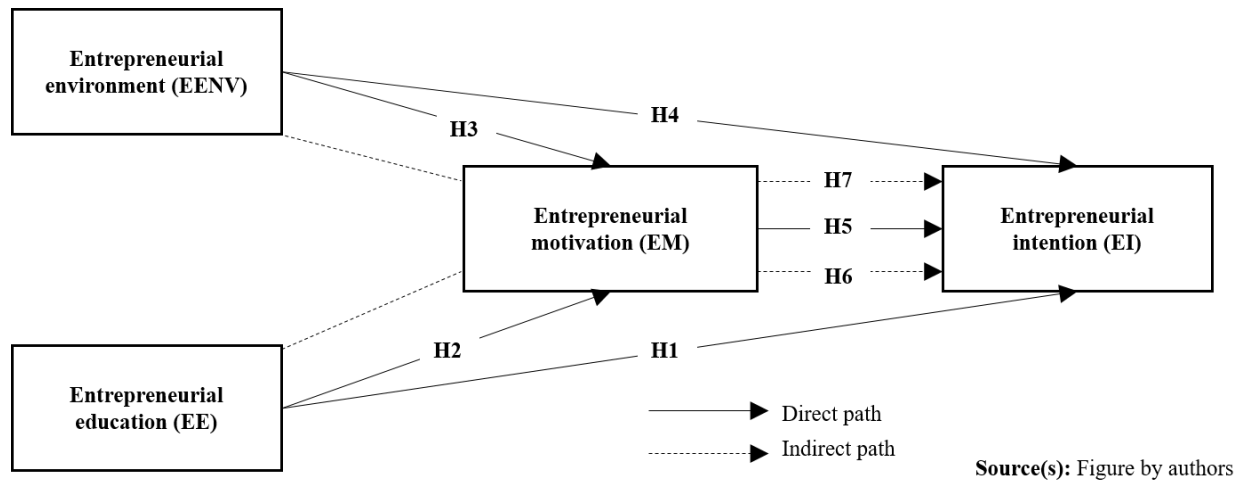
- O'Brien, R. M. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity*, 41(5), 673–690. <https://doi.org/10.1007/s11135-006-9018-6>
- Oosterbeek, H., van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54(3), 442–454. <https://doi.org/10.1016/j.euroecorev.2009.08.002>
- Otache, I. (2019). Enhancing the effectiveness of entrepreneurship education: The role of entrepreneurial lecturers. *Education + Training*, 61(7/8), 918–939. <https://doi.org/10.1108/ET-06-2018-0127>
- Otache, I., Edopkolor, J. E., & Kadiri, U. (2022). A serial mediation model of the relationship between entrepreneurial education, orientation, motivation and intentions. *The International Journal of Management Education*, 20(2), 100645. <https://doi.org/10.1016/j.ijme.2022.100645>
- Paray, Z. A., & Kumar, S. (2020). Does entrepreneurship education influence entrepreneurial intention among students in HEI's?: The role of age, gender and degree background. *Journal of International Education in Business*, 13(1), 55–72. <https://doi.org/10.1108/JIEB-02-2019-0009>
- Penaluna, K., Jones, C. and Penaluna, A. eds., 2022. *How to Develop Entrepreneurial Graduates, Ideas and Ventures: Designing an Imaginative Entrepreneurship Program*. Edward Elgar Publishing.
- 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>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>

- Ratten, V. (2017). Entrepreneurial universities: The role of communities, people and places. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(03), 310–315. <https://doi.org/10.1108/JEC-03-2017-0021>
- Ratten, V. (2021). COVID-19 and entrepreneurship: Future research directions. *Strategic Change*, 30(2), 91–98. <https://doi.org/10.1002/jsc.2392>
- Ratten, V., & Jones, P. (2021). Entrepreneurship and management education: Exploring trends and gaps. *The International Journal of Management Education*, 19(1), 100431. <https://doi.org/10.1016/j.ijme.2020.100431>
- Ratten, V., & Usmanij, P. (2021). Entrepreneurship education: Time for a change in research direction? *The International Journal of Management Education*, 19(1), 100367. <https://doi.org/10.1016/j.ijme.2020.100367>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. Boenningstedt: SmartPLS. <https://www.smartpls.com>
- Shah, I. A., Amjed, S., & Jaboob, S. (2020). The moderating role of entrepreneurship education in shaping entrepreneurial intentions. *Journal of Economic Structures*, 9(1), 19. <https://doi.org/10.1186/s40008-020-00195-4>
- Sherkat, A., & Chenari, A. (2022). Assessing the effectiveness of entrepreneurship education in the universities of Tehran province based on an entrepreneurial intention model. *Studies in Higher Education*, 47(1), 97–115. <https://doi.org/10.1080/03075079.2020.1732906>
- Shmueli, G., Ray, S., Velasquez Estrada, J. M., & Chatla, S. B. (2016). The elephant in the room: Predictive performance of PLS models. *Journal of Business Research*, 69(10), 4552–4564. <https://doi.org/10.1016/j.jbusres.2016.03.049>
- Solesvik, M., Westhead, P., & Matlay, H. (2014). Cultural factors and entrepreneurial intention: The role of entrepreneurship education. *Education + Training*, 56(8/9), 680–696. <https://doi.org/10.1108/ET-07-2014-0075>

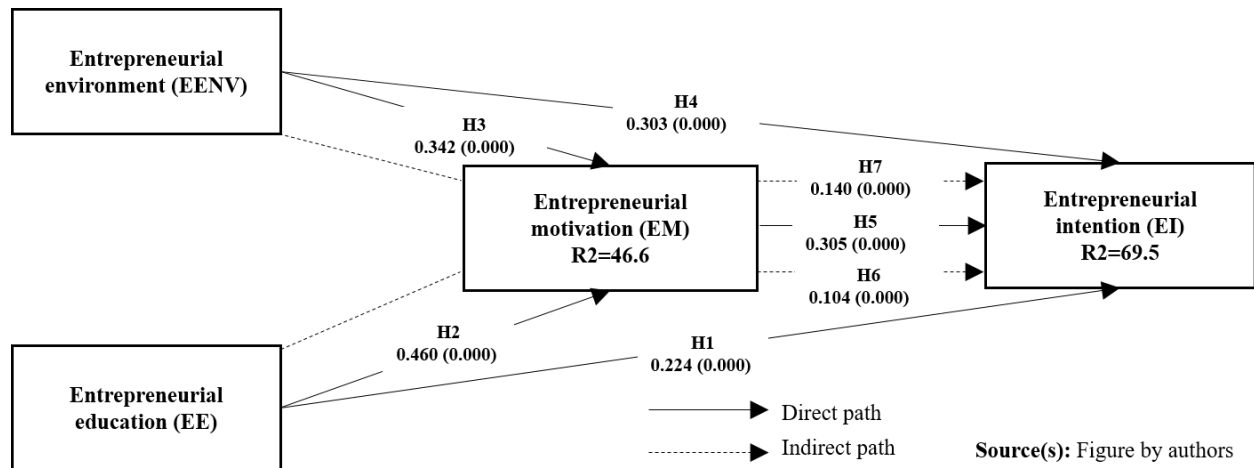


- Solesvik, M. Z. (2013). Entrepreneurial motivations and intentions: Investigating the role of education major. *Education + Training*, 55(3), 253–271. <https://doi.org/10.1108/00400911311309314>
- Soper, D. S. (2022). *A-priori Sample Size Calculator for Structural Equation Model*. <https://www.danielsoper.com/statcalc>
- Subagia, H., Riono, S. B., Indriyani, A., Syaifulloh, M., & Setiabudi, U. M. (2022). Promote Students' Entrepreneurial Intentions? The Mediating. *Entrepreneurship Education*, 12(1), 8.
- Toledano-O'Farrill, R. (2017). Professional application projects: Work-based learning in the curriculum. *Higher Education, Skills and Work-Based Learning*, 7(1), 21–34. <https://doi.org/10.1108/HESWBL-07-2016-0047>
- Timmons, J. A., & Spinelli, S. (2007). *New venture creation: Entrepreneurship for the 21st century* (7th ed.). McGraw-Hill Education.
- Tomy, S., & Pardede, E. (2020). An entrepreneurial intention model focussing on higher education. *International Journal of Entrepreneurial Behavior & Research*, 26(7), 1423–1447. <https://doi.org/10.1108/IJEBr-06-2019-0370>
- Van Auken, H. (2013). Influence of a culture-based entrepreneurship program on student interest in business ownership. *International Entrepreneurship and Management Journal*, 9(2), 261–272. <https://doi.org/10.1007/s11365-013-0254-7>
- von Graevenitz, G., Harhoff, D., & Weber, R. (2010). The effects of entrepreneurship education. *Journal of Economic Behavior & Organization*, 76(1), 90–112. <https://doi.org/10.1016/j.jebo.2010.02.015>
- Wang, C., Mundorf, N., & Salzarulo-McGuigan, A. (2022). Entrepreneurship education enhances entrepreneurial creativity: The mediating role of entrepreneurial inspiration. *The International Journal of Management Education*, 20(2), 100570. <https://doi.org/10.1016/j.ijme.2021.100570>
- Wenzel, M., Stanske, S., & Lieberman, M. B. (2020). Strategic responses to crisis. *Strat Mgmt J*, 41(V7–V18.), 12. <https://doi.org/DOI: 10.1002/smj.3161>

- Wishnu Wardana, L., Mukhtar, S., Wibowo, A., Shandy Narmaditya, B., Eka Suprajan, S., Subali Patma, T., & Martha Mahendra, A. (2021). Does the Environment Impact Entrepreneurial Business Intention? *KnE Social Sciences*. <https://doi.org/10.18502/kss.v5i8.9355>
- Wu, F., & Mao, C. (2020). Business Environment and Entrepreneurial Motivations of Urban Students. *Frontiers in Psychology, 11*, 1483. <https://doi.org/10.3389/fpsyg.2020.01483>
- Yusliza, M. Y., Amirudin, A., Rahadi, R. A., Nik Sarah Athirah, N. A., Ramayah, T., Muhammad, Z., Dal Mas, F., Massaro, M., Saputra, J., & Mokhlis, S. (2020). An Investigation of Pro-Environmental Behaviour and Sustainable Development in Malaysia. *Sustainability, 12*(17), 7083. <https://doi.org/10.3390/su12177083>
- Zamberi Ahmad, S., & Xavier, S. R. (2012). Entrepreneurial environments and growth: Evidence from Malaysia GEM data. *Journal of Chinese Entrepreneurship, 4*(1), 50–69. <https://doi.org/10.1108/17561391211200939>
- Zhang, Y., Duysters, G., & Cloudt, M. (2014). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. *International Entrepreneurship and Management Journal, 10*(3), 623–641. <https://doi.org/10.1007/s11365-012-0246-z>
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions. *Journal of Applied Psychology, 90*(6), 1265–1272. <https://doi.org/10.1037/0021-9010.90.6.1265>
- Zovko, L., Bilić, I., & Dulčić, Ž. (2020). Determinants of students' entrepreneurial intention: An empirical research. *Management, 25*(1), 25–44. <https://doi.org/10.30924/mjcmi.25.1.2>



**Figure. 1** Conceptual model



**Figure. 2** Coefficient path test of the conceptual research model

**Table 1.** Profile of respondents

Characteristics	Frequency	Percentage (%)
<i>Gender</i>		
Male	197	53.8
Female	169	46.2
<i>Area</i>		
Urban	184	50.3
Rural	182	49.7
<i>Qualification</i>		
Postgraduates	219	59.8
Undergraduate	147	40.2
<i>Stream</i>		
Science	118	32.2
Commerce	133	36.3
Arts	115	31.4
<b>Source(s):</b> Table by authors		

**Table 2.** Constructs reliability and validity

Constructs	Description	Factor Loadings	Cronbach's Alpha	CR	AVE	VIF
Entrepreneurship Education	Entrepreneurship Education teaches me about the entrepreneurial environment.	0.832	0.932	0.933	0.735	3.209
	it aids in gaining greater awareness of the entrepreneur's figure	0.876				3.301
	It encourages the growth of a desire to be an entrepreneur.	0.889				4.206
	It instils the necessary skills to be an entrepreneur.	0.875				3.537
	It fosters the intention to be an entrepreneur.	0.812				2.985
Environment	My country is a great place to start a business.	0.853	0.932	0.932	0.734	2.979
	My local community/government encourages entrepreneurs.	0.917				3.331
	Getting the capital required to start a new firm in my nation is simple.	0.830				2.985
	I understand how to obtain the required aid to start a new business.	0.854				3.877
	I know the country's programs that assist people in starting businesses.	0.827				3.415
Entrepreneurial Intentions	I am willing to go to any length to become an entrepreneur.	0.825	0.928	0.928	0.719	2.791
	My sole professional ambition is to become an entrepreneur.	0.845				3.313
	I will make every attempt to establish and run my own business.	0.849				2.725
	I am committed to starting a business in the future.	0.851				3.028
	I have really considered starting a business.	0.869				2.927
Entrepreneurial Motivation	Most people regard investing in their own small or medium-sized business and managing it as a desirable career path.	0.875	0.945	0.945	0.773	3.656
	Most people establish their own businesses because they desire to be free and independent.	0.879				3.630
	Most people start their own businesses because they have strong ideas and wish to see them realized.	0.876				4.634
	Most people establish their own businesses to improve their financial situation.	0.894				3.944
	The majority of people start their own businesses in order to be successful.	0.872				3.185

**Source(s):** Table by authors

**Table 3.** Fornell-Larckers Criterion and HTMT ratio analysis

Constructs	1	2	3	4
1. Entrepreneurial intention	<b>0.848</b>			
2. Entrepreneurial motivation	0.716 (0.716)	<b>0.879</b>		
3. Entrepreneurial education	0.631 (0.632)	0.609 (0.609)	<b>0.857</b>	
4. Entrepreneurial environment	0.667 (0.666)	0.543 (0.542)	0.435 (0.434)	<b>0.857</b>
<b>Source(s):</b> Table by authors				

**Table 4.** Results of Direct hypotheses

Hypothesis	Path	Beta	t-value	Decision	f-value	Effect Size	Q2
H1	EE>EI	(0.224)**	4.644	Accepted	0.097	Small	0.341
H2	EE>EM	(0.460)**	8.947	Accepted	0.322	Medium	
H3	EENV>EM	(0.342)**	6.856	Accepted	0.178	Medium	
H4	EENV>EI	(0.303)**	6.135	Accepted	0.194	Medium	0.474
H5	EM>EI	(0.305)**	5.227	Accepted	0.152	Medium	

*Note: (\*\*  $p < 0.05$ ) Legends: EE, entrepreneurial education; EI, entrepreneurial intentions; EM, entrepreneurial motivation; EENV, entrepreneurial environment*

**Source(s):** Table by authors

**Table 5.** Results of Indirect hypotheses

Hypothesis	Total Effect			Direct Effect			Indirect Effect					Results
	Beta	T Value	p-value	Beta	T Value	p-Value	Beta	Std. Dev.	T Value	p-Value	VAF	
H6: EE>EM>EI	0.365	6.877	0.000	0.224	4.644	0.000	0.104	0.024	4.359	(0.000)**	28.49	Complementary Partial Mediation
H7:EENV>EM>EI	0.566	13.689	0.000	0.303	6.135	0.000	0.140	0.033	4.298	(0.000)**	24.73	Complementary Partial Mediation

*Note: (\*\*  $p < 0.05$ ) Legends: EE, entrepreneurial education; EI, entrepreneurial intentions; EM, entrepreneurial motivation; EENV, entrepreneurial environment*

**Source(s):** Table by authors





	PLS			LM			(PLS-LM) Results		
	RMSE	MAE	Q <sup>2</sup> _predict	RMSE	MAE	Q <sup>2</sup> _predict	Difference RMSE (PLS-LM)	Difference MAE (PLS-LM)	Difference Q <sup>2</sup> _Predict (PLS-LM)
EI1	1.251	1.006	0.353	1.332	1.061	0.268	<b>-0.081</b>	<b>-0.055</b>	<b>0.085</b>
EI5	1.339	1s.103	0.372	1.455	1.178	0.259	<b>-0.116</b>	<b>-0.075</b>	<b>0.113</b>
EI2	1.376	1.107	0.334	1.487	1.182	0.222	<b>-0.111</b>	<b>-0.075</b>	<b>0.112</b>
EI3	1.350	1.106	0.348	1.432	1.146	0.266	<b>-0.082</b>	<b>-0.040</b>	<b>0.082</b>
EI4	1.319	1.064	0.369	1.427	1.138	0.262	<b>-0.108</b>	<b>-0.074</b>	<b>0.107</b>
EM4	1.307	1.064	0.227	1.388	1.091	0.128	<b>-0.081</b>	<b>-0.027</b>	<b>0.099</b>
EM1	1.373	1.134	0.209	1.450	1.165	0.119	<b>-0.077</b>	<b>-0.031</b>	<b>0.090</b>
EM3	1.342	1.097	0.210	1.399	1.122	0.142	<b>-0.057</b>	<b>-0.025</b>	<b>0.068</b>
EM5	1.509	1.236	0.191	1.575	1.253	0.118	<b>-0.066</b>	<b>-0.017</b>	<b>0.073</b>
EM2	1.405	1.120	0.203	1.509	1.186	0.081	<b>-0.104</b>	<b>-0.066</b>	<b>0.122</b>
Source(s): Table by authors									