

## Examining the Role of Entrepreneurial Education in Catalysing Student's Intentions to Transition from Campus to Commerce

Nia Daniati<sup>1</sup>, Yayah Sopianah<sup>2</sup>, Melkisedek O. Nubatonis<sup>3</sup>,  
Deni Hermana<sup>4</sup>, Muhammad Fiqih Sabilillah<sup>5</sup>

Dental Health Department, Poltekkes Tasikmalaya,  
Indonesia<sup>1,2,5</sup>

Dental Health Department, Poltekkes Kupang, Indonesia<sup>3</sup>

Department of Business Administration, STIA Bagasasi,  
Indonesia<sup>4</sup>

Email: [niadaniati1970@gmail.com](mailto:niadaniati1970@gmail.com)

Draft article history  
Submitted: 21-11-2024;  
Revised: 11-12-2024;  
Accepted: 16-12-2024;

**ABSTRACT:** Although entrepreneurship education is essential in driving economic growth, there are still challenges in fostering entrepreneurial intentions among students. One of the main obstacles is the lack of understanding of how elements within the Entrepreneurship Education Ecosystem (EEE) influence entrepreneurial intentions. Research Objective is to explain the effect of attitude, subjective norm, and entrepreneurial self-efficacy on entrepreneurial behavior, mediated by entrepreneurial intentions and moderated by the Entrepreneurship Education Ecosystem (EEE). A quantitative survey was conducted with 286 students from Poltekkes in Indonesia, with data analysis using Structural Equation Modeling (SEM) co variant. The results show a positive relationship between access to entrepreneurship support systems and increased entrepreneurial intentions among students, as well as the importance of EEE elements in shaping entrepreneurial attitude and self-efficacy. These findings provide guidance for higher education institutions and policymakers to strengthen entrepreneurship support systems to enhance students' entrepreneurial intentions. The study also expands understanding of the role of EEE in fostering stronger entrepreneurial intentions.

**Keywords:** attitude, entrepreneurial behavior, entrepreneurial self-efficacy, entrepreneurship education ecosystem, intention, subjective norm.

**ABSTRAK:** Meskipun pendidikan kewirausahaan penting untuk mendorong pertumbuhan ekonomi, masih terdapat tantangan dalam membangun niat kewirausahaan di kalangan mahasiswa. Salah satu kendala utama adalah kurangnya pemahaman tentang bagaimana elemen dalam Ekosistem Pendidikan Kewirausahaan (EEE) mempengaruhi niat kewirausahaan. **Tujuan penelitian untuk** menjelaskan pengaruh attitude, subjective norm, entrepreneurial self efficacy terhadap perilaku wirausaha yang dimediasi niat berwirausaha dan dimoderasi oleh Ekosistem Pendidikan Kewirausahaan (EEE). Survei kuantitatif dilakukan pada 286 mahasiswa Poltekkes di Indonesia, dengan analisis data menggunakan Structural Equation Modeling (SEM). Hasil penelitian menunjukkan hubungan positif antara akses terhadap sistem dukungan kewirausahaan dan peningkatan niat kewirausahaan mahasiswa, serta pentingnya elemen EEE dalam membentuk sikap dan efikasi diri kewirausahaan. Temuan ini memberikan panduan bagi perguruan tinggi dan pembuat kebijakan untuk memperkuat sistem dukungan kewirausahaan dalam meningkatkan

*niat kewirausahaan mahasiswa. Penelitian ini juga memperluas pemahaman tentang peran EEE dalam membentuk niat kewirausahaan yang lebih kuat.*

**Keywords:** *ekosistem pendidikan kewirausahaan, keyakinan diri pengusaha, niat, perilaku kewirausahaan, sikap, subjective norm.*

## INTRODUCTION

Entrepreneurship education is a rapidly evolving discipline that has gained significant attention in higher education (Belitski & Heron, 2017; Carpenter & Wilson, 2022; Haneberg et al., 2022). It aims to foster entrepreneurial attitudes, skills, and behaviors (M. Kim & Park, 2019), ultimately enhancing students' entrepreneurial intentions and actions (Adeel et al., 2023; Jamshidi & Shafiee, 2023; Li et al., 2022; Walidayni et al., 2023). Prior studies emphasize that the educational process plays a vital role in shaping entrepreneurial intentions and behaviors (Cui, 2021; Cui & Bell, 2022; Ashari et al., 2022). Jena (2020) underscores the importance of instilling an entrepreneurial mindset through appropriate educational intervention.

To address these challenges, scholars have proposed the development of an Entrepreneurship Education Ecosystem (EEE) that integrates essential resources, infrastructure, and collaborative networks (Trabskaia et al., 2023). The EEE supports a holistic approach by engaging educators, students, and business practitioners, enhancing entrepreneurial learning and the development of entrepreneurial intentions (Cui & Bell, 2022; Elnadi & Gheith, 2021). Furthermore, the concept of the EEE has gained significant traction in both academic and policy discourse (Wurth et al., 2021), where enabling factors like intermediaries, conducive conditions, and a supportive environment play crucial roles (Liu et al., 2021).

Despite its potential, the EEE remains underutilized in universities (El Boury & Qafas, 2022). Igwe et al. (2022) highlight that limited integration of real-world business practices in university-based learning further widens the gap between entrepreneurial education and practical application. Addressing this gap requires a shift from traditional learning models toward more interactive, experience-based approaches (Zamfirache et al., 2023; Liu et al., 2023). As a result, this study investigates the role of the EEE in enhancing the effectiveness of entrepreneurship education, with a specific focus on how its resources and support mechanisms cultivate entrepreneurial intention and behavior.

The literature review reveals a strong link between the Entrepreneurship Education Ecosystem (EEE) and entrepreneurial intention. However, this relationship is not always positive. The study results show that a conducive environment is present. De Sordi et al. (2022) argued that there is a destructive side of the environment toward business activities. Previously, Audretsch (2005) suggested that varying environmental pressures produce different responses to entrepreneurial behavior. Shirokova et al. (2016) stated that intentions play an important role in students' entrepreneurial activities. However, this influence can

depend on the environment in which the business operates. In the context of entrepreneurial education, this environment is referred to as the Entrepreneurship Education Ecosystem (EEE).

Key enablers of the EEE include resources, infrastructure, and stakeholder collaboration (Trabskaia et al., 2023; Liu et al., 2021). The EEE serves as an interactive space where educators, students, and business practitioners converge to co-create entrepreneurial knowledge. However, current literature highlights significant gaps in understanding how the EEE shapes student intentions and behaviors. While previous studies have explored the role of the EEE in supporting entrepreneurship education, critical gaps remain. First, limited attention is given to the mechanisms by which the EEE fosters entrepreneurial intentions and behaviors (Liu et al., 2021). Second, there is a lack of research on how students' exposure to EEE components impacts entrepreneurial outcomes (Wurth et al., 2021). Third, existing literature has not fully integrated the Theory of Planned Behavior (TPB) with the EEE to explain changes in entrepreneurial intentions and behaviors (Sniehotta et al., 2014). Addressing these gaps is crucial for understanding the role of the EEE in promoting entrepreneurial outcomes. Moreover, the Theory of Planned Behavior (TPB) emphasizes that intention is shaped by three factors: attitude, subjective norms, and self-efficacy (Ajzen, 1991). Previous studies have confirmed that these factors influence students' intention to become entrepreneurs (Ali & Jabeen, 2020; Che Nawi et al., 2022; Tseng et al., 2022). Despite this, few studies have examined how these TPB predictors interact with the EEE to shape entrepreneurial outcomes. The integration of the EEE and TPB offers a novel approach for investigating the mechanisms that drive entrepreneurial intentions and behaviors.

This study builds on these insights to address existing gaps in research. By focusing on the interaction between the EEE and TPB, the research aims to offer a more holistic perspective on how students transition from academic learning to entrepreneurial ventures. The three main objectives of this research are to explore the role of EEE resources, assess the combined impact of EEE and TPB predictors, and evaluate how exposure to EEE affects students' transition to entrepreneurial careers.

The Aim of this study are: 1) to explain the partial influence of attitude, subjective norm, and entrepreneurial self-efficacy on entrepreneurial behavior, mediated by entrepreneurial intention among Poltekkes students in Indonesia; 2) To explain the moderating effect of the Entrepreneurship Education Ecosystem (EEE) on the influence of entrepreneurial intention on entrepreneurial behavior among Poltekkes students in Indonesia.

## RESEARCH METHOD

An Explanatory Survey was employed as the research approach. A random survey was conducted among students who were engaged in entrepreneurial activities at 286 Poltekkes (Polytechnic Health Sciences) students in Indonesia,

specifically in Kupang and West Java. The survey procedure consisted of several steps. Firstly, the researcher identified the entrepreneurial activities undertaken by the students with the assistance of the university, particularly the entrepreneurship and economics course instructors. This identification process took place over a period of two months to gather information about the students' business activities. Secondly, the researcher established control variables, including business experience, non-entrepreneur/employee family background, and entrepreneurship education background. These control variables were used to control for other factors that could potentially influence the research outcomes. Thirdly, the respondents selected as the sample for this study were students who had received entrepreneurship education. The selection of respondents was based on these criteria to ensure that they possessed relevant experience and knowledge in entrepreneurship. After the identification and selection of respondents, the researcher conducted the survey using a questionnaire. The questionnaire was designed to collect data on the factors influencing the students' entrepreneurial activities, including questions about the types of businesses, income generated, and the predefined control variables.

The measurement of the Attitude (Att) variable was based on the study by Azim et al. (2022) and included two items: 1) "Being an entrepreneur implies more advantages to me" and 2) "A career as an entrepreneur is attractive to me." The goodness-of-fit (GOF) results of the testing are as follows: CMIN/DF = 2.06, GFI = .951, CFI = .96, PNFI = .727, RMSEA = .043, and SRMR = .035. These values indicate a reasonably good fit of the measurement model to the data.

The measurement of the Subjective Norm (SN) variable was based on the study by Azim & Islam, (2022) and consisted of three statement items: 1) "my close family members will approve of my decision and support me to start a business," 2) "my close friends will approve of my decision and support me. If I decide to start a business," The goodness-of-fit (GOF) results of the testing are as follows: CMIN/DF = 2.26, GFI = .93, CFI = .96, PNFI = .65, RMSEA = .053, and SRMR = .045. These values suggest a reasonably good fit of the measurement model to the data, although the PNFI value is relatively low, indicating room for improvement in the model fit.

The measurement of Entrepreneurial Self-efficacy variable was based on Liu et al., (2019) and consisted of four statement items: 1) "able to choose suitable employees for business," 2) "able to apply innovative ideas to inspire entrepreneurial partners." The goodness-of-fit (GOF) results of the testing are as follows: CMIN/DF = 1.96, GFI = .96, CFI = .98, PNFI = .72, RMSEA = .043, and SRMR = .032. These values indicate a good fit of the measurement model to the data, with low CMIN/DF and RMSEA values, and high GFI, CFI, and SRMR values. However, the PNFI value is relatively moderate, suggesting some room for improvement in the model fit.

The measurement of Intention (Int) variable was based on Azim & Islam, (2022) and comprised six statement items: 1) "ready to be an entrepreneur," 2)

"My career is become an entrepreneur." The goodness-of-fit (GOF) results of the testing are as follows: CMIN/DF = 2.16, GFI = .94, CFI = .97, PNFI = .68, RMSEA = .047, and SRMR = .039. These values indicate a reasonably good fit of the measurement model to the data. The CMIN/DF and RMSEA values are within acceptable ranges, while the GFI, CFI, and SRMR values indicate a relatively high fit. However, the PNFI value suggests that there might be some room for improvement in the model fit.

Entrepreneurial Behavior (EB) was measured based on the study by (Gieure et al., 2020) and consisted of seven statement items, such as 1) "Having experience in starting new projects or businesses," and 2) "capable of developing a business plan." The goodness-of-fit (GOF) results of the testing for the EB measurement model are as follows: CMIN/DF = 1.923, GFI = .94, CFI = .97, PNFI = .73, RMSEA = .043, and SRMR = .039. These values indicate a reasonably good fit of the measurement model to the data. The CMIN/DF and RMSEA values are within acceptable ranges, while the GFI, CFI, and SRMR values indicate a relatively high fit.

Entrepreneurship Education Ecosystem (EEB) was measured based on the study by Liu et al., (2021), which proposed factors within the entrepreneurship education ecosystem, including Mediators (six items), Conditions (10 items), and Environment (seven items) statements. The goodness-of-fit (GOF) results of the testing for the EEB measurement model are as follows: CMIN/DF = 1.87, GFI = .95, CFI = .98, PNFI = .72, RMSEA = .045, and SRMR = .035. These values indicate a reasonably good fit of the measurement model to the data. The CMIN/DF and RMSEA values are within acceptable ranges, while the GFI, CFI, and SRMR values indicate a relatively high fit.

The variables controlled in this study encompass business experience, non-entrepreneur/employee family background, and entrepreneurship education background. The participants consisted of individuals who had graduated from college within a maximum period of one year. The data analysis followed the SEM covariate approach, involving the development of a path diagram model grounded in theoretical foundations and proposition regarding the interrelationships among variables. The measurement of constructs within the model was conducted. Maximum Likelihood estimation was selected as the preferred method to estimate the model parameters by utilizing the available data, thereby obtaining the most suitable estimates. Confirmatory Factor Analysis (CFA) was performed to assess the compatibility of the measurement model with the collected data. The evaluation of the model's fit with the data quality was conducted through indicators such as chi-square, probability values, and fit indices including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) for each variable construct. Causal tests were employed to examine the cause-and-effect relationships between the variables in the model. Evaluation, improvement in interpretation, and hypothesis testing were conducted to ensure that the obtained results could be accurately interpreted in alignment with the research objectives.

## RESULT AND DISCUSSION

### The Development Model

The model development was constructed based on the Theory of Planned Behavior (Adeel et al., 2023) and the Entrepreneurship Education Ecosystem Liu et al., (2023), which provide a comprehensive understanding of how factors in TPB and components of the entrepreneurship education ecosystem interact and influence changes in entrepreneurial intentions and behavior. TPB explains that behavior is influenced by three main factors: attitudes, subjective norms, and entrepreneurial self-efficacy. The research model development is as follows:

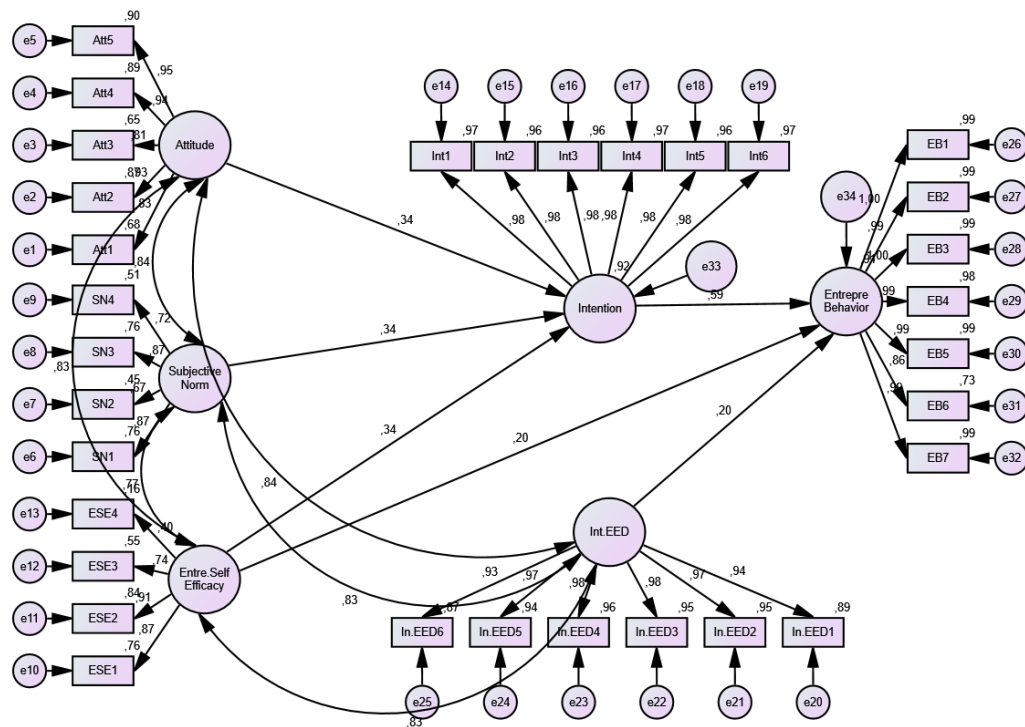


Figure 1. Development of Research Model

The structural equations of each research model in our study are based on the concepts used to develop the measurement of latent variables. We transformed the path diagram into equations and provided detailed specifications of the measurement model. The results of converting the path diagram into equations and specifying our measurement model indicate that each observed variable can explain changes in the latent variable with various variations. Confirmatory Factor analysis (Testing GOF of observed variables, Convergent validity, AVE, Composite reliability, and discriminant validity). Confirmatory Factor Analysis is as follows:

Table 1. Confirmatory Factor Analysis

Construct	Item	Estimate	SE	CR.	$\rho$	Standardized regression weight	AVE	Composition reliability
-----------	------	----------	----	-----	--------	--------------------------------	-----	-------------------------

Attitude	Att. 1	1,000				0.827	0.800	0.891
	Att. 2	1,446	0.071	20,473	** *	0.934		
	Att. 3	1,215	0.084	14,427	** *	0.809		
	Att. 4	1,422	0.069	20,707	** *	0.944		
	Att. 5	1,436	0.068	21,046	** *	0.947		
Subjective norm	SN1	1,000				0.874	0.622	0.822
	SN2	0,721	0.071	10,111	** *	0.674		
	SN3	0,969	0.063	15,508	** *	0.87		
	SN4	0,77	0.069	11,122	** *	0.717		
Entrepreneurial self-efficacy	ESE1	1,000				0.869	0.515	0.869
	ESE2	1,074	0,069	15,590	** *	0.915		
	ESE3	0,671	0,069	9,799	** *	0.743		
	ESE4	0,23	0,054	4,253	** *	0.402		
Intention	In.1	1,000				0.984	0.963	0.888
	In.2	1,957	0.03	31,201	** *	0.981		
	In.3	1,000				0.978		
	In.4	1,000				0.982		
	In.5	1,000				0.98		
	In.6	1,000				0.984		
Entrepreneurship education ecosystem	In.EED 1	1,000				0.943	0.946	0.96
	In.EED 2	1,149	0.027	41,865	** *	0.975		
	In.EED 3	1,248	0.03	41,953	** *	0.976		
	In.EED 4	1,265	0.029	43,831	** *	0.98		
	In.EED 5	1,253	0.03	41,491	** *	0.971		
	In.EED 6	1,000				0.932		
Entrepreneurial behavior	EB1	1,000				0.996	0.952	0.919

Source: Analysis of 2023

The results indicate significant lambda values for each indicator used to explain latent variables  $> 0.3$ , in accordance with Hair et al. (2014). These findings suggest that the observed variables have the ability to explain changes in each latent variable. The average AVE values can account for the variability of the latent variables. An AVE value of 0.800 means that the attitude indicators (Att1-Att5) can explain 80% of the changes in the latent attitude variable. The latent variable

Subjective Norm can be explained by SN1-SN4 to the extent of 62.2%. The Entrepreneurial self-efficacy variable can be explained by ESE1-ESE4 to the extent of 51.5%. The Intention variable can be explained by In.EED1-In.EED6 to the extent of 96.3%.

The Entrepreneurship Education Ecosystem variable can be explained by In.EED1-In.EED6 to the extent of 94.6%. The Entrepreneurial Behavior variable can be explained by EB-EB7 to the extent of 95.2%. Each observed variable has a high composite reliability value ( $>0.7$ ) as required. Therefore, it can be concluded that these indicators significantly represent dimensions of the latent variable being formed.

Discriminant validity testing indicates that each observed variable has a significant relationship with its respective latent variable, as shown in the following table:

**Table 2.** Discrimination Validity Test

Construct	Att	SN	ESE	Int.	EEE	EB
Attitude (Att)	0.750					
Subjective Norm (SN)	0.425	0.621				
Entrepreneurial self-efficacy (ESE)	0.373	0.487	0.624			
Intention (int.)	0.522	0.428	0.341	0.681		
Entrepreneurship education ecosystem (EEE)	0.228	0.104	0.213	0.502	0.785	
Entrepreneurial behavior	0.151	0.331	0.102	0.571	0.411	0.577

Source: Results of SEM 2023 analysis

There is a comprehensive understanding of entrepreneurial behaviour and intention based on the integration of the Theory of Planned Behaviour and the Entrepreneurship Education Ecosystem (EEE). The integration of the Theory of Planned Behaviour, including factors such as attitude, subjective norms, and perceived entrepreneurial self-efficacy, with the elements of the EEE, such as entrepreneurship curriculum (formal/non-formal programs, extracurricular activities, workshops), the scope of entrepreneurial activities and practices, including technological innovation in entrepreneurship activities, and entrepreneurship research, provides practical opportunities for developing entrepreneurial skills. Additionally, the EEE is also associated with resource support (human resources, materials, financial support, time, space, information), and is supported by visionary leadership in entrepreneurship. This vision creates a conducive environment for fostering entrepreneurship, instilling confidence, and inspiring individuals to navigate crises that may arise within the entrepreneurial ecosystem. The findings of the study suggest that the integration in the proposed



model will contribute to a better understanding and prediction of entrepreneurial behavior and intention.

#### *Causality Test*

All indicators have Critical Ratio (CR) values greater than the values in the table and a significance level of 0.025. The CR values are also greater than the df (degree of freedom) value of 64, which is 1.96. This indicates that each indicator has a significant relationship with its corresponding latent variable. Each latent variable has a significant and positive relationship, as indicated in Figure 1. This can be observed from the standardized regression weights in the following table. The table provides evidence that these relationships are significant.

**Table 3.** Testing The Path (Standardized Regression Weights: (Group number 1 - Default model))

Variable	Path	Variable	Estimate	S.E.	P
Int.	←	Att	0.341	0.071	0.000
Int.	←	SN	0.339	0.084	0.000
Int.	←	ESE	0.343	0.069	0.000
EB	←	Int.	0.59	0.068	0.000
EB	←	ESE	0.203	0.054	0.000
EB	←	EED	0.2	0.071	0.000

Source: Data Processing Results 2023

The results of the causality test indicate that the P-value is significant, and the estimates vary across different paths. The highest influence path is from Intention to Entrepreneurial Behavior with an estimate of 0.59, suggesting a strong relationship between these variables. On the other hand, the lowest influence path is from Int.EED to Entrepreneurial Behavior with an estimate of 0.2, indicating a relatively weaker relationship.

#### *Identification of Problems in the Model*

The identification results indicate that the model does not have any issues. This can be observed from the sample size, which exceeds 200 as recommended by Hair et al. (2014). The normality test results using skewness and kurtosis indicate that the data is normally distributed. No outliers were found as the data collection process included screening to ensure that only outlier-free data was collected.

#### *Evaluation and Repair of Models*

The goodness-of-fit (GOF) evaluation results indicate the need for improvement. The constructed model has GOF values that are not acceptable overall, as not all measurements are adequately represented. Therefore, model improvements were made, yielding the following results.:

**Table 4.** The GOF Model Test

Absolut Fit Measure	Results of Stage 1	Results of repair	Conclusion
p-value	0.000	0.000	Marginal Fit
CMIN	5.421	1.925	Fit
GFI	0.621	0.91	Fit
RMSEA	0.112	0.061	Fit
RMR	0.142	0.042	Fit
<b>Incremental Fit Measure</b>			
AGFI	0.570	0.852	Marginal Fit
CFI	0.629	0.953	Fit
IFI	0.711	0.952	Fit
RFI	0.720	0.965	Fit
<b>Parsimonious Fit Measure</b>			
PNFI	0.668	0.681	Fit
PGFI	0.591	0.612	Marginal Fit

Based on the goodness-of-fit testing, the criteria used indicate that the model fits the available data. Absolute fit indices such as CMIN scored 5.421 before the improvements and 1.925 after the improvements, indicating a good fit. The GFI fit index also improved from 0.621 to 0.91 after the improvements. In terms of incremental fit indices, CFI increased from 0.629 to 0.953 after the improvements, indicating a significant improvement in the model. The IFI value also increased from 0.711 to 0.952 after the improvements. In terms of parsimony fit index, PNFI had a value of 0.668, indicating that the model meets the parsimony criteria. Overall, the test results indicate that the model is accepted after the improvements. The data obtained through the survey aligns with the constructed model in this study. The results of hypothesis testing are as follows:

**Tabel 5.** Testing the hypothesis

Hypothesis	Direct effects $\beta$	Indirect effects $\beta$	Conclusion
Attitude has influences on Entrepreneurial Intentions	0.341		Supported
Subjective norm has influences on Entrepreneurial Intentions	0.339		Supported
Entrepreneurial Self-Efficacy has influences on Entrepreneurial Intentions	0.343		Supported
Intention has positive influences on Entrepreneurial Behavior	0.59		Supported
Intention to Mediate the Influence of Entrepreneurial Self-Efficacy on Enterprise Behavior	0.203	0.20	Supported
The Entrepreneurship Education Ecosystem (EEE) moderates the influence of Intention on Entrepreneurial Behavior	0.59	0.200	Supported

All proposed hypotheses are accepted with varying estimate values. The highest influence on entrepreneurial behavior is intention, with an estimate value of 0.59. Meanwhile, the lowest influence is subjective norm, with an estimate value of 0.339.

## **Discussion**

Understanding behavioral changes in the transition process towards actual entrepreneurial activities is not easy. Although the TPB framework Ajzen, (1991) clearly indicates the mechanisms involved, during the transition period, identification and verification are necessary. Previous studies have shown that intention formation is a complex process. Intention itself does not immediately become the sole predictor of behavior. In fact, intentions can change when there are opportunities or influencing conditions. However, according to research findings, attitudes and behavior have a significant relationship. Changes in behavior can be observed through attitudes. There are environmental dynamics in the design of entrepreneurship education that influence entrepreneurial behavior but are less emphasized in the TPB model, namely the Entrepreneurship Education Ecosystem (EEE). External environments need to receive greater attention. De Sordi et al. (2022), Audretsch (2005), and Shirokova et al. (2016) emphasize the importance of understanding the role of the environment in shaping entrepreneurial behavior. The ecosystem, as an external environment consisting of actors and factors, can even alter an individual's entrepreneurial intentions or, conversely, strengthen entrepreneurship. However, it is important to consider the factors of the Entrepreneurial Education Ecosystem. The interaction between individuals and a positive environment can strengthen entrepreneurial behavior, and the opposite is also true.

Specific factors in Entrepreneurship Education and Ecosystem (EEE) can stabilize or destabilize entrepreneurial intentions. Mentor support, experiential learning programs, and curriculum adjustments tailored to market needs strengthen the transition from intention to actual behavior. The research findings indicate that the transition period among students to become entrepreneurs is a critical phase. Therefore, the role of the Entrepreneurship Education Ecosystem (EEE) cannot be overlooked in the process of shaping entrepreneurial behavior. EEE strengthens intention and behavior. It reinforces the influence of Entrepreneurial Self-Efficacy (ESE) on entrepreneurial behavior. This demonstrates that EEE serves as a complementary model in understanding the mechanisms of behavioral change among students transitioning into entrepreneurs.

Previous studies have also highlighted the important role of EEE in shaping behavior. However, it is necessary to consider the variations within EEE. Although in this study, such variations are relatively low and do not cause contradictions, a more in-depth analysis is still required. This study focuses more on students with the same educational background, namely dental health. There is diversity, as

previously mentioned, especially since the concept of EEE itself is underutilized in universities, as emphasized by El Boury & Qafas (2022) and Igwe et al. (2022), which can result in differences in the magnitude of its influence. Ecosystem variability, for instance, can be seen in the differences between private higher education institutions, whether in the form of universities or polytechnics, where cultural diversity influences intentions and behavior.

Aligned with the construction of EEE as proposed by Liu et al., (2021), the entrepreneurship education ecosystem encompasses intermediate factors that consist of entrepreneurship education processes in higher education institutions, such as entrepreneurship curriculum that fosters skill development, innovation, and even research to explore entrepreneurship from various perspectives, including building sustainability in entrepreneurship based on validated research methods. Studies also indicate that contextual factors such as resources, leadership, operational mechanisms, and organizational structures like incubators and entrepreneurial group memberships will determine the strength of intention to translate into actual behavior. EEE minimizes the occurrence of changes in intention and strengthens the transformation of intention into tangible behavior. The key to optimizing the positive role of the EEE governance environment in line with the goals of entrepreneurship education lies in how the curriculum design can shape students' positive attitudes toward entrepreneurship.

The integration of the Theory of Planned Behavior (TPB) and the Entrepreneurship Education Ecosystem (EEE) can serve as a valuable resource in explaining the changes in entrepreneurial intentions and behaviors. The Theory of Planned Behavior (TPB) is a widely used framework in understanding human behavior, including entrepreneurial behavior. TPB focuses on three key factors that influence behavior: attitude, subjective norms, and perceived behavioral control. In the context of entrepreneurship, attitude refers to individuals' evaluations of entrepreneurship, subjective norms involve individuals' perceptions of social views and support for entrepreneurship from those around them, and perceived behavioral control encompasses individuals' beliefs in their ability to carry out entrepreneurial behavior. Each of these components plays a cognitive role in shaping entrepreneurial intentions and behavior. The EEE provides an environment that strengthens the factors of the Theory of Planned Behavior (TPB) by offering resources, social support, and real-life experiences that enable individuals to develop positive attitudes, supportive social norms, and a high level of behavioral control.

Entrepreneurship Education Ecosystem (EEE) is a framework that encompasses all the factors and stakeholders involved in providing education, training, and resources to support entrepreneurial development. It includes educational institutions, government entities, companies, business incubators, mentors, and the entrepreneurial community. The entrepreneurship education ecosystem provides resources and opportunities for individuals to develop the knowledge, skills, and networks needed to become successful entrepreneurs. EEE

contributes to shaping positive attitudes through an entrepreneurship curriculum that emphasizes hands-on practice, innovation, and real-world work experience. The presence of mentors, government support, and entrepreneurial communities within the EEE strengthens supportive social norms. EEE provides resources such as business incubators, access to funding, and training that enhance individuals' confidence in their entrepreneurial abilities.

This integration can also provide a foundation for the development of more holistic entrepreneurship education programs that not only focus on the development of entrepreneurial knowledge and skills but also consider the psychological and contextual aspects that influence entrepreneurial intentions and behaviors. By understanding the factors within TPB and leveraging the resources available in the Entrepreneurship Education Ecosystem, a more comprehensive approach can be built to enhance individuals' entrepreneurial intentions and behaviors. Such an approach takes into account not only the cognitive factors but also the social, environmental, and cultural factors that shape entrepreneurial aspirations and actions. By addressing these multiple dimensions, entrepreneurship education programs can better support individuals in their entrepreneurial journey and contribute to fostering a vibrant and thriving entrepreneurial ecosystem.

Explanation of the outcomes of entrepreneurship education and the transition to becoming an entrepreneur within diverse ecosystems can involve aspects such as the success rate of new entrepreneurs emerging from these educational programs, the economic impact generated, contributions to innovation and regional economic growth, as well as the relationships and collaborations with businesses, governments, and communities within the entrepreneurial ecosystem. The percentage of students who successfully establish a business within 1-2 years after graduation serves as an indicator of the success of entrepreneurship education in the economic dimension. This success is proven over a 5-year period, demonstrating the competitiveness and competence of entrepreneurs. The innovations launched by university graduates, the number of collaborations with business communities or the government, and the scope of employment opportunities created can also indicate the success of entrepreneurship education. However, implementing entrepreneurship education is not easy. It requires government policies that support the EEE, such as inclusive financing programs, mentoring programs to help students develop business ideas, and assistance in connecting students with markets or investors.

By understanding and explaining the outcomes of entrepreneurship education and the transition to entrepreneurship within diverse ecosystems, this study can provide a more comprehensive insight into the effectiveness of entrepreneurship education and the role of the ecosystem in facilitating entrepreneurial development. It can also offer valuable input for entrepreneurship education providers, ecosystem stakeholders, and policymakers

to enhance entrepreneurship education programs and support sustainable entrepreneurship development.

## CONCLUSION

Entrepreneurship education is a vital component in the process of shaping entrepreneurial behavior. This educational process cannot be separated from understanding the mechanisms of behavioral change based on internal dynamics and their interactions with the environment. Attitude, subjective norm, and self-efficacy play crucial roles in shaping an individual's entrepreneurial intentions and behaviors. The influence of self-efficacy on behavior can be moderated by the existing Entrepreneurship Education Ecosystem (EEE). Strengthening intentions during the transition towards behavior is enhanced by the support of the EEE in higher education institutions. The presence of an Entrepreneurship Education Ecosystem as a form of support and adequate resources enables intentions and behaviors to become integrated processes in realizing tangible actions in entrepreneurship.

The conceptual framework of entrepreneurship education needs to consider factors related to the development of the Theory of Planned Behavior (attitude, subjective norm, and self-efficacy) and ensure support from the Entrepreneurship Education Ecosystem (EEE). Integrating these two theories in entrepreneurship education will help shape strong intentions and translate them into tangible behaviors in entrepreneurship.

These implications highlight the need to consider the role of entrepreneurship education, behavioral determinants, and EEE support in designing effective entrepreneurship education programs. This will help strengthen intentions and connect them to entrepreneurial behaviors, while providing a supportive environment for individuals to develop as young entrepreneurs. Universities can provide comprehensive entrepreneurship education programs, access to mentorship, business resources, and connections to the business world. With an adequate Entrepreneurship Education Ecosystem, universities can become catalysts for individuals to translate intentions into tangible actions in entrepreneurship.

## ACKNOWLEDGMENT

Not Applicable.

## REFERENCES

- Adeel, S., Daniel, A. D., & Botelho, A. (2023). The effect of entrepreneurship education on the determinants of entrepreneurial behaviour among higher education students: A multi-group analysis. *Journal of Innovation and Knowledge*, 8(1), 100324. <https://doi.org/10.1016/j.jik.2023.100324>
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Ajzen, I., & Fishbein, M. (1975). *Belief, attitude, intention, and behavior: An*

- introduction to theory and research*. MA: Addison-Wesley.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. In *Englewood cliffs*. Prentice-hall.
- Al-Mamary, Y. H. S., & Alraja, M. M. (2022). Understanding entrepreneurship intention and behavior in the light of TPB model from the digital entrepreneurship perspective. *International Journal of Information Management Data Insights*, 2(2), 100106. <https://doi.org/10.1016/j.jjime.2022.100106>
- Alferaih, A. (2022). Starting a New Business? Assessing University Students' Intentions towards Digital Entrepreneurship in Saudi Arabia. *International Journal of Information Management Data Insights*, 2(2), 100087. <https://doi.org/10.1016/j.jjime.2022.100087>
- Ali, J., & Jabeen, Z. (2020). Understanding entrepreneurial behavior for predicting start-up intention in India: Evidence from global entrepreneurship monitor (GEM) data. *Journal of Public Affairs*, 22(1). <https://doi.org/10.1002/pa.2399>
- Aliedan, M. M., Elshaer, I. A., Alyahya, M. A., & Sobaih, A. E. E. (2022). Influences of University Education Support on Entrepreneurship Orientation and Entrepreneurship Intention: Application of Theory of Planned Behavior. *Sustainability (Switzerland)*, 14(20). <https://doi.org/10.3390/su142013097>
- Alshebami, A. S., Seraj, A. H. A., & Alzain, E. (2022). Lecturers' Creativity and Students' Entrepreneurial Intention in Saudi Arabia. *Vision*, May. <https://doi.org/10.1177/09722629221099596>
- Amofah, K., & Saladrigues, R. (2022). Impact of attitude towards entrepreneurship education and role models on entrepreneurial intention. *Journal of Innovation and Entrepreneurship*, 11(1). <https://doi.org/10.1186/s13731-022-00197-5>
- 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 and Training*. <https://doi.org/10.1108/ET-01-2021-0020>
- Ashari, H., Abbas, I., Abdul-talib, A. N., & Mohd Zamani, S. N. (2022). Entrepreneurship and Sustainable Development Goals: A Multigroup Analysis of the Moderating Effects of Entrepreneurship Education on Entrepreneurial Intention. *Sustainability (Switzerland)*, 14(1). <https://doi.org/10.3390/su14010431>
- Audretsch, D., Grimm, H., Wessner, C. W., & Welter, F. (2005). Entrepreneurial behavior in differing environments. Local heroes in the global village: Globalization and the new entrepreneurship policies, 93-112.
- Awaah, F., Okebukola, P., Shabani, J., Arkorful, H., & Addo, D. A. (2023). Students' career interests and entrepreneurship education in a developing country. *Higher Education, Skills and Work-Based Learning*, 13(1), 148–160. <https://doi.org/10.1108/HESWBL-05-2022-0110>
- Azim, M. T., & Islam, M. M. (2022). Role of religiosity, social factors, and perceived

- subjective norms on entrepreneurial intention: a study on tertiary level students. *Journal of Global Entrepreneurship Research*, 12(1), 341–356. <https://doi.org/10.1007/s40497-022-00333-1>
- Banha, F., Coelho, L. S., & Flores, A. (2022). Entrepreneurship Education: A Systematic Literature Review and Identification of an Existing Gap in the Field. *Education Sciences*, 12(5). <https://doi.org/10.3390/educsci12050336>
- 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). <https://doi.org/10.1016/j.iedeen.2021.100184>
- Belitski, M., & Heron, K. (2017). Expanding entrepreneurship education ecosystems. *Journal of Management Development, Unit 07*, 1–5.
- Carpenter, A., & Wilson, R. (2022). A systematic review looking at the effect of entrepreneurship education on higher education student. *International Journal of Management Education*, 20(2), 100541. <https://doi.org/10.1016/j.ijme.2021.100541>
- Che Nawi, N., Mamun, A. Al, Hassan, A. A., Wan Ibrahim, W. S. A. A., Mohamed, A. F., & Permarupan, P. Y. (2022). Agro-Entrepreneurial Intention among University Students: a study under the premises of Theory of Planned Behavior. *SAGE Open*, 12(1). <https://doi.org/10.1177/21582440211069144>
- Cui, J. (2021). The Influence of Entrepreneurial Education and Psychological Capital on Entrepreneurial Behavior Among College Students. *Frontiers in Psychology*, 12(November). <https://doi.org/10.3389/fpsyg.2021.755479>
- Cui, J., & Bell, R. (2022). Behavioural entrepreneurial mindset: How entrepreneurial education activity impacts entrepreneurial intention and behaviour. *International Journal of Management Education*, 20(2). <https://doi.org/10.1016/j.ijme.2022.100639>
- Dabbous, A., & Boustani, N. M. (2023). Digital Explosion and Entrepreneurship Education: Impact on Promoting Entrepreneurial Intention for Business Students. *Journal of Risk and Financial Management*, 16(1). <https://doi.org/10.3390/jrfm16010027>
- De Sordi, J. O., dos Santos, A. R., de Azevedo, M. C., Jorge, C. F. B., & Hashimoto, M. (2022). Dark, down, and destructive side of entrepreneurship: unveiling negative aspects of unsuccessful entrepreneurial action. *The international journal of management education*, 20(3), 100659.
- Duong, C. D. (2022). Exploring the link between entrepreneurship education and entrepreneurial intentions: the moderating role of educational fields. *Education+ Training*, 64(7), 869–891.
- El Boury, M., & Qafas, A. (2022). Improving the entrepreneurial ecosystem through education: The influence of entrepreneurship education on students' entrepreneurial intention in Morocco—A quantitative survey. *Journal of the International Council for Small Business*, 3(4), 303–313.
- Elnadi, M., & Gheith, M. H. (2021). Entrepreneurial ecosystem, entrepreneurial



- self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *International Journal of Management Education*, 19(1), 100458. <https://doi.org/10.1016/j.ijme.2021.100458>
- Ferreira, A. da S. M., Loiola, E., Gondim, S. M. G., & Pereira, C. R. (2022). Effects of Entrepreneurial Competence and Planning Guidance on the Relation Between University Students' Attitude and Entrepreneurial Intention. *Journal of Entrepreneurship*, 31(1), 7–29. <https://doi.org/10.1177/09713557211069261>
- Gieure, C., Benavides-Espinosa, M. del M., & Roig-Dobón, S. (2020). The entrepreneurial process: The link between intentions and behavior. *Journal of Business Research*, 112(November), 541–548. <https://doi.org/10.1016/j.jbusres.2019.11.088>
- Haneberg, D. H., Aaboen, L., & Williams Middleton, K. (2022). Teaching and facilitating action-based entrepreneurship education: Addressing challenges towards a research agenda. *International Journal of Management Education*, 20(3), 100711. <https://doi.org/10.1016/j.ijme.2022.100711>
- Igwe, P. A., Madichie, N. O., Chukwuemeka, O., Rahman, M., Ochinanwata, N., & Uzuegbunam, I. (2022). Pedagogical Approaches to Responsible Entrepreneurship Education. *Sustainability (Switzerland)*, 14(15), 1–16. <https://doi.org/10.3390/su14159440>
- Jamshidi, O., & Shafiee, F. (2023). Students' Perspective Regarding Entrepreneurial and Startup Education Status in Agricultural Universities. *Journal of Agricultural Science and Technology*, 25(1), 33–46. <https://doi.org/10.52547/jast.25.1.33>
- Killingberg, N. M., Kubberød, E., & Pettersen, I. B. (2022). Exploring the Transition to Working Life of Entrepreneurship Education Graduates: A Longitudinal Study. *Entrepreneurship Education and Pedagogy*, 6(2), 251512742211083. <https://doi.org/10.1177/25151274221108354>
- Kim, M. G., Lee, J. H., Roh, T., & Son, H. (2020). Social entrepreneurship education as an innovation hub for building an entrepreneurial ecosystem: The case of the kaist social entrepreneurship mba program. *Sustainability (Switzerland)*, 12(22), 1–23. <https://doi.org/10.3390/su12229736>
- Kim, M., & Park, M. J. (2019). Entrepreneurial education program motivations in shaping engineering students' entrepreneurial intention: The mediating effect of assimilation and accommodation. *Journal of Entrepreneurship in Emerging Economies*, 11(3), 328–350. <https://doi.org/10.1108/JEEE-08-2018-0082>
- Kumar, R., & Shukla, S. (2022). Creativity, Proactive Personality and Entrepreneurial Intentions: Examining the Mediating Role of Entrepreneurial Self-efficacy. *Global Business Review*, 23(1), 101–118. <https://doi.org/10.1177/0972150919844395>
- Lee, K. C. S. (2022). Teaching Entrepreneurship Education (EE) Online During Covid-19 Pandemic: Lessons learned from a Participatory Action Research (PAR) in

- a Malaysian Public University. *SAGE Open*, 12(1).  
<https://doi.org/10.1177/21582440221082126>
- Li, Y., Mohd Nordin, N. R., Akhter, S., Kumar, T., & Shaheen, M. (2022). Does green entrepreneurial behavior enhance through entrepreneurship education, perceived-ability to use technology, and commitment to environment? Understanding the contribution of entrepreneurial motivation and university support. *Economic Research-Ekonomika Istrazivanja*, 36(3).  
<https://doi.org/10.1080/1331677X.2022.2153375>
- Lihua, D. (2022). An Extended Model of the Theory of Planned Behavior: An Empirical Study of Entrepreneurial Intention and Entrepreneurial Behavior in College Students. *Frontiers in Psychology*, 12(January).  
<https://doi.org/10.3389/fpsyg.2022.627818>
- Liu, H., Kulturel-Konak, S., & Konak, A. (2021). Key elements and their roles in entrepreneurship education ecosystem: Comparative review and suggestions for sustainability. *Sustainability (Switzerland)*, 13(19).  
<https://doi.org/10.3390/su131910648>
- Liu, M., Gorgievski, M. J., Qi, J., & Paas, F. (2022). Increasing teaching effectiveness in entrepreneurship education: Course characteristics and student needs differences. *Learning and Individual Differences*, 96(April), 102147.  
<https://doi.org/10.1016/j.lindif.2022.102147>
- Liu, M., Gorgievski, M. J., Zwaga, J., & Paas, F. (2023). How entrepreneurship program characteristics foster students' study engagement and entrepreneurial career intentions: A longitudinal study. *Learning and Individual Differences*, 101(November 2022), 102249.  
<https://doi.org/10.1016/j.lindif.2022.102249>
- Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in Psychology*, 10(APR), 1–9.  
<https://doi.org/10.3389/fpsyg.2019.00869>
- Maritz, A., Nguyen, Q., & Hsieh, H. M. (2021). Exploring the strategic intent and practices of university accelerators: A case of australia. *Sustainability (Switzerland)*, 13(19), 1–11. <https://doi.org/10.3390/su131910769>
- Martins, I., Perez, J. P., & Novoa, S. (2022). Developing orientation to achieve entrepreneurial intention: A pretest-post-test analysis of entrepreneurship education programs. *International Journal of Management Education*, 20(2), 100593. <https://doi.org/10.1016/j.ijme.2021.100593>
- Pham, H. H., & Le, T. L. (2023). Entrepreneurial education and entrepreneurial intention among higher education students in Vietnam: do entrepreneurial self-efficacy and family support matter? *Higher Education, Skills and Work-Based Learning*, 13(2), 403–422.
- Shirokova, G., Galieva, N., Doktorova, D., White, J. V., & Marino, L. (2024). Strategic entrepreneurial behaviors and firm performance: the moderating role of narcissism and Machiavellianism. *Journal of Small Business and Enterprise*

- Development*, 31(1), 191-225.
- Sniehotta, F. F., Presseau, J., & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychology Review*, 8(1), 1–7. <https://doi.org/10.1080/17437199.2013.869710>
- Sorensen, O. J., & Kuada, J. (2022). Practitioner viewpoint Problembased approach to entrepreneurship education in Africa. *African Journal of Economic and Management Studies*, 13(2), 311–317.
- Spigel, B. (2022). Examining the cohesiveness and nestedness entrepreneurial ecosystems: evidence from British FinTechs. *Small Business Economics*, 59(4), 1381–1399. <https://doi.org/10.1007/s11187-021-00589-z>
- Stam, E., & Spigel, B. (2016). Entrepreneurial Ecosystems. *Discussion Paper*, 16(13).
- Trabskaia, I., Gorgadze, A., Raudsaar, M., & Myrskyläinen, H. (2023). A Bibliometric Analysis of Social Entrepreneurship and Entrepreneurial Ecosystems. *Administrative Sciences*, 13(3), 75. <https://doi.org/10.3390/admsci13030075>
- Tseng, T. H., Wang, Y. M., Lin, H. H., Lin, S. jeng, Wang, Y. S., & Tsai, T. H. (2022). Relationships between locus of control, theory of planned behavior, and cyber entrepreneurial intention: The moderating role of cyber entrepreneurship education. *International Journal of Management Education*, 20(3), 100682. <https://doi.org/10.1016/j.ijme.2022.100682>
- Walidayni, C. T., Dellyana, D., & Chaldun, E. R. (2023). Towards SDGs 4 and 8: How Value Co-Creation Affecting Entrepreneurship Education's Quality and Students' Entrepreneurial Intention. *Sustainability (Switzerland)*, 15(5). <https://doi.org/10.3390/su15054458>
- Walsh, K., Nelles, J., & Stephens, S. (2023). Recycling in entrepreneurial ecosystems: the phenomenon of boomeranging. *R and D Management*, 1–19. <https://doi.org/10.1111/radm.12572>
- Wang, S. Y., Wu, X. L., Xu, M., Chen, Q. X., & Gu, Y. J. (2021). The Evaluation of Synergy between University Entrepreneurship Education Ecosystem and University Students' Entrepreneurship Performance. *Mathematical Problems in Engineering*, 2021. <https://doi.org/10.1155/2021/3878378>
- Wang, X. H., You, X., Wang, H. P., Wang, B., Lai, W. Y., & Su, N. (2023). The Effect of Entrepreneurship Education on Entrepreneurial Intention: Mediation of Entrepreneurial Self-Efficacy and Moderating Model of Psychological Capital. *Sustainability (Switzerland)*, 15(3). <https://doi.org/10.3390/su15032562>
- Wurth, B., Stam, E., & Spigel, B. (2021). Toward an Entrepreneurial Ecosystem Research Program. *Entrepreneurship: Theory and Practice*. <https://doi.org/10.1177/1042258721998948>
- Zamfirache, A., Suci, T., Anton, C. E., Albu, R.-G., & Ivasciuc, I.-S. (2023). The Interest Shown by Potential Young Entrepreneurs in Romania Regarding Feasible Funding Sources, in the Context of a Sustainable Entrepreneurial Education. *Sustainability*, 15(6), 4823. <https://doi.org/10.3390/su15064823>