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Entrepreneurship Education Position and Entrepreneurial Intention: The Perception of Malaysian Undergraduate Students

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Abstract

This article evaluates the impact of entrepreneurial education factors, personal attitude, perceived behavioural control, and subjective norms on the entrepreneurial intentions of undergraduate students. Data were gathered from 311 final-year students at public universities in Malaysia's east coast, covering Social Sciences and Science and Technology fields. Descriptive and multiple regression analyses were adopted for data analysis. The study reveals high reliability and validity for Personal Attitude, Perceived Subjective Norm, Perceived Behavioral Control, Entrepreneurial Education, and Entrepreneurship Intention constructs among undergraduate students. Cronbach's alpha coefficients range from 0.857 to 0.961, indicating internal consistency reliability. Positive attitudes towards entrepreneurship and strong intentions were observed among respondents. Notably, entrepreneurship education positively correlates with entrepreneurial intention, especially among social science students and the overall sample. Personal attitude and perceived behavioural control significantly influence entrepreneurial intention, while the perceived subjective norm factor exhibits a positive relationship solely within the overall sample. Social Science students display higher entrepreneurial intentions compared to their Science and Technology counterparts. Policymakers and university administrators play a pivotal role in understanding and fostering entrepreneurial intentions among students. Addressing cognitive factors and enhancing the entrepreneurship curriculum within the campus ecosystem are crucial. This study contributes valuable insights into the influence of entrepreneurial education and related factors on undergraduate students' entrepreneurial intentions, highlighting the significance of policy and educational interventions in fostering an entrepreneurial mindset.

Keywords: entrepreneurial education, entrepreneurial intention, perceived behavioural control, perceived subjective norm, personal attitude

1. Introduction

1.1 Background of the Study

Entrepreneurship is a major thrust area for generating economic growth in a country. New businesses bring new jobs, increased incomes, and added value, often by introducing new ideas, technologies, and products to society. Each country has its approach to empowering the field of entrepreneurship in their economic planning. In Malaysia, among the groups targeted for entrepreneurship development are students at the higher institution level. These groups have a great potential to make an entrepreneurial shift because they are perceived as more viable, creative, and innovative, considering current economic needs and challenges. The government's role in ensuring the effectiveness of entrepreneurship education at the university level not only involves the strengthening of the entrepreneurship education curriculum but also ensures the existence of a university ecosystem with an entrepreneurial concept to stimulate interest and strengthen entrepreneurial culture among students. Among the strategies that have been implemented are the establishment of entrepreneurship centers in each university, the provision of planned and holistic education and entrepreneurship programs, the assurance on conducive environment, and the entrepreneurship competencies enhancement among the teaching workforces.

The Higher Education Institutions Entrepreneurship Action Plan (EAP-HEIs 2021-2025) is one of the government's latest initiatives aimed at producing entrepreneurial graduates with strong entrepreneurial characteristics in line with global competition. The plan aims to formulate strategies for empowering the entrepreneurial agenda in higher education institutions (HEIs), as well as foster entrepreneurial thinking and produce knowledgeable, highly skilled, and competitive graduate entrepreneurs (Malaysia, 2020). This plan, in general, focuses on three strategic thrusts: strengthening a synergistic and holistic entrepreneurial ecosystem with various parties; strengthening high-impact entrepreneurial networks; and emphasizing innovation and technology-based entrepreneurship in line with the latest technological developments such as e-commerce, financial technology (Fintech), big data, and the Internet of Things (IoT) that can add value to students. The strategy aligns with the ministry's objective of fostering a collaborative entrepreneurial ecosystem within the country's higher education landscape, involving multiple stakeholders such as academia, industry, government, and the community. This approach is endorsed by the Education Guide, reinforcing its importance and relevance in achieving the ministry's goals. Integrated Entrepreneurship (HEI) is a new mechanism aimed at improving existing entrepreneurship development programs. The approach is designed to be more comprehensive, considering both global and domestic developments.

The emphasis on the element of innovation in entrepreneurial development at the university level is consistent with Schumpeter's Theory of Economic Development (1934). In general, the concept of economic development refers to the importance of entrepreneurs and entrepreneurship based on five reforms: product introduction, technology creation, market exploration, raw material resource discovery, and organisational structure formation. Innovations that occur because of entrepreneurial activities cause changes that are said to

have the power of creative destruction, which is a shift in balance that leads to economic change. The changes that take place will be triggered by industry players who are highly educated and have high innovative power because of the government's holistic planning. Despite various efforts, the government continues to face issues related to entrepreneurship education, such as the effectiveness of education and entrepreneurship programs in HEIs, governance at the university level, networking with industry, and teaching staff competencies. All the issues that have arisen are among the causes that inhibit students' interest in entrepreneurship. According to the Global Entrepreneurship Monitor (2018), despite having high entrepreneurial potential, Malaysia (17.6%) has a lower percentage of entrepreneurial intentions than the other three ASEAN countries: Indonesia (28.1%), Thailand (37.4%), Vietnam (24.96%), and South Korea (22.8%). Although the factor of entrepreneurship education is important in influencing students' inclination towards entrepreneurship, the factor is not so significant in some countries due to various constraints, especially those related to the entrepreneurial ecosystem. In addition to assessing the position of education factors on entrepreneurial intention, this paper also analysed several other factors, including three elements of behaviour associated with the Theory of Planned Behavior by Ajzen (2002). The findings of the study also provide important input to policymakers in formulating more effective strategies to increase the intention and involvement of target groups in the field of entrepreneurship.

Furthermore, Ajzen's Theory of Planned Behavior is a psychological theory explaining intentions influenced by motivational factors determining a person's behavior. Melvin (1979) defined intention as the tendency to assess or respond to a person, situation, or environment in a way with positive or negative implications. Krueger (1993) defined intention as a commitment to forming the behavior required to physically initiate an effort. According to Ajzen (1991), the stronger the intention to engage in the behavior, the greater the likelihood of achieving the performance. Although several studies showed conflicting results, Linan and Chen (2009) explained the Theory of Planned Behavior as appropriate for explaining entrepreneurial intentions. Entrepreneurial intention refers to a person's behavior in carrying out entrepreneurial activities, which can be associated with the theory's three factors (personal attitude, perceived subjective norm, and perceived behavioral control). In addition to the three elements in the cognitive factor, studies have attempted to link entrepreneurial intention with various other factors, including the entrepreneurial education factor (Ozaralli & Rivenburgh, 2016; Mykolenko et al., 2022; Bazkiaei et al., 2021; Lv et al., 2021), perceived structural support (Maritz et al., 2021; Anjum et al., 2022; Tucker & Selcuk, 2009; Cera, 2021), and situational factors (Boyd & Vozikis, 1994; Lee & Wong, 2004).

1.2 Entrepreneurial Education

Entrepreneurship education is defined as a learning process that supports individual activities, behaviours, and views on entrepreneurship. The entrepreneurship education curriculum that was formed is aimed at building entrepreneurial knowledge, skills, attitudes, behaviours, and motivation to ensure entrepreneurial success among students. According to Souitaris et al. (2007) and Solesvik (2013), participation in entrepreneurship education programs serves as a significant catalyst for shaping attitudes, intentions, and motivation towards entrepreneurship.

Individuals engaging in such programs are more likely to harbour higher entrepreneurial intentions and motivation, consequently increasing their likelihood of becoming entrepreneurs. While Mykolenko et al. (2022) stressed the focal role of teaching methods utilised in entrepreneurship education, suggesting its potential to positively impact individuals' attitudes toward entrepreneurship, perceptions of starting a business, and subsequent entrepreneurial intentions. Gerba (2012), Duong (2021), and Nikitina et al. (2022) discovered that individuals studying Business and Economics-based fields tend to exhibit higher entrepreneurial intentions compared to their counterparts in the Science and Technology stream. Continuous exposure to entrepreneurship and the development of entrepreneurial competence through education can further influence entrepreneurial intentions (Lv et al., 2021). Various elements such as entrepreneurial curriculum, teaching methodologies, fields of study, and environmental factors collectively contribute to shaping entrepreneurial intentions. Numerous studies, including Tucker and Selcuk (2009), Ozaralli and Rivenburgh (2016), Mykolenko et al. (2022), Bazkiaei et al. (2021), Lv et al. (2021), Ezeh et al. (2020), and Puni et al. (2018), have provided empirical evidence underscoring the significance of entrepreneurial education factors in shaping entrepreneurial intentions. Based on the importance of entrepreneurial education's influence on entrepreneurial intention, the study made the following hypothesis:

H1: Entrepreneurial education is positively related to the entrepreneurial intentions of undergraduate students.

1.3 Cognitive Factors

The Theory of Planned Behavior explains that personal attitude and perceived behavioural control among individuals are among the important factors that can influence a person's tendency to engage in entrepreneurship. Attitude refers to one's mental inclination towards people and situations before making decisions that shape behaviour. According to Kolvereid (1996), attitude towards entrepreneurship refers to a personal desire to become an entrepreneur. They have high confidence in the field of entrepreneurship, such as the advantages of being an entrepreneur, having opportunities and a wide variety of resources, engaging in very interesting activities, providing high satisfaction, and having the best career choice (Linan & Chen, 2009). Individual attitude factors that can shape entrepreneurial intentions are also associated with behaviours such as self-efficacy, autonomy, risk-taking, proactive, aggressive, and competitive (Al-Mamary et al., 2020). Many studies have empirically explained the importance of personal attitude factors in influencing entrepreneurial intention, including Al-Shammari and Waled (2018); Biwas and Verma (2022); Garcia-Uceda et al. (2022); Anjum et al. (2022); Al-Mamary (2020); Bazkiaei et al. (2021); Qazi et al. (2021); Duong (2021); and Mustafa et al. (2016). This brings us to the following hypothesis:

H2: Perceived Personal attitude is positively related to the entrepreneurial intentions of undergraduate students.

Perceived behavioural control, as defined by Linan and Chen (2009), relates to the perception of the difficulty involved in adopting the behavior necessary to become an entrepreneur. It

encompasses an individual's perception of their ability to manage factors that may facilitate or impede behavioral performance, as outlined by Ajzen (2002). This factor correlates with an individual's confidence level in entrepreneurial pursuits, including their grasp of the business initiation process and their belief that entrepreneurship is manageable, with a high likelihood of success. Empirical evidence from various studies (Al-Shammari & Waled, 2018; Ezeh et al., 2020; Duong, 2021; Ahmed et al., 2020; Al-Mamary et al., 2020; Maresch et al., 2016; and Bazkiaei et al., 2021) consistently indicates a significant positive influence of perceived behavioural control on entrepreneurial intention. In essence, individuals who possess the ability to navigate challenges and maintain a favourable perception of behavioural shaping tend to exhibit heightened entrepreneurial intentions. Thus, the following hypothesis is proposed:

H3: Perceived behavioural control is positively related to the entrepreneurial intentions of undergraduate students.

Perceived subjective norm refers to the social influence affecting an individual's actions (Solesvik, 2013). It encompasses the belief that individuals or groups of significant people in one's environment, such as close family members, friends, colleagues, lecturers, and successful entrepreneurs, may shape entrepreneurial intentions (Linan & Chen, 2009; Kolvereid, 1996). This reference group holds considerable sway over an individual's positive attitude towards entrepreneurship (Mykolenko et al., 2022). Research by Solesvik (2013), Bazkiaei et al. (2021), Gelaidan and Abdullateef (2017), Moreno-Gomez et al. (2020), and Mykolenko et al. (2022) has consistently demonstrated a significant positive relationship between perceived subjective norm factors and entrepreneurial intention. However, studies conducted by Duong (2021), Al-Mamary (2020), and Otache et al. (2019) argued these factors do not influence entrepreneurial intention. Feeling supported by a reference group fosters more positive entrepreneurial intentions, as the presence of existing support serves as motivation for individuals to align their behavior with entrepreneurial goals. Considering the impact of subjective norms on entrepreneurial intention, the researcher formulate the following hypothesis:

H4: The perceived subjective norm is positively related to the entrepreneurial intention of undergraduate students.

2. Method

2.1 Sample

The study population comprised 420 final-semester bachelor's degree students from public universities on the east coast of Malaysia. Researchers selected students in this category due to their exposure to various entrepreneurial environments, including entrepreneurship courses within the curriculum. Sekaran's (1992) proposed sample size determination method recommends a minimum of 201 participants for the study. To achieve this, researchers divided the population into four faculties of study: Business Management, Accounting, Hotel and Tourism Management, Computer Science and Mathematics, using a stratified sampling method. They determined the sample size for each stratum based on the ratio of the stratum's

population to the total population. Table 1 displays the population numbers and sampling details.

Table 1. Population and Sample

Faculty	Population	Suggested samples*	Actual sample (n=311)
Social Science			
B Business management	218	104	119
Accounting	24	12	20
Hotel and Tourism Management	95	45	91
Science and Technology			
Computer Science and Mathematics	83	40	81
Total	420	201	311

Researchers collected study data by distributing questionnaires via Google Forms through the academic advisor of each group's students. A total of 311 respondents (74.0%) completed the questionnaire and provided feedback, surpassing the recommended minimum sample size as shown in Table 1.

2.2 Measurement

The study focused on measuring the level of entrepreneurial intention among participants utilising a seven-point Likert scale, where 1 denoted "strongly disagree" and 7 indicated "strongly agree". The measurement variables are all adopted from Linan and Chen's (2009) methodology. Six elements were utilised, including willingness to pursue entrepreneurship, aspirations towards entrepreneurship as a career, determination to establish a business in the future, contemplating entrepreneurship seriously, or having strong intentions to initiate a business. Four dependent variables were categorised based on cognitive factors (personal attitude, perceived subjective norm, and perceived behavioural control) and entrepreneurial education. The personal attitude variable comprised five elements, encompassing recognition of the benefits of entrepreneurship, viewing entrepreneurship as an appealing career option, and deriving high satisfaction from it. The perceived behavioural control variable encompassed self-confidence elements such as readiness to embark on a viable business venture, the ability to establish a new business, familiarity with entrepreneurial project development, and confidence in achieving success in the business.

The perceived subjective norm variable was adjusted based on Linan and Chen's (2009) model. It now includes the lecturer's role and emphasises the support provided by immediate family and friends for starting a business, replacing the peer support element. Entrepreneurial education refers to the learning environment for entrepreneurship at the university. It includes six factors: increasing interest in entrepreneurship, developing entrepreneurial skills, providing business knowledge, offering entrepreneurial experience, boosting confidence, and focusing on entrepreneurial activities within the university.

3. Results

The reliability analysis using Cronbach's α coefficient is presented in Table 2. Results indicate that the Cronbach's α values for all six study variables exceeded 0.8, suggesting high internal consistency and reliability for inclusion in the study model. Additionally, factor loadings ranging from 0.753 to 0.928 demonstrated strong associations between the variables and their respective elements. To ensure normality of the study data, a two-step approach was employed to transform continuous variables, rendering them suitable for analysis using parametric methods such as multiple regression.

Table 2. Entrepreneurship intention and influence factors

	Construct/measure	Cronbach's α	Mean	SD	Factor Loading
	Personal Attitude	0.902			
PA1	Being an entrepreneur implies more advantages than disadvantages for me		4.111	0.781	0.785
PA2	A career as an entrepreneur is attractive to me		4.183	0.788	0.875
PA3	If I had the opportunity and resources, I'd like to start a firm		4.206	0.821	0.856
PA4	Being an entrepreneur would entail great satisfaction for me		4.029	0.885	0.886
PA5	Among various options, I would rather be an entrepreneur.		3.672	0.985	0.847
	Perceived Subjective Norm	0.857			
SN1	My friends would approve of my decision to start a business		3.807	0.824	0.885
SN2	My close family would approve of my decision to start a business		3.981	0.855	0.901
SN3	My lecturer would support my decision to be involved in business.		3.945	0.811	0.859
	Perceived behavioural Control	0.910			
BC1	Starting a business and keeping it working would be easy for me		3.010	1.100	0.775
BC2	I am prepared to start a viable business		3.653	0.920	0.799
BC3	I can control the creation process of a new business		3.357	0.932	0.891
BC4	I know the necessary practical details to start a business		3.370	0.952	0.840
BC5	I know how to develop an entrepreneurial project		3.315	0.918	0.831
BC6	If I tried to start a business, I would have a high probability of succeeding.		3.405	0.921	0.870
	Entrepreneurial Education	0.926			
EE1	Education at the University has increased my interest in entrepreneurship		3.785	0.895	0.833
EE2	The curriculum at the University has enhanced my entrepreneurial skills and abilities		3.755	0.858	0.897
EE3	Entrepreneurship courses at the university have built a lot of knowledge about business		3.894	0.826	0.848
EE4	Studying at university has provided a very useful entrepreneurial experience		3.907	0.788	0.903
EE5	The university managed to increase my confidence in entrepreneurship		3.804	0.813	0.898
EE6	The university places great emphasis on entrepreneurial activities		3.855	0.808	0.753
	Entrepreneurship Intention	0.961			
EI1	I am ready to do anything to be an entrepreneur		3.653	0.944	0.902
EI2	My professional goal is to become an entrepreneur		3.460	1.008	0.909
EI3	I will make every effort to start and run my own business		3.704	0.972	0.919
E14	I am determined to create a business in the future		3.979	0.984	0.916
E15	I have very seriously thought of starting a business		3.621	0.986	0.922
EI6	I have the firm intention of starting a business someday		3.646	1.043	0.928

Table 3. Descriptive Statistics and Correlations

Variables	Mean	SD	1	2	3	4	5
1. Entrepreneurial education	0.5206	0.1418					
2. Personal attitude	0.5182	0.1365	0.677***	1			
3. Perceived subjective norm	0.5183	0.1342	0.677***	0.652***	1		
4. Perceived behavioral control	0.5217	0.1459	0.651***	0.675***	0.574***	1	
5. Entrepreneurial intention	0.5199	0.1407	0.696***	0.812***	0.720***	0.646***	1

The descriptive analysis, including mean, standard deviation, and correlations between variables, is presented in Table 3. Data were analysed across three groups: social science, science and technology, and the entire sample. The mean value (M = 0.521) indicated a decent level of agreement among respondents regarding the influence of entrepreneurship education factors. This suggests that participation in entrepreneurship courses significantly impacted their interest in the field. Furthermore, the correlation analysis revealed moderate relationships between the variables. Collinearity tests for all constructs indicated tolerance values above 0.2 and variance inflation factors below 10, indicating the absence of multi collinearity issues and supporting the use of multiple regression analysis for data interpretation.

Table 4. Result of Multiple Regression Analysis

Variables	**Model 1**			**Model 2**		
	SS	**S & T**	**Overall**	**SS**	**S & T**	**Overall**
	(*n* =231)	**(*n*= 80)**	**(*n*=311)**	**(*n* =231)**	**(*n*= 80)**	**(*n*=311)**
Entrepreneurship education	-	-	-	0.143***	0.067	0.144***
Cognitive factors						
Personal attitude	0.520***	0.571***	0.533***	0.483***	0.554***	0.494***
Perceived behavioural control	0.301***	0.258***	0.281***	0.259***	0.238**	0.242***
Perceived subjective norm	0.122**	0.139*	0.137***	0.076	0.114	0.087**
R^2	0.700	0.780	0.724	0.709	0.781	0.733
Adjusted R^2	0.696	0.771	0.721	0.704	0.770	0.729
R^2 Change	0.700	0.780	0.724	0.009	0.001	0.008
F statistics	176.68***	89.77***	268.68***	137.68***	67.02***	209.63***

The results of the multiple regression analysis are presented in Table 4. Model 1 includes three elements representing the cognitive factor (personal attitude, perceived subjective norm, and perceived behavioural control), while Model 2 incorporates entrepreneurial education

variables to enhance model estimation. The primary aim of the study was to assess the impact of entrepreneurial education on entrepreneurial intentions among undergraduates. By examining both models separately, the study could elucidate changes in the explanatory power of the model (R2). The findings revealed that all R2 values, across the analysis groups, exceeded 70 percent. Notably, Model 2 exhibited an increase in R2 for all analysed groups. In Model 1, the three variables explained 72.4 percent of the variance in entrepreneurial intention. After incorporating the entrepreneurial education variable, the total variance explained by the model increased to 73.3 percent, $F(4, 306) = 209.63$, $p < 0.001$. A significant change in R2 was observed, $\Delta R2 = 0.008$, F change $(1, 306) = 9.682$, $p < 0.05$. This suggests that the inclusion of the entrepreneurship education factor provided a more comprehensive explanation for the variation in entrepreneurial intention among undergraduates.

In testing the research hypotheses, emphasis was placed on Model 2, which encompassed all research variables. The results of the study indicated that the entrepreneurship education factor exerted a significant positive impact on the undergraduate group majoring in social sciences ($\beta = 0.143$, $p < 0.001$), while it did not reach significance for students in the science and technology field. Nevertheless, analysis of the overall sample ($\beta = 0.144$, $p < 0.001$) revealed a significant positive association between the entrepreneurial education factor and entrepreneurial intention, thus partially confirming H1. As illustrated in Table 5, mean values for all elements of entrepreneurial education were higher among social science students compared to their counterparts in science and technology. Furthermore, t-test analysis indicated a noteworthy disparity between the groups across all six measurement elements used to explain the efficacy of entrepreneurship education.

Table 5. Satisfaction level of the respondents over elements of entrepreneurship education

Items	**SS (*n* = 231)**		**S & T (*n* = 80)**		**t-stat**
	Mean	**SD**	**Mean**	**SD**	
EE1. Education at the university has increased my interest in entrepreneurship	3.8571	0.9096	3.5750	0.8233	2.448**
EE2. The curriculum at the university has enhanced my entrepreneurial skills and abilities	3.8783	0.8681	3.4000	0.7222	4.423***
EE3. Entrepreneurship courses at the university have built a lot of knowledge about business	3.9784	0.8416	3.6500	0.7309	3.107***
EE4. Studying at university has provided a very useful entrepreneurial experience	4.000	0.7913	3.6375	0.7159	3.616***
EE5. The university managed to increase my confidence in entrepreneurship	3.8874	0.8264	3.5625	0.7264	3.123***
EE6. The university places great emphasis on entrepreneurial activities	3.9524	0.8248	3.5750	0.6894	3.671***

In Model 2, the analysis revealed significant positive relationships between the personal attitude factor and entrepreneurial intention for the social science group ($\beta = 0.483$, $p < 0.001$), the science and technology group ($\beta = 0.554$, $p < 0.001$), as well as the overall sample ($\beta = 0.494$, $p < 0.001$), confirming H2. Similarly, significant positive relationships were found between perceived behavioural control and entrepreneurial intention factors for the social science group ($\beta = 0.259$, $p < 0.001$), the science and technology group ($\beta = 0.238$, $p < 0.05$), and the overall sample ($\beta = 0.242$, $p < 0.001$), supporting H3. However, the study observed that the perceived subjective norm factor did not significantly influence entrepreneurial intention for both fields of study but exhibited a significant positive relationship for the overall sample ($\beta = 0.087$, $p < 0.05$), thus partially confirming H4.

4. Discussion

The outcomes derived from multiple regression analysis conducted on a sample of 311 individuals indicated a significant relationship between entrepreneurial education factors acquired during university education and entrepreneurial intention, as evidenced by previous studies (Lv et al., 2021; Mykolenko et al., 2022; Ezeh et al., 2020; Puni et al., 2018; Ambad & Awang Damit, 2015; Turker & Selcuk, 2008) among social science students and the overall sample. However, this relationship was not significant for students in the science and technology field. Similarly, the perceived structural norm factor exhibited a significant relationship with entrepreneurial intention among social science students and the overall sample, supported by prior research (Ezeh et al., 2020; Malebana, 2014; Urban & Kujinga, 2017; Ambad & Awang Damit, 2015; Turker & Selcuk, 2008), but not for students in science and technology. Furthermore, two variables, namely personal attitude (Abdullahi et al., 2021) and perceived behavioural control (Ambad & Awang Damit, 2015; Al-Shammari & Waleed, 2018), demonstrated a positive and significant relationship with entrepreneurial intention across all sample groups. However, the subjective norm factor was found to lack influence on entrepreneurial intention across the three sample groups.

This finding presents a divergence from the Theory of Planned Behaviour, which posits that personal attitude, perceived behavioural control, and subjective norms serve as determinants of entrepreneurial intentions. In this study's context, the role of reference groups, including immediate family, university friends, and lecturers, did not significantly influence students' engagement in entrepreneurship. This suggests a prevailing culture of uncertainty, particularly in developing countries, where students and their families prioritise employment over entrepreneurial pursuits. Moreover, the study identified significant disparities in entrepreneurial intentions between social science and science and technology students, with the former exhibiting higher intentions. This discrepancy is attributed to the curriculum differences, with social science programs offering more extensive exposure to economics and management, thereby fostering stronger entrepreneurship perceptions and skills among students in this field.

5. Conclusion and recommendations for future research

In conclusion, this research emphasizes the crucial role of entrepreneurial education in fostering entrepreneurial intentions among undergraduate students. Despite mixed results

regarding other factors proposed by the Theory of Planned Behavior, the significant relationship between factors acquired during university education and entrepreneurial intention accentuates the importance of entrepreneurship education. From a policy standpoint, there is a pressing need for higher education policymakers to prioritise the cultivation of entrepreneurship and foster high entrepreneurial intentions among university students. This necessitates comprehensive integration of entrepreneurship values and knowledge into the curriculum across all disciplines. Additionally, clear entrepreneurial policies and robust entrepreneur activities at the campus level are imperative to nurture an entrepreneurial culture. Theoretical implications highlight the need to expand beyond the traditional focus of the Theory of Planned Behavior to encompass broader considerations of entrepreneurial ecosystem factors. While the theory primarily underlines cognitive factors, a holistic understanding of entrepreneurial intentions requires the incorporation of factors such as stakeholder support (Ministry of Higher Education) and entrepreneurship education.

Universities exhibit significant diversity in their entrepreneurial ecosystems, shaping the development of entrepreneurial intentions among students. To achieve comprehensive insights applicable across various contexts. Future research must embrace diverse samples from multiple universities and study programs while ensuring a balanced sample size across different fields of study. Additionally, it should delve deeper into the simultaneous analysis of supplementary factors within the framework of the Theory of Planned Behavior, such as structural support, situational factors, and religious values, promising a distinction understanding of their respective roles in influencing entrepreneurial intentions.

References

Abdullahi, M. S., Khalid, N., Ahmed, U., Ahmed, E. M., & Gumawa, A. A. (2021). Effect of Entrepreneurship Education on Entrepreneurial Intention among University Students. *Journal of Technical Education and Training*, *15*(3), 40–53. https://doi.org/10.30880/jtet.2021.13.03.005

Ahmed, T., Chandran, V. G. R., Klobas, J. E., Lián, F., & Kokkalis, P. (2020). Entrepreneurship Education Programs: How Learning, Inspiration, and Resources Affect Intentions for New Venture Creation in a Developing Economy. *International Journal of Management Education*, *18*(1), 100327. https://doi.org/10.1016/j.ijme.2019.100327

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

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behaviour. *Journal of Applied Social Psychology*, *32*(4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x

Al-Mamary, Y. H., Abdulrab, M., Alwaheeb, M., & Alshammari, N. G. (2020). Factors impacting entrepreneurial intentions among university students in Saudi Arabia: testing an integrated model of TPB and EO. *Education þ Training*, *62*(7/8), 779–803. https://doi.org/10.1108/ET-04-2020-0096

Al-Shammari, M., & Waleed, R. (2018). Entrepreneurial Intentions of Private University Students in the Kingdom of Bahrain. *International Journal of Innovation Science*, *10*(1), 3–57. https://doi.org/10.1108/IJIS-06-2017-0058

Ambad, S. N., & Awang Damit, D. H. (2015). Determinants of Entrepreneurial Intention among Undergraduates Students in Malaysia. Fifth International Conference on Marketing and Retailing (5th INCOMaR). *Procedia Economics and Finance*, *37*(2016), 108–114. https://doi.org/10.1016/S2212-5671(16)30100-9

Anjum, T., Amoozegar, A., Fraukh, M., & Heidler, P. (2022). *Entrepreneurial Intention Among Business Students: The Mediating Role of Attitude and The Moderating Role of The University Support*. https://doi.org/10.1108/ET-01-2021-0020

Bazkiaei, H. A., Khan, N. U., Irshad, A., & Ahmed, A. (2021). Pathways toward entrepreneurial intention among Malaysian universities' students. *Business Process Management Journal*, *27*(4), 1009–1032. https://doi.org/10.1108/BPMJ-01-2021-0021

Biwas, A., & Verma, R. K. (2022). Engine of entrepreneurial intentions: revisiting personality traits with entrepreneurial education. Benchmarking: *An International Journal*, *29*(6), 2019–2044. https://doi.org/10.1108/BIJ-11-2020-0607

Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, *18*, 63–77. https://doi.org/10.1177/104225879401800404

Cera, G., Cera, E., Rosza, Z., & Bilan, S. (2021). Entrepreneurial Intention as A Function of University Atmosphere, Macroeconomic Environment and Business Support: A Multi-Group Analysis. *European Journal of Training and Development*, *45*(8/9), 706–724. https://doi.org/10.1108/EJTD-08-2019-0148

Duong, C. D. (2021). Exploring the link between entrepreneurship education and entrepreneurial intentions: the moderating role of educational fields. *Education + Training*. https://doi.org/10.1108/ET-05-2021-0173

Ezeh, P. C., Nkamnbe, A. D., & Omodafe, U. P. (2020). Determinants of entrepreneurial intention among undergraduates in a Muslim community. *Management Research Review*, *43*(8), 1013–1030. https://doi.org/10.1108/MRR-09-2018-0348

Garcia-Uceda, E., Murillo-Luna, J. L., & Lafuenta, J. A. (2022). Determinant factors in entrepreneurial intention among social work degree students: the moderating effect of entrepreneurship education. *Education and Training*, 0040–0912. https://doi.org/10.1108/SEJ-07-2021-0061

Gelaidan, H. M., & Abdullateef, A. O. (2017). Entrepreneurial Intentions of Business Students in Malaysia The Role of Self-Confidence, Educational and Relation Support. *Journal of Small Business and Enterprise Development*, *24*(1), 54–67. https://doi.org/10.1108/JSBED-06-2016-0078

Gerba, D. T. (2012). Impact of entrepreneurship education on entrepreneurial intentions of

business and engineering students in Ethiopia. *African Journal of Economic and Management Studies*, *3*(2), 258–277. https://doi.org/10.1108/20400701211265036

Global Entrepreneurship Monitor. (2018). *2017/2018 Global Report: Global Entrepreneurship Research Association* (GERA). https://doi.org/10.1093/acrefore/9780190224851.013.156

Kolvereid, L. (1996). Prediction of employment status choice intentions. *Entrepreneurship Theory and Practice*, *21*(1), 47–57. https://doi.org/10.1177/104225879602100104

Krueger, N. F. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice*, *18*(1), 5–21. https://doi.org/10.1177/104225879301800101

Lee, S. H., & Wong, P. K. (2004). An exploratory study of technopreneurial intentions: a career anchor perspective, *Journal of Business Venturing*, *19*, 7–28. https://doi.org/10.1016/S0883-9026(02)00112-X

Liñán, F., & Chen, Y. W. (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

Lv, Y., Chen, Y., Sha, Y., Wang, J., An, L., Chen, T., … Huang, L. (2021) How Entrepreneurship Education at Universities Influences Entrepreneurial Intention: Mediating Effect Based on Entrepreneurial Competence. *Frontier Psychology*, *12*, 655–668. https://doi.org/10.3389/fpsyg.2021.655868

Malaysia. (2022). Entrepreneurship Action Plan of Higher Education Institutions 2021–2025, Putrajaya. Malaysia: Ministry of Higher Education. Retrieved from https://www.moe.gov.my/muat-turun/khas/mea/2017-4/280-mea-2016-2017-mea-information-sheet/file

Malebana, J. (2014). Entrepreneurial intentions of South African rural university students: a test of the theory of planned behavior. *Journal of Economics and Behavioral Studies*, *6*(2), 130–143. https://doi.org/10.22610/jebs.v6i2.476

Maresch, D., Harms, R., Kailer, N., & Wimmer-Wurm, B. (2016). The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs. *Technological Forecasting and Social Change*, *104*, 172–179. https://doi.org/10.1016/j.techfore.2015.11.006

Maritz, A., Nguyen, Q., & Ivanov, S. (2022). Student entrepreneurship ecosystems at Australian higher education institutions. *Journal of Small Business and Enterprise Development.* https://doi.org/10.1108/JSBED-11-2021-0466.

Melvin, T. (1979). *Practical Psychology in Construction Management*. Van Nostrand Reinhold Company, New York, NY. ISBN: 0442252986

Moreno-Gomez, J., Gomez-Araujo, E., & Andreis, R. C. (2020). Parental role models and

entrepreneurial intentions in Colombia Does gender play a moderating role? *Journal of Entrepreneurship in Emerging Economies*, *12*(3), 413–429. https://doi.org/10.1108/JEEE-04-2019-0048

Mumtaz, B. A. K, Munirah, S., & Halimahton, K. (2012). The Relationship between educational support and entrepreneurial intentions in Malaysian Higher Learning Institution, *Procedia – Social and Behavioral Sciences*, *69*(24), 2164–2173. https://doi.org/10.1016/j.sbspro.2012.12.182

Mustafa, M. J., Hernandez, E., Mahon, C., & Chee L. K. (2016). Entrepreneurial intentions of university students in an emerging economy the influence of university support and proactive personality on students' entrepreneurial intentions. *Journal of Entrepreneurship in Emerging Economies*, *8*(2), 162–179. https://doi.org/10.1108/JEEE-10-2015-0058

Mykolenko, O., Ippolitova, I., Doroshenko, H., & Strapchuk, S. (2022). The impact of entrepreneurship education and cultural context on entrepreneurial intentions of Ukrainian students: the mediating role of attitudes and perceived control. *Higher Education, Skill and Work-Base Learning*, *12*(3), 519–536. https://doi.org/10.1108/HESWBL-08-2020-0190

Nikitina, T., Licznerska, M., Ozoliņa-Ozola, I., & Lapina, I. (2022). Individual entrepreneurial orientation: comparison of business and STEM students. *Education + Training*. https://doi.org/10.1108/ET-07-2021-0256.

Otache, I., Umar, K., Audu, Y., & Onalo, U. (2019). The effects of entrepreneurship education on students' entrepreneurial intentions: a longitudinal approach. *Education þ Training*. https://doi.org/10.1108/ET-01-2019-0005

Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behaviour in the U.S.A and Turkey. *Journal of Global Entrepreneurship Research*, *6*(1), 3. https://doi.org/10.1186/s40497-016-0047-x

Puni, A., Anlensinya, A., & Korsorku, P. (2018). Entrepreneurial Education, self-efficacy and intentions in Sub-Saharan African. *African Journal of Economic and Management Studies*, *9*(4), 492–511. https://doi.org/10.1108/AJEMS-09-2017-0211

Qazi, W., Qureshi, J. A., Raza, S. A., Khan, K., & Qureshi, M. A. (2021). Impact of personality traits and university green entrepreneurial support on students' green entrepreneurial intentions: the moderating role of environmental values. *Journal of Applied Research in Higher Education*, *13*(4), 1154–1180. https://doi.org/10.1108/JARHE-05-2020-0130

Schumpeter, J. A. (1934). *The Theory of Economic Development*.Harvard University Press, Cambridge, MA. ISBN:0674879902.

Sekaran, U. (1992). *Research Methods for Business: A Skill-Building Approach* (2nd ed.). Wiley, New York, NY. ISBN: 978-1-119-26684-6.

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

Souitaris, V., Zerbinati, S., & Andreas, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, *22*(4), 566–591. https://doi.org/10.1016/j.jbusvent.2006.05.002

Tucker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university student. *Journal of European Industrial Training*, *32*(2), 142–150. https://doi.org/10.1108/03090590910939049

Urban, B., & Kujinga, L. (2017). The institutional environment and social entrepreneurship intentions. *International Journal of Entrepreneurial Behavior and Research*, *23*(4), 638–655. https://doi.org/10.1108/IJEBR-07-2016-0218

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