

Factors Affecting Entrepreneurial Mindset among Students in Higher Learning Institutions

Ehsan Fansuree Surin^{1*}, Filzah Fauzan², Rabiatal Addaniyah Omar³, Cholo E. Javier⁴, Hartini Zulaiha Jamal⁵, Marhani Mohamed Anuar⁶ & Ainun Nadzirah Mahmood⁷

¹²³⁵⁶⁷Faculty of Business and Management, Universiti Teknologi MARA, Bandar Puncak Alam, Selangor, Malaysia

⁴Ramon V. Del Rosario - College of Business, De La Salle University, Philippines

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ABSTRACT

Entrepreneurship plays a vital role in driving economic growth, innovation, and employment generation, particularly among the younger generation. However, entrepreneurial intention among Malaysian university students remains relatively low, highlighting the need to better understand the factors that shape their entrepreneurial mindset. This study aims to examine the relationship between risk-taking, innovativeness, locus of control, need for achievement, and self-efficacy on the entrepreneurial mindset of Malaysian university students. Grounded in the Theory of Planned Behavior (TPB), this research focuses on final-year students from Universiti Teknologi MARA (UiTM). A total of 103 responses were collected through online questionnaires, and the data were analyzed using multiple regression techniques. The findings demonstrate that innovativeness, need for achievement, and self-efficacy are significantly and positively associated with entrepreneurial mindset, with self-efficacy emerging as the most influential predictor. Conversely, risk-taking propensity and locus of control were not found to have significant effects. These results highlight the importance of psychological and cognitive factors in shaping students' entrepreneurial mindset. The significant contributions of this study, along with recommendations for future research and its limitations, are also discussed.

Keywords: Entrepreneurial mindset, self-efficacy, innovativeness, higher education, Malaysia

INTRODUCTION

Entrepreneurship plays a significant role in driving Malaysia's economic growth and social development. It fosters innovation, generates employment opportunities, and enhances the nation's competitiveness in an increasingly dynamic global economy. In recognition of its importance, the Malaysian government has introduced various initiatives to promote youth entrepreneurship, including the Higher Education Entrepreneurship Development Policy (2010) and the National Entrepreneurship Policy 2030 (NEP 2030). These initiatives aim to cultivate a generation of innovative, proactive, and self-reliant individuals who are capable of becoming job creators rather than job seekers. In alignment with these national aspirations, Malaysian universities have integrated entrepreneurship-related courses and programmed into their academic curricula. Students are encouraged to participate in activities such as business plan competitions, innovation programmed, and entrepreneurship workshops to enhance their entrepreneurial competencies and practical exposure.

Entrepreneurship is widely recognized as a critical driver of innovation and a means of reducing unemployment (Pinto et al., 2024). However, success in entrepreneurship is not solely determined by education or technical competence, but also by the possession of an appropriate entrepreneurial mindset (Timmons & Spinelli, 2009). An entrepreneurial mindset refers to a pattern of thinking and behavior that enables individuals to identify opportunities, undertake ventures involving calculated risks, and act with confidence to ensure business success. This mindset encompasses several key attributes, including risk-taking propensity, innovativeness, locus of control, need for achievement, and self-efficacy. These personal traits play a crucial role in motivating

individuals to recognize and respond effectively to opportunities and challenges within the business environment (Van Gelderen et al., 2021).

Despite the proliferation of entrepreneurship programmed and institutional support, entrepreneurial intention among Malaysian university students remains relatively low, as many graduates continue to prefer salaried employment over venture creation (Kuan et al., 2022). This tendency reflects a strong inclination towards stable careers in the public or private sector rather than pursuing entrepreneurial ventures. Such a pattern suggests that, although entrepreneurship education equips students with relevant knowledge and skills, it may be insufficient in fostering the entrepreneurial mindset necessary to translate intention into actual business behavior. An entrepreneurial mindset enables individuals to think creatively, embrace calculated risks, and act confidently in uncertain environments. Accordingly, this paper seeks to examine the influence of key psychological factors—namely risk-taking propensity, innovativeness, locus of control, need for achievement, and self-efficacy—on the entrepreneurial mindset of Malaysian university students. The findings of this study are expected to provide valuable insights for educators and policymakers in formulating more effective strategies to enhance entrepreneurship development within higher education institutions.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and develops the research hypotheses. Section 3 outlines the research methodology, including the sample, data collection procedures, and operationalization of variables. Section 4 presents the empirical findings, encompassing descriptive analysis, reliability testing, and hypothesis testing. Finally, Section 5 discusses the findings in relation to prior studies, highlights the study's contributions, acknowledges its limitations, and offers recommendations for future research.

LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES STATEMENTS

Theory of Planned Behavior

Grounded in the TPB, this study adopts a well-established framework which posits that an individual's behavioral intentions are primarily influenced by attitude toward the behavior, subjective norms, and perceived behavioral control (Al-Ghazali et al., 2022; Robin et al., 2025). In the context of entrepreneurship, TPB has been widely applied to explain students' intentions to pursue entrepreneurial ventures by examining how individuals evaluate the desirability of entrepreneurship (attitude), perceive social expectations (subjective norms), and assess their capability to perform entrepreneurial tasks (perceived behavioral control) (Numfam et al., 2022; Musa et al., 2023). While TPB is traditionally used to predict entrepreneurial intention, its underlying cognitive structure also provides a strong theoretical basis for understanding the development of entrepreneurial mindset as a precursor to intention. Entrepreneurial mindset, characterized by proactiveness, innovativeness, and opportunity recognition, represents a foundational psychological orientation that shapes how individuals form attitudes and perceptions toward entrepreneurship (Ozigi et al., 2024; Soelaiman et al., 2023; Wiramihardja et al., 2022).

In line with this perspective, the present study positions innovativeness, risk-taking propensity, and need for achievement as key attitudinal drivers that influence individuals' evaluation of entrepreneurial activities, as these traits reflect a tendency to embrace novelty, engage with uncertainty, and strive for excellence. Meanwhile, self-efficacy and locus of control are aligned with perceived behavioral control, as they capture an individual's belief in their capability to perform entrepreneurial tasks and their perceived control over outcomes. Individuals with higher self-efficacy and a stronger internal locus of control are more likely to perceive greater control over entrepreneurial challenges, thereby strengthening their entrepreneurial mindset. This interplay suggests that entrepreneurial mindset functions as a cognitive antecedent that shapes the attitudinal and control-related components of TPB, which subsequently influence entrepreneurial intention (Montes et al., 2023; Cater et al., 2023). Consequently, fostering these psychological attributes among university students is essential, as they underpin the motivational and cognitive mechanisms highlighted by TPB as critical for entrepreneurial engagement and venture creation (Vamvaka et al., 2020).

Risk Taking and Entrepreneurial Mindset

Risk-taking refers to an individual's willingness to engage in decisions or actions that involve uncertainty. In the context of entrepreneurship, this trait is considered essential, as the establishment and development of a business often involve financial, emotional, and social risks (Zemlyak et al., 2022; Kuratko & Morris, 2018). Individuals with a higher tendency toward risk-taking are more likely to explore innovative ideas and pursue entrepreneurial career paths (Rahman et al., 2023b). Previous studies further indicate that Malaysian university students with a higher risk appetite are more likely to develop an entrepreneurial mindset, as they tend to perceive uncertainty as an opportunity rather than a barrier (Maheshwari et al., 2023). This paper suggests the hypothesis as;

H1: Risk-taking has a positive relationship with entrepreneurial mindset.

Innovativeness and Entrepreneurial Mindset

Innovativeness refers to an individual's tendency to pursue new ideas, engage in creative thinking, and develop novel solutions to problems. It is regarded as a key personality trait in entrepreneurship research, as innovative thinking enhances opportunity identification and supports effective problem-solving processes (Colombelli et al., 2022; Li et al., 2023). Students with higher levels of innovativeness are more likely to excel in entrepreneurship-related activities, including business ideation competitions, entrepreneurship courses, and design thinking challenges (Fauzi et al., 2024). Empirical evidence among Malaysian university students further indicates a strong positive relationship between innovativeness and entrepreneurial mindset (Cheng et al., 2025). We proposed the hypothesis as;

H2: Innovativeness has a positive relationship with entrepreneurial mindset.

Locus of Control and Entrepreneurial Mindset

Locus of control refers to the degree to which individuals perceive that they have control over events that affect their lives (Rahman et al., 2023a). Individuals with an internal locus of control believe that outcomes are primarily determined by their own abilities, efforts, and actions, whereas those with an external locus of control attribute outcomes to external factors such as luck, fate, or other environmental influences (Rotter, 1966). Within the context of entrepreneurship, an internal locus of control has been consistently associated with higher levels of entrepreneurial intention, resilience, and entrepreneurial mindset (Fauzi et al., 2024; Maheshwari et al., 2023). In this paper, we defined the locus of control as an individual's belief regarding the extent to which outcomes are influenced by personal actions (internal locus of control) or by external forces such as luck, fate, or environmental factors (external locus of control). Among Malaysian university students, those who exhibit a stronger locus of control tend to demonstrate greater confidence in making business decisions and are more proactive in pursuing entrepreneurial opportunities (Mohd. Noor et al., 2021). Therefore, the proposed hypothesis as follows;

H3: Locus of control has a positive relationship with entrepreneurial mindset

Need for Achievement and Entrepreneurial Mindset

The need for achievement refers to an individual's drive for excellence, perseverance, and commitment to accomplishing challenging and long-term goals (McClelland, 1961; Maheshwari et al., 2023). Individuals with a high need for achievement are more likely to initiate entrepreneurial ventures, successfully complete entrepreneurial projects, and sustain long-term business engagement (Zhao & Seibert, 2006). Among Malaysian university students, the need for achievement has been shown to significantly influence entrepreneurial behaviour and mindset, as such individuals tend to seek continuous improvement, demonstrate initiative, and set ambitious business goals (Ismail et al., 2023). Therefore, we present the hypothesis as;

H4: Need for achievement has a positive relationship with entrepreneurial mindset

Self-efficacy and Entrepreneurial Mindset

Self-efficacy is defined as an individual's confidence in their ability to tackle tasks, solve problems, and successfully engage in entrepreneurial actions. In entrepreneurship, individuals with high self-efficacy exhibit resilience, persistence, and confidence when confronted with challenges (Ajzen, 1991; Bandura, 1997). In entrepreneurship education, self-efficacy is critical because students who believe in their capabilities demonstrate higher levels of entrepreneurial mindset, creativity, and willingness to engage in opportunity recognition (Campbell et al., 2021; Maheshwari et al., 2023).

Empirical studies involving Malaysian students further indicate that self-efficacy significantly predicts their readiness and willingness to participate in entrepreneurial activities, such as business competitions and entrepreneurship programs (Rahman et al., 2023b). In this study, self-efficacy is measured using the Entrepreneurial Self-Efficacy (ESE) scale, which assesses individuals' confidence in performing tasks related to opportunity recognition, identification, and innovation. This study proposed the hypothesis as;

H5: Self-efficacy has a positive relationship with entrepreneurial mindset

METHODOLOGY

The respondents in this study consists of university students from UiTM in Malaysia, particularly final year students. The targeted group is highly relevant in examining factors that influence the development of entrepreneurial mindset. UiTM has been selected due to university's concentration on entrepreneurship related course and also entrepreneurial activities. Given the confidentiality of a comprehensive population frame, purposive sampling was selected for its practicality, cost-effectiveness, and ease of access. This approach allows researchers to recruit participants who possess specific characteristics or relevant experience aligned with the objectives of the study, thereby ensuring that the data collected are both meaningful and contextually appropriate for addressing the research questions (Sekaran & Bougie, 2016). To determine the required sample size, G-Power software 3.1.9.4 was used, with an effect size of 0.15 (f square), an α error probability of 0.05, a power of 0.8, and 5 predictors. The minimum sample size suggested was 92. Scholars recommend that a sample size between 50 and 500 is ideal for most studies (Roscoe, 1975).

A total of 103 out of 149 respondents participated in this study, yielding a response rate of 69.1 percent. The questionnaire was distributed through an online platform using Google Forms. The scales used followed the prior research. The 25 items measuring risk taking, innovativeness, locus of control, need for achievement and self-efficacy were borrowed from Anwar and Saleem (2019), meanwhile 10 items for entrepreneurial mindset were adapted from Mad Noh et al. (2024). It examines the respondents' attitudes, problem solving, opportunity recognition and innovative thinking related to entrepreneurial mindset. All items were measured using a five-point Likert scale. Also, all negatively worded items were reverse coded prior to conducting the regression analysis to ensure consistency in the direction of measurement across all variables. Items requiring reverse coding were marked with an asterisk (*) in the appendices for ease of reference.

The data were analyzed using the Statistical Package for the Social Sciences (SPSS). This software is widely regarded as a reliable tool for processing research data efficiently, accurately, and in a systematic manner. SPSS facilitates the generation of descriptive statistics and enables the examination of relationships between variables, as well as the testing of research hypotheses. In this study, multiple regression analysis was employed to determine the influence of the independent variables on the entrepreneurial mindset. The 95 percent confidence intervals for the standardized beta coefficients (β) were calculated to assess the precision and statistical significance of the estimates. Furthermore, the utilization of SPSS allows for efficient management of large datasets while minimizing human error throughout the analytical process, ultimately strengthening the credibility and quality of the study. Lastly, the assumption checks (linearity, homoscedasticity, and normality of residuals) were conducted before performing the regression analysis. Therefore, the data met the required assumptions, and the regression results are considered valid and reliable.

Findings

Descriptive Analysis

Table 1: Respondents' profiles

Items	No of Respondents (n=103)	Percentage
Gender:		
❖ Male	21	20.4
❖ Female	82	79.6
Age:		
❖ Below 20 years old	1	1
❖ 20 - 22 years old	61	59.2
❖ 23 - 25 years old	38	36.8
❖ Above 25 years old	3	3
Discipline:		
❖ Social Science	83	80.5
❖ Science and Technology	20	19.5
To become an entrepreneur:		
❖ Very Slightly Interested	12	11.7
❖ Slightly Interested	9	8.7
❖ Moderately Interested	28	27.2
❖ Interested	24	23.3
❖ Very Interested	30	29.1

Table 1 presents the demographic profile of the respondents. The majority of respondents were female (79.6%), while males constituted 20.4%. The age group of 20 to 22 years represented the largest proportion of the sample (59.2%) out of the total 103 respondents, indicating that the sample was predominantly composed of undergraduate students. In terms of academic discipline, students from the social sciences recorded the highest percentage (80.5%), followed by those from science and technology (19.5%), suggesting that most respondents were from business-related faculties. Lastly, a majority of respondents indicated an interest (interested and very interested) in becoming entrepreneurs (52.4%), while 11.7% reported being only slightly inclined to start a business.

Table 2: Means, standard deviations, no. of items and reliability test

Variables	Mean (M)	Standard Deviations (SD)	No. of items	Reliability (α)
Risk-taking	3.68	.65	5	.651
Innovativeness	3.82	.67	5	.715
Locus of control	3.84	.62	5	.650
Need for achievement	4.15	.59	5	.742
Self-efficacy	4.11	.66	5	.869
Entrepreneurial mindset	4.07	.61	10	.900

Table 2 presents the descriptive statistics and reliability analysis of the study variables. Overall, the mean values indicate that respondents exhibited relatively high levels across all constructs, with scores ranging from 3.68 to 4.15. Among the variables, need for achievement recorded the highest mean ($M = 4.15$, $SD = .59$), followed by self-efficacy ($M = 4.11$, $SD = .66$) and entrepreneurial mindset ($M = 4.07$, $SD = .61$), suggesting that respondents generally possess strong motivational and psychological tendencies toward entrepreneurship. In contrast, risk-taking reported the lowest mean ($M = 3.68$, $SD = .65$), indicating comparatively moderate levels of willingness to engage in risk-related behaviors.

In terms of reliability, all constructs demonstrated acceptable internal consistency, with Cronbach's alpha values ranging from .650 to .900. Specifically, entrepreneurial mindset showed excellent reliability ($\alpha = .900$), followed by self-efficacy ($\alpha = .869$). Other variables, including innovativeness ($\alpha = .715$), locus of control ($\alpha = .650$), need for achievement ($\alpha = .742$), and risk-taking ($\alpha = .651$), also met the minimum acceptable threshold of .60 (George & Mallery, 2003).

Correlation Analyses

Table 3 shows the Pearson correlation coefficients between the independent variables and entrepreneurial mindset. All independent variables demonstrated positive correlations with entrepreneurial mindset ($p < 0.01$). Students' confidence showed the strongest correlation ($r = .758$), followed by need for achievement ($r = .647$) and innovativeness ($r = .653$). Risk-taking proactiveness and locus of control showed moderate positive correlations. These results indicate that increases in these variables are associated with higher entrepreneurial mindset levels, although correlation does not imply causation.

Table 3: Correlation Analyses

Variables	1	2	3	4	5
1. Risk-taking	1				
2. Innovativeness	.659**	1			
3. Locus of control	.574**	.627**	1		
4. Need for achievement	.467**	.487**	.518**	1	
5. Self-efficacy	.553**	.575**	.613**	.621**	1
6. Entrepreneurial mindset	.610**	.653**	.607**	.647**	.758**

Hypotheses Testing

Referring to Table 4, all hypotheses were tested and elicited a single step by using enter method. The model shows the correlation (R) equal to .828, R square (R^2) and adjusted R square are valued at .686 and .669 meanwhile F value indicates 42.38. The coefficient of determination ($R^2 = .686$) indicates that the model explains 68.6 percent of the variance in entrepreneurial mindset, representing a large effect size according to Cohen's (1988) conventions. The findings of the present study are largely consistent with those of Vamvaka et al. (2020), indicating similar patterns in the examined relationships. The Durbin–Watson statistic (2.127) was close to 2, suggesting that the residuals are not autocorrelated. This confirms that the assumption of independent errors in the regression model is met.

Table 4: Hypotheses Testing

Variables	Standardized Beta
Independent Variables	
Risk taking propensity	.122
Innovativeness	.201*
Locus of control	.049
Need of achievement	.209*
Self-efficacy	.416**
R	.828
R^2	.686
Adjusted R^2	.669
F Value	42.38
Sig. F Change	.001
Durbin Watson Index	2.127

The hypotheses result in Table 4 were found mixed. It was found that innovativeness ($\beta = .201$, $p < 0.05$), need for achievement ($\beta = .209$, $p < 0.05$), and self-efficacy ($\beta = .416$, $p < 0.01$) were found to have a significant positive influence on entrepreneurial mindset. Therefore, H2, H4, and H5 were accepted. However, risk-taking propensity ($\beta = .122$, $p > 0.05$) and locus of control ($\beta = .049$, $p > 0.05$) were found not significant and therefore were rejected. This indicates that these two variables do not significantly influence entrepreneurial mindset among university students.

DISCUSSION, CONTRIBUTION AND LIMITATIONS OF STUDY

Discussion

This study examines the factors influencing entrepreneurial mindset, with a particular emphasis on students in higher education institutions. Previous research has predominantly focused on broader populations, such as general citizens, thereby leaving a gap in the literature concerning the psychological dimensions of university students. In particular, limited attention has been given to how internal psychological factors shape students' mindset toward entrepreneurship. The findings of this study are expected to contribute to the existing body of knowledge by addressing this gap and providing deeper insights into the psychological determinants of entrepreneurial mindset among university students. In addition, the study serves as a valuable reference for higher education institutions in strengthening entrepreneurship development initiatives among students.

The finding of this study indicate that innovativeness has significant positive relationships with entrepreneurial mindset among Malaysian university students. Innovativeness enables students to recognize opportunities and generate novel ideas, thereby strengthening their entrepreneurial mindset. This finding is in line with previous

study (Pinto et al., 2024). In addition, the findings indicate that the need for achievement has a significant positive relationship with entrepreneurial mindset. This result corroborates prior research, which suggests that students with a high need for achievement tend to set challenging goals and demonstrate persistence—key characteristics of entrepreneurial behavior (Rauch & Frese, 2007). Furthermore, self-efficacy emerged as a particularly strong predictor of entrepreneurial mindset, indicating that students' confidence in their abilities plays a crucial role in enabling them to overcome fear of failure and engage in entrepreneurial activities, a finding that is consistent with previous research (Newman et al., 2019).

On the other hand, the hypotheses regarding the risk-taking propensity and locus of control on entrepreneurial mindset were found unsupported. Risk-taking propensity was found to have no significant effect on entrepreneurial mindset, indicating that the hypothesis was unsupported. This finding contrasts with prior research, which suggests that individuals with higher risk-taking propensity are more likely to develop a stronger entrepreneurial mindset (Rauch & Frese, 2007). It is plausible that students' willingness to take risks remains limited, as the entrepreneurial mindset tends to develop more fully when individuals are exposed to real-life entrepreneurial problems and challenges. The findings of this study suggest that psychological readiness—particularly in terms of self-efficacy and motivation—plays a more significant role than stable personality traits in shaping the entrepreneurial mindset among students (Kruger et al., 2000). Additionally, the hypothesis regarding the relationship between locus of control and entrepreneurial mindset was not supported. This finding contrasts with previous studies, which suggest that individuals with a strong internal locus of control are more likely to develop a stronger entrepreneurial mindset (Rotter, 1966; Rauch & Frese, 2007). This indicates that locus of control does not influence the entrepreneurial mindset particularly among university students. Although prior studies have established locus of control as an important entrepreneurial personality trait (Rotter, 1966), its influence appears to diminish when more proximal psychological variables, such as self-efficacy and motivation, are incorporated into the regression model (Rauch & Frese, 2007). The locus of control is a general personality construct, which will not directly influence entrepreneurial thinking among university students since these respondents are limited to business world experience (Krueger et al., 2000).

This study contributes to the existing body of knowledge by clarifying the factors that influence students' entrepreneurial mindset. Notably, the findings reveal a distinctive pattern in which risk-taking propensity and locus of control do not consistently exert a significant influence on entrepreneurial mindset, contrary to assumptions advanced in previous studies. This provides a fresh perspective, as established theories generally suggest a direct relationship between these personality traits and entrepreneurial outcomes. In addition, the study enhances awareness among university students regarding the psychological factors that shape entrepreneurial mindset, including risk-taking propensity, innovativeness, locus of control, need for achievement, and self-efficacy. The findings further suggest that becoming an entrepreneur requires more than merely possessing business knowledge; it also necessitates the development of an appropriate mindset to navigate uncertainty and overcome entrepreneurial challenges.

This study also offers meaningful societal contributions, particularly in fostering a more innovative and entrepreneurial generation of young people. By cultivating an entrepreneurial mindset among students, individuals are more likely to initiate new business ventures, thereby generating employment opportunities and enhancing youth participation in economic activities. This not only improves individual socioeconomic outcomes but also contributes to broader societal and economic development. A society that nurtures an entrepreneurial culture among its younger generation is better positioned to address and mitigate issues related to unemployment. Moreover, this study provides valuable insights into the role of personal attributes in shaping entrepreneurial behavior, thereby enhancing understanding of the key drivers of entrepreneurial engagement. By promoting attributes such as confidence, creativity, and responsibility, the findings highlight the potential to develop individuals who are capable of solving complex problems, creating new value, and contributing to sustainable societal progress.

The findings of this study have important implications for pedagogical practices in entrepreneurship education. Since innovativeness, need for achievement, and particularly self-efficacy are significantly and positively associated with entrepreneurial mindset, with self-efficacy emerging as the strongest predictor, educators should place greater emphasis on instructional strategies that actively build students' confidence in their entrepreneurial capabilities. This may be achieved through experiential learning approaches such as simulations, business

pitching activities, case-based learning, and real-world problem-solving tasks that allow students to practice decision-making in low-risk environments. Strengthening self-efficacy is especially critical, as it appears to play a central role in shaping students' entrepreneurial mindset. In contrast, the non-significant effects of risk-taking propensity and locus of control suggest that traditional teaching methods focusing on personality-based traits may be less effective in directly shaping entrepreneurial mindset. Instead, educators should shift focus from innate traits toward developing cognitive and skill-based competencies that can be nurtured through structured learning experiences. Overall, entrepreneurship pedagogy should prioritize active learning environments that enhance students' confidence, creativity, and achievement motivation to more effectively cultivate an entrepreneurial mindset.

Based on the findings of this study, several recommendations are proposed for future research. It is suggested that future studies include a larger and more diverse sample, such as working adults or established entrepreneurs, in order to enhance the generalizability of the findings. In addition, longitudinal research designs are recommended to examine the development and changes in entrepreneurial mindset over time. Furthermore, future studies may consider incorporating additional variables, particularly environmental and social influences, to develop a more comprehensive understanding of entrepreneurial mindset and to contribute to the extension of the existing conceptual framework. Prior research has consistently demonstrated that entrepreneurship is shaped not only by internal psychological traits but also by external environmental factors such as policy, culture, and economic conditions (Obschonka et al., 2015).

It is important to acknowledge that this study has several limitations. First, the research employed a cross-sectional design in which data were collected at a single point in time. As a result, causal relationships between the variables cannot be firmly established, as temporal changes and developments were not captured. Second, the data were collected through self-report questionnaires, which may be subject to various sources of response bias, including social desirability bias and inaccuracies arising from respondents' self-perceptions of their abilities. Consequently, the accuracy and reliability of the findings may have been affected. Last but not least, the limitation of this research was that the number of respondents in the sample was only 103 individuals and it consisted predominantly of Bumiputera (sons of the soil) students. The Bumiputera community is generally perceived as less prevalent in active business ownership and entrepreneurial participation compared to other groups in certain contexts (Ismail & Ismail, 2023). Therefore, the relatively small and homogenous sample may limit the generalizability of the findings, as results derived from a single group may not fully represent the broader student population or diverse entrepreneurial environments. Furthermore, the limited sample size may have affected the statistical power of the analysis and the stability of the estimates (Hair et al., 2019).

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REFERENCES

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
2. Anwar, I., & Saleem, I. (2019). Exploring entrepreneurial characteristics among university students: Evidence from India. *Asia Pacific Journal of Innovation and Entrepreneurship*, 13(3), 282–295.
3. Al-Ghazali, B. M., Shah, S. H. A., & Sohail, M. S. (2022). The role of five big personality traits and entrepreneurial mindset on entrepreneurial intentions among university students in Saudi Arabia. *Frontiers in Psychology*, 13, 964875.
4. Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, New York: W. H. Freeman.

5. Campbell, C., Smith, L. N., Dugan, E. A., & Komives, S. R. (2021). Proactivity, mindsets and the development of students' entrepreneurial self-efficacy. *Journal of Entrepreneurship Education*, 24(2), 1–18.
6. Cater, J. J., Young, M., & Hua, L. (2023). Examining the entrepreneurial mindset and entrepreneurial intentions. *Journal of Applied Business and Economics*, 25(4), 30-46.
7. Cheng, C. S., Kamaruddin, J. N., Goh, T.-H., & Melati, I. S. (2025). Assessing the influence of digital entrepreneurial role model, innovative cognition and social media adroitness on digital entrepreneurial intention among university students in Malaysia. *Information Management and Business Review*, 17(2), 383–393.
8. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
9. Colombelli, A., Loccisano, S., Panelli, A., Pennisi, O. A. M., & Serraino, F. (2022). Entrepreneurship education: The effects of challenge-based learning on the entrepreneurial mindset of university students. *Administrative Sciences*, 12(1), 10.
10. Fauzi, U. A. M., Abbas, S. R., & Abdullah, R. (2024). Motivations and challenges faced by university students in pursuing entrepreneurship ventures: A UUM perspective. *Journal of Management and Entrepreneurship Studies*, 6(2), 45–59.
11. George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (4th ed.). Boston, Massachusetts: Allyn & Bacon.
12. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
13. Ismail, R. M., & Ismail, N. A. (2023). Understanding Bumiputera entrepreneurs' involvement in halal business. *Central Asia and the Caucasus*.
14. Ismail, N. A. H. M., Maklen, N. M. N., Saari, I. S., & Ab Hamid, A. S. (2023). Impact of motivating factors on business start-up among undergraduate students. *Asian People Journal*, 6(1), 1-12.
15. Kuan, W. J., Musa, R., Yeoh, S. C., & Phoon, L. Y. (2022). From school to business: A study of private university students' motivation determinant and intention to be an entrepreneur. *Journal of Entrepreneurship and Business*, 10(2), 1-15.
16. Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5–6), 411–432.
17. Kuratko, D. F., & Morris, M. H. (2018). Entrepreneurship education: Emerging trends and challenges for the 21st century. *Journal of Small Business Management*, 56(1), 10–27.
18. Li, Y., Cao, K., & Jenatabadi, H. S. (2023). Effect of entrepreneurial education and creativity on entrepreneurial intention in college students: Mediating entrepreneurial inspiration, mindset, and self-efficacy. *Frontiers in Psychology*, 14, 1189456.
19. Mad Noh, N. A., Abu Bakar, A. R., & Ahmad, S. (2024). Entrepreneurial mindset among students of Southern Zone Community Colleges: Gender, age, and study program. *Journal of Technical Education and Training*, 16(1), 1–12.
20. Maheshwari, G., Kha, K. L. K., & Arokiasamy, A. R. A. (2023). Factors affecting students' entrepreneurial intentions: A systematic review (2005–2022) for future directions in theory and practice. *Management Review Quarterly*, 73(4), 935–960.
21. McClelland, D. C. (1961). *The achieving society*. Princeton, New Jersey: Van Nostrand.
22. Mohd Noor, N. H., Yaacob, M. A., & Omar, N. (2021). Redefining the link between subjective norm and entrepreneurship intention: Mediating effect of locus of control. *Journal of International Business, Economics and Entrepreneurship*, 6(1), 1–9.
23. Montes, J., Ochoa-Alejo, L., Salazar-Elena, J. C., & Alvarez-Herranz, A. (2023). Entrepreneurship education and entrepreneurial intention: The role of self-efficacy, attitudes, and the theory of planned behavior. *Cogent Business & Management*, 10(1), 2282793.
24. Musa, S. N. S., Seman, A. S. A., & Hamzah, S. R. (2023). Entrepreneurial intention among university students in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(12), 2661–2670.
25. Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes. *Journal of Vocational Behavior*, 110, 403–419.

26. Numfam, V. F., Afrifa-Yamoah, E., & Asitik, A. J. (2022). Mediation roles of pedagogical approaches and personality traits in entrepreneurial curriculum design and entrepreneurial intention nexus. *Entrepreneurship Education*, 5(2), 179–197.
27. Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2015). Entrepreneurial intention as developmental outcome: A developmental–genetic perspective. *Journal of Vocational Behavior*, 90, 90–102.
28. Ozigi, O. A., Onyeukwu, P. E., Nasamu, G., & Ozigi, E. E. (2024). Entrepreneurial education as a covariate between entrepreneur orientation and entrepreneurial intention amongst graduating students of private universities in Abuja, FCT – Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 8(3), 1228–1243.
29. Pinto, P., Pallikkara, V., Pinto, S., & Hawaldar, I. T. (2024). Unveiling the entrepreneurial mindset: Exploring orientation and intentions among students. *Journal of Innovation and Entrepreneurship*, 13(33).
30. Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16(4), 353–385.
31. Robin, B., Ali, J. K., Abdullah, M., & Wahyuningsih, D. (2025). Extending the theory of planned behavior: Entrepreneurial intention among undergraduate students in Sarawak, Malaysia. *International Journal of Service Management and Sustainability*, 10(2), 1–13.
32. Rahman, A. A., Sahid, S., Nor, M. Y. M., & Mansor, A. Z. (2023a). Entrepreneurial mindset and business creation among undergraduate students in Malaysia public university. *International Journal of Academic Research in Business and Social Sciences*, 13(3), 660–669.
33. Rahman, N. A., Ahmad, N. H., & Mohd Noor, H. (2023b). Entrepreneurial intention among university students: Personality traits that matter. *International Journal of Entrepreneurship and Business Creativity Education*, 3(1), 15–27.
34. Roscoe J. T. (1975). *Fundamental Research Statistics for the Behavioral Sciences*. Holt Rinehart and Winston: Austin Texas, USA.
35. Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1–28.
36. Sekaran, U. & Bougie, R. (2016). *Research Methods for Business: A Skill-building Approach*. 7th Edition, West Sussex: Wiley & Sons
37. Soelaiman, L., Selamat, F., & Puspitowati, I. (2023). Exploring the predictive factors of Gen Z readiness for entrepreneurship. *International Journal of Research in Business and Social Science*, 12(5), 10–16.
38. Timmons, J. A., & Spinelli, S. (2009). *New venture creation: Entrepreneurship for the 21st century* (8th ed.). New York: McGraw-Hill.
39. Van Gelderen, M., Kautonen, T., & Fink, M. (2021). From entrepreneurial intentions to actions: Self-control and action-related doubt. *Journal of Business Venturing Insights*, 15, e00217.
40. Vamvaka, V., Stoforos, C., Palaskas, T., & Botsaris, C. (2020). Attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention: Dimensionality, structural relationships, and gender differences. *Journal of Innovation and Entrepreneurship*, 9, 5.
41. Wiramihardja, K., N'dary, V., Al Mamun, A., Munikrishnan, U. T., Yang, Q., Salamah, A. A., & Hayat, N. (2022). Sustainable economic development through entrepreneurship: A study on attitude, opportunity recognition, and entrepreneurial intention among university students in Malaysia. *Frontiers in Psychology*, 13, 866753.
42. Zemlyak, S., Naumenkov, A., & Khromenkova, G. (2022). Measuring the entrepreneurial mindset: The motivations behind the behavioral intentions of starting a sustainable business. *Sustainability*, 14(23), 15997.
43. Zhao, H., & Seibert, S. E. (2006). The Big Five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology*, 91(2), 259–271.

APPENDICES

RISK TAKING

I am willing to take higher risks for higher returns

I don't mind if the income is low, as long as it's stable and sure*

I'm brave to try new things I'm unfamiliar with

I prefer to avoid any risk situation at all costs*

I prefer a business that offers high returns with high risks over a secured job with steady salary

INNOVATIVENESS

I often surprise people with my novel ideas

I enjoy tasks that involve imagination and creativity

I like to experiment with various ways of doing the same thing

I keep doing the job the same way I learned it*

Sometimes I actually like going against what I'm told to

LOCUS OF CONTROL

My life is determined by my own actions

I feel in control of my life

I feel that what happens in my life is mostly determined by people in powerful positions

When I get what I want, it is usually because I worked hard for it

When I get what I want, it is usually because I am lucky*

NEED FOR ACHIEVEMENT

Reaching my goals is more important than earning money

Financial reward is regarded as a measurement of success

Achievement-motivated people constantly seek improvements and ways of doing things better

Money is a better reward than just getting praise or attention from others

Achieving the aim and task is regarded as a measurement of success

SELF- EFFICACY

I will able to achieve most of the goals that I have set for myself

I believe I can do hard tasks

I am confident that I can perform effectively on many different tasks

Even when things are tough, I can perform quite well

I think I can achieve the things that are important to me

ENTREPRENEUR MINDSET

I make decisions rationally (without following emotions)

I identify the root cause of problems clearly

I plan strategies to resolve problems

I search for information about entrepreneurial opportunities

I make program selection choices based on entrepreneurship opportunities in the chosen field of study

I am responsible for the decision made

I am able to generate more creative ideas to solve problems

I enjoy creating something new

I am more committed when working together

I can communicate effectively, which allows me to build a social network with many people