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Navigating entrepreneurial intentions: The role of educational, family, and ecosystem support on willingness to take risks among Malaysian postgraduate students

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Abstract

In Malaysia, entrepreneurship among young people has garnered significant attention due to its substantial contributions to social and economic development in the nation. Young people are generally open to taking risks and exploring new entrepreneurial ventures, while the perspective of postgraduate students remains underexplored. Hence, based on the Social Cognitive Theory, this study aims to investigate the effects of entrepreneurship education, family, and ecosystem support on postgraduate students' risk-taking willingness in Malaysian higher education institutions. The study will also examine whether risk-taking willingness mediates the relationship between these support factors and entrepreneurial intention among postgraduate students. This study employed a quantitative approach, distributing online questionnaires to 227 postgraduate students at Malaysian universities. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), a two-step approach was followed: first assessing the measurement model and then examining the structural model to test the proposed hypotheses. The findings reveal that entrepreneurship education, family, and ecosystem support significantly influence risk-taking willingness. In addition, this study confirmed the mediating role of risk-taking willingness in enhancing entrepreneurial intention among postgraduate students in Malaysia. Lastly, both theoretical and managerial implications were discussed, and the research limitations and suggestions for future research directions were also put forward.

Keywords: Ecosystem support, Entrepreneurial intentions, Entrepreneurship education support, Family support, Postgraduate students.

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1. Introduction

Over the past few decades, emerging countries, including Malaysia, have increasingly recognised entrepreneurship's role in social and economic development. This trend tends to emphasise entrepreneurship, not only for self-actualisation but also as an effective way to address socio-economic problems. Department of Statistics Malaysia [1] reported that the number of unemployed persons has reduced by 4.1%, and the unemployment rate was recorded as 3.3% in 2024. This revealed that Malaysia requires a higher demand for the labour force, which has contributed to different economic activities. In response to this socio-economic growth, university students nationwide actively started their own businesses as a path to income generation instead of seeking employment outside [2]. This evolving entrepreneurial shift is mainly due to the current generation's desire for creative freedom and the opportunity to bring their innovative ideas to life as entrepreneurs. Historically, entrepreneurship was not always regarded as a desirable career path in the late 1970s; most young Malaysians preferred securing stable jobs in the government sector, which overshadowed the pursuit of entrepreneurial ventures [3]. Over time, perceptions have shifted as the importance of entrepreneurship in driving economic development has become widely recognised. This evolution has led many university students to opt for entrepreneurship, significantly contributing to Malaysia's economic development. Place more emphasis on Scuotto et al. [4] university students are a potential emerging force in the entrepreneurship market that cannot be ignored, as an increase in interest in entrepreneurship among this group over time. These caused many universities to provide various support and recognise the significance of fostering entrepreneurial knowledge among their students. For instance, entrepreneurship courses have been integrated into their educational program, empowering students to pursue their business ventures [5]. Further, universities also leverage entrepreneurship networks by organising industrial sessions with industry experts. All these collective university initiatives aim to enhance their entrepreneurial skills through valuable opportunities with diverse industry professionals.

Recognising the importance of entrepreneurship as a key engine of socio-economic development, the Malaysian government continually supports business ventures through both financial and non-financial support [6]. This is an extensive intervention strategy targeted at extending the population's participation in business, thereby enhancing the national economy. One example is the National Entrepreneurship Policy (DKN) 2030, recognised as a blueprint that aims to cultivate an entrepreneurial culture among the community, ultimately improving the country's competitiveness among worldwide markets by 2030 [7]. In line with this policy, an established Professional Training and Education for Growing Entrepreneurs, also known as the PROTÉGÉ programme, aims to strengthen the students' position and make them interested in entrepreneurial activities through extensive training and relevant courses [8]. This consistently reflects that the Malaysian government attempts to develop a holistic entrepreneurial environment that includes young people's participation in entrepreneurial activities. Furthermore, the role of family support cannot be overemphasised in predicting the intentions of being an entrepreneur. Families can provide various forms of support, including encouragement, information, and practical assistance that enable individuals to participate in entrepreneurial activities [9]. Especially for young entrepreneurs, family members often provide basic resources to help them navigate the challenges of starting a business. It implies that young entrepreneurs can easily manage their financial costs of starting up a business when they get financial support from their family members [10]. Together with family encouragement, it helps improve entrepreneurs' morale due to families' trust in their spirits to become entrepreneurs by creating a sense of security, especially in times of failure.

Despite the benefits of family support, there is still a need for a deeper understanding of how various supports influence young entrepreneurial intentions, especially in the context of postgraduate students. With the increasing popularisation of entrepreneurship knowledge, the entrepreneurial potential among postgraduates is also expected to rise [11]. This situation can lead to a positive impact on the national socio-economy as young entrepreneurs establish businesses innovatively. Prior studies have primarily focused on undergraduate students' entrepreneurial intentions in Malaysia [12-14]. However, research on postgraduate students' entrepreneurship intentions remains scant in Malaysia. Despite the government's introduction of various efforts and policies in this area, little research has been dedicated to assessing the factors that would encourage postgraduate students in Malaysia to pursue entrepreneurship. The rationale for investigating postgraduate students is that they are an essential target group, as they are prospective and mainly possess higher skills and resources than undergraduate students to shape their entrepreneurial intentions, as Amofah et al. [15] pointed out. Similar to Martins et al. [16], future studies should incorporate various supports, including education, families, and ecosystems, to increase the generalizability of the findings. Given the above issues, this study aims to investigate the effects of entrepreneurship education support, ecosystem support, and family support on entrepreneurship intention, with the willingness to take risks as a mediator among postgraduate students in Malaysian higher education.

2. Literature Review

2.1. Theory Underpinned

This study's conceptual framework has been developed based on social cognitive theory (SCT), which is recognised as a contemporary learning theory that reflects that individuals can learn from the social environment [17]. The central concept of SCT is based on individuals striving for a sense of agency by exerting a large degree of influence over important events in their lives. Individuals exercise this sense of agency by using their cognitive and self-regulatory capabilities to attain it. Besides, SCT also highlights that the psychological perspective on human functioning evolved through dynamic reciprocal interactions among three key components [18]. These include (i) environmental inputs, (ii) personal factors, and (iii) behavioural outcomes. In this dynamic conceptualisation, environmental inputs refer to factors related to the social and physical environment that may influence an individual's behaviour, resulting in the propensity to engage in entrepreneurial intentions [19]. These environmental inputs include entrepreneurial education support, family support, and ecosystem support, which could influence employee behaviours and tend to engage in entrepreneurial activities.

More specifically, entrepreneurship education support, including course design and entrepreneurship programmes, all operate as interacting determinants that influence individuals in determining entrepreneurial outcomes [20]. Additionally, a supportive family fosters the motivation and growth of an individual, which can cultivate a good attitude toward entrepreneurial opportunities through financial, informational, and psychological resources, to enhance an individual's confidence level. By recognising the importance of entrepreneurship to economic growth, ecosystem support can also shape an individual's specified behavioural patterns to pursue enterprise activities [21]. For instance, government support policies, both financial and non-financial support, as well as the dynamic economic environment of a country. Underpinned by SCT, Nwosu et al. [19] claimed that individual factors such as occupation, beliefs, cognitive abilities, and emotions may influence how externalities are assessed and decided upon for entrepreneurial participation. At the same time, the interplay between environmental inputs and personal factors operates as interacting determinants that influence individual behaviour. Therefore, this study argued that postgraduate students within Malaysian higher education are influenced by internal and external cues, which prompt them to develop entrepreneurial intentions grounded in SCT.

2.2. Hypothesis Development

2.2.1. Entrepreneurship Educational Support and Willingness to Take Risks

Entrepreneurship education is an increasingly distinct domain within management education, which has resulted in several goal streams for pedagogies applied in higher education [22]. One example is entrepreneurship educational programs that aim to equip students with the necessary skills for future entrepreneurial activities [23]. By leveraging their learned skills, students can shape their soft outcomes through various effective entrepreneurship programs. These soft outcomes can be an individual's awareness, attitudes, or aspirations toward a particular activity, which shape an individual's behaviour. For instance, Ndofirepi [24] has confirmed the role of entrepreneurship education on risk-taking propensity among vocational education students in Zimbabwe. The results reflected that entrepreneurship education can change students' perceptions of innovative and risk-taking activities in business. Besides, the role of entrepreneurship education programs has been examined by Cui et al. [25], Adu et al. [26], and Brüne and Lutz [27]. The researchers indicated that a positive educational environment could increase the respondents' risk-taking behaviour. This is because education provides entrepreneurship-related knowledge that tends to influence an individual to become a risk-taker in the entrepreneurship journey. Similarly, Zhuang and Sun [28] showed that entrepreneurial risk-taking could be significantly affected by their institutional environment, such as the availability and assistance of professional mentors. When individuals receive support from their mentor, they will tend to enhance their confidence level and willingness to take risks when engaging in entrepreneurial activities. Consequently, Hypothesis H1 is further proposed based on these collective findings.

H_1: Entrepreneurship educational support significantly affects the willingness to take risks among postgraduate students in Malaysian Higher Education.

2.2.2. Family Support and Willingness to Take Risk

Family support is essential for developing individual behaviour in all spheres of life through emotional, financial, and instrumental support. Each of these supports cannot be overstated as significantly influencing a person's decision-making, career path, and propensity to take risks [29]. As highlighted by Martins et al. [16], persistent family support has been shown to transform individuals from risk-avoiders to risk-takers, particularly in the context of business start-ups. It implies that individuals who receive support from their family will tend to become risk-takers instead of risk-avoiders. This is because family support is represented as paid and unpaid labour throughout the business life cycle, as claimed by Neneh [30]. For instance, Shahzad et al. [10] evidenced that family support significantly affects the propensity to take risks among business students in Pakistani universities. The findings reflect that family support motivates students to push their boundaries by engaging in entrepreneurial activities they might not otherwise pursue. Similar to Martins et al. [16], it was revealed that family support positively influences the university students' ability to take risks in Islamabad. Undeniably, support from the closest people, such as family, tends to affect student risk-taking behaviour in various business activities significantly. When exposed to a supportive family environment, students become risk-takers with a holistic mindset. This is due to various family backgrounds that can shape people with creative thinking, which makes them more susceptible to risk perception when making decisions [31]. This insight is similar to Browne et al. [32], who discovered that changes in family composition can significantly affect individuals' risk attitudes toward life events. The dynamic of internal family composition or structure can enhance or hinder an individual's propensity to take risks, thereby affecting their entrepreneurial intentions. Consequently, Hypothesis H2 is further proposed based on these collective findings.

H_2: Family support significantly affects the willingness to take risks among postgraduate students in Malaysian Higher Education.

2.2.3. Ecosystem Support and Willingness to Take Risk

Entrepreneurial ecosystems are increasingly recognised as crucial factors that facilitate entrepreneurial behaviours. These ecosystems consist of regulatory policy support, culture, and government support, amongst others, that create a favourable entrepreneurship environment [33]. Prior works have indicated that these ecosystem factors affect an individual's propensity to take risks in entrepreneurial ventures. For instance, Zaato et al. [34] evidenced that government support policies influenced 369 small and medium enterprises' risk-taking in Ghana. These findings supported the view that stable government policies such as tax exemptions and financial subsidies can motivate entrepreneurs to take risks by seeking new business markets. Accords to Shahzad et al. [10], institutional support enhanced the extent of risk-taking in the case of Pakistan. Their findings unveiled that support from financial institutions and government agencies was recognized as a key

determinant in influencing entrepreneurs' decisions to undertake risky business ventures. This is because most company strategies are derived from the ability to sense growth and take risks as markets develop. In a similar vein, Zhang et al. [35] found that economic policy uncertainty positively affected corporate risk-taking in China, especially during the economic shifts and changes in laws and regulations, which push the entrepreneur to take certain risks due to the market's volatility. Consequently, Hypothesis H3 is further proposed based on these collective findings.

H_3: Ecosystem support significantly affects willingness to take risks among postgraduate students in Malaysian Higher Education.

2.2.4. Willingness to Take Risk and Entrepreneurial Intentions

Over time, entrepreneurship has shifted towards specific psychological attributes concerning individual responses to new venture opportunities [36]. Among these factors, risk-taking ability is the most prominent component because people are willing to take risks and become entrepreneurs in the present era, Ilevbare et al. [37]. Bergner et al. [38] explained that willingness to take risks refers to the individual's proactive behaviour in making decisions, especially when faced with uncertain circumstances. It involves making critical decisions for projects that directly relate to an individual's intention to launch a business start-up. A study conducted by Yoopetch [39] found that attitude toward risk-taking was a significant predictor of entrepreneurial intention among 416 employees working in hospitality firms. The finding implied that employees with positive attitudes towards risk-taking showed a higher propensity towards self-employment. Moreover, Tekin and Asar [40] have also confirmed the role of risk-taking propensity on entrepreneurial intention, as risk-taking is not only an attribute but also a behaviour through which risks can be dealt with during entrepreneurship. On a lighter note, Tu et al. [41] further justified these insights by revealing that the risk-taking motive has a significant influence on the students' social entrepreneurial intention of students in Bangladesh. These results suggested that willingness to take risks may explain how students' attitudes towards entrepreneurship activities vary. Based on the collective findings above, it was hypothesised in this study that the willingness to take risks influences the entrepreneurial intentions of postgraduate students in Malaysian higher education.

H_4: Willingness to take risks significantly affects entrepreneurial intentions among postgraduate students in Malaysian Higher Education.

2.2.5. Role of Willingness to Take Risk

A risk-taking propensity means personality traits vital in decision-making processes throughout the entrepreneurship career [10]. Especially where threats and risks exist, the ability to mobilise the resources needed is required in order to seize those opportunities. For instance, Shahzad et al. [10] and Zhang et al. [11] provided mediator evidence of the propensity to take risks between educational support and entrepreneurial intention among students in Pakistan and Zimbabwe, respectively. The implications highlighted that students who received entrepreneurial education support will be expected to take risks, which, in turn, will enhance their entrepreneurial intention. In its implementation, it can directly foster the understanding of those students to become successful future entrepreneurs. In addition, Jiang et al. [42] pointed out that risk-taking is a prominent individual trait that mediates the relationship between government-policy support and entrepreneurial intentions in China. This result concurs with Yusoff et al. [43], who stated that the risk-taking propensity mediated the relationship between environmental factors and the entrepreneur's success in Malaysia. These findings revealed that the country could establish a favourable external environment for increasing individuals' willingness to take risks, ultimately improving their entrepreneurial intentions. Moreover, Shahzad et al. [10] and Martins et al. [16] also confirmed the mediator role of risk-taking propensity between family support and entrepreneurial intention. Individual motivation can be largely increased when perceiving strong support from their families; at the same time, people are highly willing to take risks in entrepreneurship. In other words, it effectively motivates people when they receive assistance from the family; therefore, they tend to become risk-takers in various dynamic entrepreneurial activities. According to these collective findings, Hypotheses H5, H6, and H7 are also introduced.

H_5: Willingness to take risks mediates the relationship between entrepreneurship educational support and entrepreneurial intentions among postgraduate students in Malaysian Higher Education.

H_6: Willingness to take risks mediates the relationship between ecosystem support and entrepreneurial intentions among postgraduate students in Malaysian Higher Education.

H_7: Willingness to take risks mediates the relationship between family factors and entrepreneurial intentions among postgraduate students in Malaysian Higher Education.

3. Methodology

3.1. Sample and Procedure

The research employed a quantitative, cross-sectional design. Data were collected from Malaysian postgraduate university students using an online survey questionnaire. The original English-language questionnaire was translated into Malay and then back-translated into English by a bilingual English-Malay translator to ensure consistency and quality. Before distribution, the questionnaire underwent a pre-test with three scholars and a pilot test with 30 postgraduate students from various backgrounds and universities [44]. Feedback from these tests was incorporated into the final version of the questionnaire. We used a purposive sampling technique, and data collection occurred from July to September 2024. Participants were informed about the anonymity of their responses, and confidentiality was assured. A total of 227 postgraduate students, including 81 males and 146 females, responded, resulting in a response rate of 71%. Respondents were

classified based on their gender, age, level of education currently pursuing, mode of study, and university types (see Table 1).

Table 1.
Respondent profile.

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	81	35.7
	Female	146	64.3
Age	18 – 24	17	7.5
	25 – 34	43	18.9
	35 – 44	87	38.3
	45 – 54	56	24.7
	55 - 64	23	10.1
	>64	1	0.4
Level of education currently pursuing	Doctorate degree	111	48.9
	Master's degree	116	51.1
Mode of study	Full-time	125	55.1
	Part-time	102	44.9
Types of university	Public university	161	70.9
	Private university	66	29.1

3.2. Measurement

Based on the literature review, a pool of items was gathered to develop the survey questionnaire for construct measurements. All item assessments utilised a five-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. Entrepreneurship educational support. This study adopted the scale of Alvarez-Risco et al. [45] with 5 items. The following are examples of statements related to the construct: "My university offers elective courses on entrepreneurship," and "My university connects students with entrepreneurs." The reliability of the entrepreneurship educational support measure was 0.80 (Cronbach's α).

Ecosystem support and Family support. Three items for the ecosystem support scale and five items for the family support scale were adapted from Shen et al. [46]. Sample items relating to ecosystem support included "Malaysia's economy provides many opportunities for entrepreneurs" and "In Malaysia, laws (rules and regulations) are favourable to running a business," while sample items relating to family support included "My family members will encourage me to start my business" and "My family members will give me the advice to start my own business." The reliability of the ecosystem support and family support measures was 0.80 and 0.87, respectively (Cronbach's α).

Entrepreneurship intentions. The entrepreneurship intentions scale, consisting of six items, was adopted from Liñán and Chen [47] to measure the postgraduate students' entrepreneurship intentions in this study. Sample items included "I am ready to do anything to be an entrepreneur" and "I will make every effort to start and run my own firm". The reliability of the entrepreneurship intention measure was 0.79 (Cronbach's α).

Willingness to take risks. As the mediator of the study, five items were adopted from Agustina and Fauzia [48] for the mediator scale. The scale measures the postgraduate students' willingness to take risks. The following are examples of statements relating to the construct: "I am ready to accept entrepreneurial risks" and "I have the ability to calculate risks that will occur." The reliability of the willingness to take risks measure was 0.81 (Cronbach's α).

3.3. Data Analysis

The study calculated the descriptive statistics of the respondents and conducted a preliminary analysis, which included handling missing values, a normality test, and common method bias using SPSS v25 software [49, 50]. In this study, no missing data was found in the dataset. Following the suggestion from Kline [51], the skewness and kurtosis values for all items in the measured constructs are within the range of ± 3; hence, the data collected were normally distributed. Common method bias was examined using Harman's single-factor test, and the first factor only explained 24.771%, indicating that common method bias is not a problematic issue [52].

To examine the relationships between multiple variables and evaluate them simultaneously, the structural equation modelling (SEM) approach, specifically partial least squares structural equation modelling (PLS-SEM), is used in this study due to the explanatory-predictive nature of the study [53]. The first stage of data analysis begins with assessing the measurement model, which includes evaluating the constructs' reliability and validity, namely Cronbach's alpha, composite reliability, convergent validity, assessed by using average variance extracted (AVE), and discriminant validity-assessed by using Heterotrait-Monotrait ratio of correlations (HTMT) [54]. The second stage of the data analysis focuses on assessing the structural model. This involves examining the strength and significance of the relationships between the exogenous and endogenous variables, assessed using path coefficient, while to examine the extent of the influence of exogenous variables on the change in endogenous variables, R-squared (R^2) was tested [55].

4. Results

4.1. Measurement Model Evaluation

The measurement model has been respecified with five constructs and 24 items. Table 2 lists the constructs and items, along with the factor loadings for each item, and provides the values of Cronbach's alpha, composite reliability, and average variance extracted (AVE) for the constructs. All the factor loadings for items statistically exceed the threshold of 0.70, ranging from 0.767 to 0.914 [56]. Moreover, the values of Cronbach's alpha, composite reliability, and AVE are above their respective threshold levels: 0.70 for Cronbach's alpha and composite reliability and 0.5 for AVE, indicating sufficient reliability and acceptable convergent validity.

Table 2.
Results of measurement model.

Construct	Construct Acronym	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
Entrepreneurship Educational Support	EES	0.880	0.923	0.942	0.765
		0.872			
		0.866			
		0.877			
		0.878			
Entrepreneurship Intentions	EI	0.864	0.909	0.930	0.689
		0.826			
		0.815			
		0.835			
		0.834			
		0.804			
Family Support	FS	0.846	0.905	0.929	0.725
		0.888			
		0.820			
		0.874			
		0.826			
Ecosystem Support	ES	0.903	0.890	0.932	0.820
		0.899			
		0.914			
Willingness to Take Risks	WTR	0.843	0.916	0.933	0.665
		0.876			
		0.789			
		0.799			
		0.767			

Table 3 presents the discriminant validity for the constructs. The discriminant validity was evaluated using the HTMT ratio. According to the results depicted in Table 3, the measurement indicates satisfactory discriminant validity for structural path modelling. Since the constructs are conceptually similar, the rule of thumb referred to is that an HTMT value above 0.90 would suggest that discriminant validity is not present [57].

Table 3.
Results of heterotrait-monotrait (HTMT) ratio.

Construct	EES	EI	FS	ES	WTR
EES					
EI	0.587				
FS	0.589	0.774			
ES	0.597	0.663	0.689		
WTR	0.545	0.729	0.679	0.695	

4.2. Structural Model Evaluation

To evaluate the significance of the path coefficients and the proposed hypotheses, the bootstrapping technique—a method for estimating the distribution of any statistical parameter was used. The bootstrapping analysis was conducted using a sample of 5000, as recommended by Inuwa [58] and Becker, et al. [59]. The results of the bootstrapping analysis are shown in Figure 1.

As can be seen in Figure 1, willingness to take risks is driven by the expected antecedents derived from H1 to H3. The strongest predictor of willingness to take risks is ecosystem support ($\beta = 0.347$, t-statistic = 4.274, $p < 0.000$). Both entrepreneurship educational support ($\beta = 0.336$, t-statistic = 4.274, $p < 0.000$) and family support ($\beta = 0.135$, t-statistic = 2.439, $p < 0.05$) are significant in predicting willingness to take risks, yet less important compared to ecosystem support.

Hence, the results supported H1-H3. In addition, willingness to take risks is reported as a significant driver of entrepreneurship intentions (β = 0.666, t-statistic = 9.282, p < 0.000). This largely confirms H4.

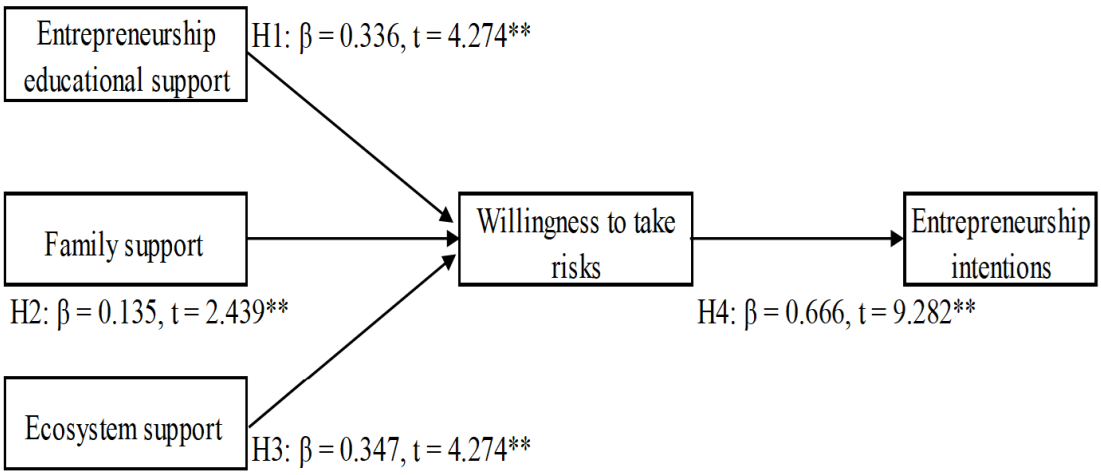

Figure 1.
Results of direct effects.

After assessing the direct effects between entrepreneurship educational support, family support, ecosystem support, willingness to take risks, and entrepreneurship intentions, the mediating impact of willingness to take risks was examined. The indirect effects are presented in Table 4. The mediating effect was evaluated by comparing the specific indirect paths to their direct paths [60, 61]. The results indicated that willingness to take risks provided a mediation effect between the relationships of entrepreneurship educational support and entrepreneurship intentions (β = 0.090, t-statistic = 2.171, p < 0.05), family support and entrepreneurship intentions (β = 0.224, t-statistic = 3.445, p < 0.05), and ecosystem support and entrepreneurship intentions (β = 0.231, t-statistic = 3.976, p < 0.05). The results supported H5 to H7.

Table 4.
Results of indirect effects (mediation).

Hypothesis	Path Coefficient	T Statistics	Results
H5: EES → WTR → EI	0.090	2.171	Supported
H6: FS → WTR → EI	0.224	3.445	Supported
H7: ES → WTR → EI	0.231	3.976	Supported

To understand the predictive functions for the constructs' relationships, the variance accounted for (R^2) is obtained. Table 5 reports that 48.9 percent of the variation in willingness to take risks, which is the highest explained variance, is explained by entrepreneurship educational support, family support, and ecosystem support, followed by entrepreneurship intentions with an R^2 value of 44.2 percent.

Table 5.
Coefficient of determination (R^2).

Construct	R-square adjusted
Entrepreneurial intentions	0.442
Willingness to take risks	0.489

5. Discussion

This study highlights the underlying determinants of willingness to take risks and entrepreneurial intention in Malaysian higher education. The result indicates that entrepreneurship education positively impacts willingness to take risks, and H1 is supported. It further suggests that when universities offer more courses and projects on entrepreneurship, postgraduate students in Malaysian higher education are more likely to take risks in starting a business. While this finding concurs with previous studies conducted by Cui et al. [25] and Adu et al. [26] on the importance of entrepreneurship education in the classroom, our study adds value to the current literature by verifying the positive link between educational factors and risk tolerance among postgraduate students in Malaysian higher education. This study validates the importance of family support in influencing the ability of postgraduate students to take risks, thus supporting H2. The findings imply that encouragement and approval from family members in becoming entrepreneurs enhance postgraduate students' preparedness for potential risks. This result aligns with prior literature on this relationship [10, 16]. And this study adds value by including monetary support when venturing into a new business.

In relation to family support, this study confirms that ecosystem support impacts willingness to take risks (H3). This further explains that numerous entrepreneurial opportunities and a well-structured system provided by the country enhance students' willingness to take risks. The result is in line with studies conducted by Zaato et al. [34] and Nicotra et al. [62], which indicated that government stability motivates entrepreneurs to take risks when venturing into new businesses. This

study explains that willingness to take risks influences the relationship between entrepreneurial intentions, thus supporting H4. This suggests that when postgraduate students are willing to accept entrepreneurial risks, they are more likely to become entrepreneurs. These findings align with studies conducted by Bergner et al. [38] and Lone and Baba [63].

The findings reveal that willingness to take risks enhances the relationship between educational factors, family factors, ecosystem factors, and entrepreneurial intentions, thus supporting H5, H6, and H7. This explains that support from universities, by connecting students with entrepreneurs and organizing conferences and workshops related to entrepreneurship, provides insights to postgraduates that help them calculate potential risks, ultimately preparing them to become entrepreneurs. Moreover, family approval and advice on their entrepreneurial actions significantly impact postgraduate students, encouraging openness to new experiences, which can lead them to start their own businesses someday. Ultimately, Malaysian laws, such as regulations for business owners, motivate postgraduate students to accept entrepreneurial risks and build their efforts to start and run their own businesses.

6. Implications

This current study has both theoretical and practical implications. The most significant theoretical implication is that it highlights three key factors that influence the willingness to take risks, reflected in higher entrepreneurial intentions. By integrating internal and external cues (such as entrepreneurial education, family support, and ecosystem support), this study enhances the Social Cognitive Theory (SCT) model, demonstrating how these factors prompt postgraduates to develop entrepreneurial intentions. This study validates the SCT model in an entrepreneurial context, contributing to existing scholarly knowledge on fostering entrepreneurial intentions in Malaysia, whereas previous studies utilized the Theory of Planned Behavior to examine entrepreneurial intentions [64, 65]. Moreover, this study validates ecosystem support as the strongest predictor of the willingness to take risks, confirming that laws, rules, and regulations, as well as a strong supportive structural system, are essential for encouraging postgraduate students to run their own businesses. This is crucial as it helps academics understand the importance of support in the context of higher education.

The empirical findings from this study provide valuable practical insights to the government, specifically the Ministry of Higher Education (MoHE) and universities to strengthen the higher education system. This can be accomplished by offering projects, courses, and workshops on entrepreneurship, serving as one of the supports to nurture talent through the education system. Moving towards knowledge empowerment for a sustainable education, the higher education system should focus on a balance between theory and practice in entrepreneurship. As such, real-life entrepreneurial practices are essential in providing students with the opportunities to connect with entrepreneurs.

Second, the findings suggest that ecosystem support is one of the strongest factors that lead to entrepreneurs being willing to take risks. This indicates that a robust support structure from private, public, and non-governmental organizations could encourage postgraduate students to take risks and engage in entrepreneurial activities. Support from the Ministry of Entrepreneur Development and Cooperative in introducing a Professional Training and Education for Growing Entrepreneurs (Protégé) is essential in nurturing talented individuals following Malaysia's Dasar Keusahawanan Nasional (DKN) 2030. These initiatives could enhance postgraduate students' ability to perform entrepreneurial activities by learning the latest laws when running their own businesses. The findings could provide insights for Protégé to offer relevant information, skills, training, and encouragement to postgraduates, preparing them to accept entrepreneurial risks and create their own firms in the future.

Lastly, various groups (i.e., educators, universities, and families) can greatly benefit from the study's findings regarding entrepreneurial intention in higher education. The findings highlight the importance of educators in providing platforms for postgraduates to perform entrepreneurial activities and provide relevant conferences to broaden their knowledge and interest in becoming entrepreneurs. Alongside this, family support is crucial in shaping students' willingness to take risks and their intention to become entrepreneurs. It suggests that family support, such as encouragement and approval, can enhance postgraduate students' ability to calculate risks and consider starting a firm in the future.

7. Conclusion

While most previous research on entrepreneurship in Malaysian education concentrated on undergraduate students, the entrepreneurial potential of postgraduate students, with their diverse backgrounds and life experiences, has received less attention. This study aims to fill this gap by examining entrepreneurship intention from the perspectives of postgraduate students who are poised to enter the workforce. Using Social Cognitive Theory, this study examines the effects of entrepreneurship education, family, and ecosystem supports on the willingness to take risks, and the mediating role of willingness to take risks between these support factors and the entrepreneurship intention of the postgraduate students in Malaysian Higher Education. Among the three significant factors, ecosystem support is the most contributing factor to risk-taking willingness, followed by entrepreneurship education and family support. Generally, for an individual to venture into a new business, his or her willingness to take risks is a crucial factor as it is often linked to higher confidence, innovative thinking, and the ability to make high-risk decisions that can make or break the venture. Therefore, various support programmes should specifically target and nurture this risk-taking mindset to encourage entrepreneurial intention effectively. In conclusion, the inclusion of postgraduate students in developing effective support programmes is vital as entrepreneurship plays a pivotal role in a country's economic growth, innovation, and social development. By fostering a culture of entrepreneurship, government, educational institutions, and family support help to empower young people to become successful job creators or innovators for an enterprise in the competitive business world.

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