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Article

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Administrative Sciences

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Suggested Citation: Mujtaba, Ghulam; Siti Nur 'Atikah Zulkiffli; Siti Falindah Padlee; Mohamed, Wan Norhayati; Najahul Kamilah Aminy Sukri (2025) : Impact of entrepreneurial inspiration, awareness, and skills on University Students' entrepreneurial intentions: The mediating role of entrepreneurial education, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 15, Iss. 1, pp. 1-20, <https://doi.org/10.3390/admsci15010015>

This Version is available at:

<https://hdl.handle.net/10419/321160>

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Article

Impact of Entrepreneurial Inspiration, Awareness, and Skills on University Students' Entrepreneurial Intentions: The Mediating Role of Entrepreneurial Education

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Abstract: In the pursuit of development and evaluation, entrepreneurship is the key to unlocking the shackles of poverty and unemployment. However, Pakistani students often catch themselves lacking the catalyst that ignites the entrepreneurial flame due to the absence of the essential knowledge, skills, and creative mindset, which can lead to significant challenges and a dim attitude toward entrepreneurial intentions. The harsh reality is that the rate of new business formation in Pakistan is only 1.5%. Therefore, the study aims to shed light on the impact of entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness on the intentions of Pakistani university students with the mediating effects of entrepreneurial education. Revealing the importance of entrepreneurial education in shaping the minds and desires of the students, seven hypotheses were developed based on social cognitive theory (SCT). A comprehensive survey was used to collect primary data from final-year business students, with a sample size of 865, from seven universities in the Punjab region of Pakistan that provide higher education in entrepreneurship and the data were analyzed in two stages, namely a model measurement and structural model Via Smart PLS 4. The findings clearly augment entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness, which can ignite the flames of entrepreneurship among Pakistani students. Moreover, entrepreneurial education plays a crucial role in mediating relationships and motivating students to choose entrepreneurship as a future occupation. However, the study is restricted to the Punjab region of Pakistan and focuses solely on final-year business students. This study serves as a guiding light of hope for academics, policymakers, and educational institutions to emphasize the need to revamp the business education landscape in Pakistan to foster entrepreneurial passion among our future leaders.

Keywords: entrepreneurial inspiration; entrepreneurial awareness; entrepreneurial knowledge; entrepreneurial intention; social cognitive theory; university students; Pakistan



Received: 6 August 2024
Revised: 23 December 2024
Accepted: 30 December 2024
Published: 2 January 2025

Citation: Mujtaba, G., Zulkiffli, S. N. 'A., Padlee, S. F., Mohamed, W. N., & Sukri, N. K. A. (2025). Impact of Entrepreneurial Inspiration, Awareness, and Skills on University Students' Entrepreneurial Intentions: The Mediating Role of Entrepreneurial Education. *Administrative Sciences*, 15(1), 15. <https://doi.org/10.3390/admsci15010015>

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1. Introduction

Entrepreneurship is the spark that ignites economic growth, poverty reduction, and unemployment elimination. The Global Entrepreneurship and Development Institute sheds light on the performance and development of entrepreneurial ecosystems at the national and provincial levels, highlighting the crucial role that entrepreneurship plays in sustainable economic growth (Akinwale et al., 2020). In addition, Martins et al. (2023)

also argued that entrepreneurship has an insightful impact on the economy, generating business opportunities and wealth creation. From a Pakistani perspective, [Hassan et al. \(2020\)](#) also highlighted that entrepreneurship has been identified as a critical factor for sustainable social and economic development, generating business opportunities and wealth creation. Indeed, [Soomro et al. \(2020\)](#) and [Tanveer et al. \(2021\)](#) also indicated that the entrepreneurial intention of individuals is fueled by self-inspiration, self-confidence, and a desire to be involved in entrepreneurial activities ([Munir et al., 2022](#)). As the world continues to evolve, it is clear that entrepreneurship plays a vital role in shaping the future of economies and societies.

Entrepreneurial inspiration is a transformative experience that changes thoughts and emotions and leads to a mindset toward entrepreneurial activities, which is triggered by entrepreneurial events that ultimately affect an individual's attitude toward entrepreneurship ([Yu & Lu, 2023](#)). However, [Van Ewijk et al. \(2021\)](#) also argued that entrepreneurial inspiration motivates individuals to embark upon their entrepreneurial journeys while encouraging them to recognize potential business opportunities. In addition, the study of [Yu and Lu \(2023\)](#) mentioned a positive correlation between entrepreneurial inspiration and entrepreneurial intention, indicating that entrepreneurial inspiration plays an essential role in exposing individuals to various entrepreneurial opportunities while increasing their entrepreneurial intention to engage in entrepreneurial activities, which contributes to their success in starting and managing businesses.

Entrepreneurial awareness is recognized as crucial knowledge for understanding the significance of entrepreneurship, which is the energetic path for cultivating entrepreneurial intention among university students ([Khawar et al., 2022](#)). Entrepreneurial awareness can be developed through various methods, including policy interpretation, understanding how to run and manage the business, using successful role models that have business knowledge, and coordinating support from business professionals and organizations ([Singh et al., 2024](#)). However, from the Pakistani perspective, there is a lack of empirical evidence regarding entrepreneurial awareness and perceptions of entrepreneurship from a Pakistani perspective ([Khawar et al., 2022](#)). Indeed, [Khawar et al. \(2022\)](#) also mention that enhancing entrepreneurial awareness plays a vital role in developing entrepreneurial intention and inspiring them to pursue entrepreneurship as a future occupation.

The term "skill" is rooted in psychology and refers to an individual's knowledge and abilities that foster self-efficacy and self-confidence, enabling them to manage unexpected business events and turn them into opportunities ([Shahzad et al., 2021](#)). According to [Khawar et al. \(2022\)](#), emphasizing entrepreneurial skills, including planning, risk-taking, goal-setting, and market knowledge, significantly influences entrepreneurial intention among university students in Pakistan. In addition, [Widodo et al. \(2022\)](#) highlight that fostering practical-based entrepreneurial activity can encourage the student's entrepreneurial intention and enhance their confidence in managing unforeseen business challenges ([Peng et al., 2021](#)).

In addition, entrepreneurial education provides a platform for the younger generation to start new businesses while enhancing their knowledge, skills, and awareness ([Loan et al., 2021](#)). Indeed, [S. Singh \(2020\)](#) argued that an entrepreneurial curriculum is recognized for enhancing entrepreneurial awareness and fostering aspirations and skills among university students. Furthermore, [Francis \(2022\)](#) indicated a strong correlation between entrepreneurial education and students' entrepreneurial intentions, as entrepreneurial education significantly influences students' desire to engage in entrepreneurial activities in the future. In addition, [Abu Bakar et al. \(2020\)](#) argued that entrepreneurial education as a mediator plays an essential role in improving students' entrepreneurial awareness by introducing different workshops and seminars.

Entrepreneurial intention refers to an individual's readiness and desire to engage in entrepreneurial activities, utilizing their unique skills to achieve business success (Martins et al., 2023). According to Kong et al. (2020), intention is a psychological state focused on specific business goals and driven by a strong motivation to pursue entrepreneurial ventures. In the context of Pakistani university students, Martins et al. (2023) highlighted various strategies to foster entrepreneurial intention, such as promoting entrepreneurial education, enhancing self-efficacy, improving the educational environment, and developing effective curricula. Similarly, Fragoso et al. (2020) defined entrepreneurial intention as the belief that an individual is committed to pursuing entrepreneurship as a future career and to contributing to the establishment of new business ventures.

However, there is a lack of empirical evidence on entrepreneurial awareness and perceptions from a Pakistani perspective. Munawar et al. (2023) and Khawar et al. (2022) note that despite the potential benefits of entrepreneurial education, many university students in Pakistan face challenges in starting their own businesses after graduation due to insufficient entrepreneurial knowledge, awareness, and competencies. Research by the World Bank in 2020 reveals that the rate of new businesses in Pakistan is only 1.5%, which is notably low for achieving meaningful economic development. This low rate is attributed to factors such as limited awareness, an outdated educational curriculum, few opportunities for professional development, a traditional schooling system, a low educational budget, and ineffective feedback mechanisms (Soomro et al., 2022; Tanveer et al., 2021). Noor and Isa (2020) argue that the high business failure rate in Pakistan—at 81.8—is partly due to the lack of trained staff at higher education institutions, particularly in the field of entrepreneurship, leading to fewer entrepreneurial activities. The high failure rate is mainly caused by a lack of knowledge and skills, poor business planning, and insufficient financial resources (Soomro et al., 2020).

Therefore, in light of the literature discussed, a theoretical research model has been developed to tackle the identified issues, such as lack of skill, awareness, knowledge, perception, and intention among Pakistani university students. This research aims to cultivate and enhance students' entrepreneurial attitudes through suitable educational practices and environments. Specifically, the research seeks to assess the impact of entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness on students' perceptions of entrepreneurial intention. Additionally, the study aims to investigate the mediating effects of entrepreneurial education in promoting entrepreneurial activities among university students in Pakistan. The study's findings provide valuable insights for policymakers, academicians, and other stakeholders in developing effective policies to foster entrepreneurship among university students and increase their entrepreneurial awareness regarding entrepreneurial intentions. Notably, the entire model is novel within the Pakistani context, as it explores new dimensions and expands the existing literature on entrepreneurial intention. This research stands out due to its unique approach, as no prior studies have combined these constructs with the mediating effects of entrepreneurial education.

2. Literature Review

2.1. Underpinning Theory and Hypotheses

The Social Cognitive Theory (SCT), as proposed by Bandura et al. (1999), is particularly suitable for analyzing human thoughts, behaviors, and other factors that influence an individual's perspective on entrepreneurship. The theory (SCT) has been applied to investigate how individuals' mental flexibility and self-confidence affect their entrepreneurial aspirations (Raharjo et al., 2024). According to Biraglia and Kadile (2017) and AbdelAziz et al. (2023), an individual's actions are shaped by the complex interplay of three components: personal inputs, environmental input, and behavioral outcomes. Bandura's SCT suggests

that an individual's ability to be involved in entrepreneurial activities can be influenced by personal characteristics, including career aspirations, beliefs, cognitive skills, and emotional states (Bandura, 2015).

Environmental inputs encompass social and cultural factors that impact an individual's capacity to learn, including education, educational institutions, and expert guidance (Bandura, 2015). The behavioral outcomes reflect an individual's ability to engage in entrepreneurial activities, which are influenced by environmental and personal inputs. Additionally, Handayati et al. (2020) proposed that Social Cognitive Theory enhances an individual's perspective on entrepreneurship, nurtures an entrepreneurial mindset, and encourages creativity in launching new ventures.

2.2. Entrepreneurial Inspiration

Entrepreneurial inspiration has been recognized as a significant catalyst that drives entrepreneurial intention by influencing how individuals perceive opportunities and make decisions regarding their entrepreneurial mindset (Li et al., 2023). Van Ewijk et al. (2021) emphasized that entrepreneurial inspiration is a crucial tool for starting an entrepreneurial journey by helping individuals recognize and grab new business opportunities. However, entrepreneurial inspiration not only ignites the exploration of new innovative ideas and aspirations to start a business but also provides the necessary framework for individuals in an inspiring environment to pursue their entrepreneurial determinations. Li et al. (2023) also argued that entrepreneurial inspiration can be fostered from various sources, including personal experiences, role models, and educational environments that collectively shape an individual's mindset toward entrepreneurship. In addition, Yu and Lu (2023) also concluded that there is a positive correlation between entrepreneurial inspiration and entrepreneurial intention. The relationship underscores the importance of fostering an inspiring environment that encourages individuals to pursue their entrepreneurial intentions or desires. However, according to Li et al. (2023), entrepreneurial education plays a crucial role in enhancing entrepreneurial inspiration by equipping the abilities of motivation, passion, courage, and a willingness to take risks.

2.3. Entrepreneurial Awareness

Entrepreneurial awareness emphasizes the essential knowledge and understanding of entrepreneurship, which are essential for boosting entrepreneurial intention among university students (Albhirat et al., 2024; Rincy, 2019). Further, Rincy (2019) also argued that entrepreneurial awareness describes an individual's awareness and attitude toward entrepreneurship, expanding the opportunities related to entrepreneurship as a future occupation. Indeed, Li (2019) also indicated various strategies for developing entrepreneurial awareness among students, including interpreting policies, showcasing successful entrepreneurs as role models, and coordinating support from business professionals and education. However, Khawar et al. (2022) underlined that entrepreneurship education plays a crucial role in cultivating students' attitudes, fostering their entrepreneurial awareness, and promoting an innovative mindset that enhances their creativity and contributes to the overall advancement of entrepreneurial innovation (Liu, 2019). Khawar et al. (2022) pointed out the importance of entrepreneurial awareness as a vital role in enhancing entrepreneurial intention among Pakistani university students. However, there is a notable lack of empirical evidence regarding the impact of entrepreneurial awareness on entrepreneurial intention among Pakistani university students. This gap underscores the need for further research to explore how entrepreneurial awareness is perceived among students in Pakistan and how it can be effectively integrated into educational programs.

Understanding dynamics is essential for fostering a robust entrepreneurial ecosystem that can drive innovation and economic development in the region.

2.4. Entrepreneurial Skills

The concept of “skills” is rooted in psychological analysis and refers to the combination of competencies every entrepreneur must need. It is also crucial for effective business operations and managing success (Khawar et al., 2022). The research conducted by Safdar et al. (2022) indicates that entrepreneurial skills significantly influence and foster an entrepreneurial spirit among university students. In addition, Khawar et al. (2022) also argued that entrepreneurial skills, including planning, goal setting (Mei et al., 2020), and market knowledge, play a vital role in shaping the entrepreneurial intention of Pakistani university students. Moreover, Othman et al. (2020) highlight that the essential components of entrepreneurial skills, such as planning, risk-taking, and goal-setting (Mei et al., 2020) are critical for organizational effectiveness. These elements are integral to establishing, maintaining, and achieving business goals, thereby enhancing operational efficiency. Further, Khawar et al. (2022) also noted that Pakistani university students need to refine their entrepreneurial competencies to meet the necessary objectives for successfully implementing any business plan. Further, according to Othman et al. (2020), planning, risk-taking, goal-setting (Mei et al., 2020), and marketing strategy (Safdar et al., 2022) are essential components of organizational functioning since they include establishing, sustaining, and achieving business goals, which improve the operational efficiency of the business. According to Khawar et al. (2022), entrepreneurial skills such as planning, goal setting, and market knowledge also significantly impact entrepreneurial intention among Pakistani university students. Table 1 lists the fundamental personal and professional skills students must develop during their university education, including various qualities that are crucial for success in their future employment and professional life.

Table 1. Development of skills.

Skills to Develop	An Example of a Short-Term Means of Development
Personal Skills	
Ability to adapt, self-analysis, high energy level, strives for leadership, knowledge, positive attitude, and adequate assessment of the environment.	Conduct an empirical examination of individuals who demonstrate outstanding capacity in the skills to be developed. This article critically evaluates different behavioral patterns linked to achieving success or revealing particular personal qualities.
Entrepreneurship	A proactive role in the discussion of the organization and the customer to accurately delineate the customer’s specific requirements. Engagement in a marketing initiative undertaken by a collective of artists.
Insight, business-like thinking	Participation in a meeting exploring prospective methods for acquiring shares or different organizational assets. Collaborating with an individual who demonstrates innovative perception, has a strategic mindset, and is actively attempting to effectuate a transformation in a financially unsustainable situation.

Table 1. Cont.

Skills to Develop	An Example of a Short-Term Means of Development
Communication	Working as a public relations mediator to represent collaborative initiatives involving charitable funds or promoting cultural areas is frequently observed within organizational contexts. The organization offers favorable support in preparing reports about a specific group's performance outcomes and engaging with employees who belong to social-cultural minority groups, assisting in their adaptation process, evaluating their performance, and other related activities.
Influence, persuasion	Execute a comprehensive search for financial resources or alternative means of support for a significant project. Help organize a meeting between the organization's employees and a considerable customer or prepare a presentation for a claimed client.
Professional skills	
Process management	Plan and execute a compassionate donation drive within the organization. Manage a team tasked with coordinating annual events within the organization.
Resource management	Facilitate the implementation of extensive organizational improvements, engage in the collaborative efforts of a collective that executes a particular strategy, and contribute to developing a comprehensive blueprint for a community event, such as a festival or show.
Decision making	Engage collectively under the guidance of an expert with exceptional aptitude in making informed judgments. Manage the execution of community-based initiatives.
Conceptual thinking	Work together as a group under the supervision of a highly skilled individual with exceptional abilities to make well-informed assessments. Manage the implementation of community-oriented activities.

Source: [Zakarevičius and Župerkienė \(2008\)](#).

2.5. Entrepreneurial Education as a Mediator

Entrepreneurial education can provide an educational platform for younger students with a valuable opportunity to enhance their basic knowledge, skills, and personal and professional attributes necessary for launching innovative businesses ([Raza et al., 2020](#)). Additionally, research by [Loan et al. \(2021\)](#) has shown that entrepreneurial education is linked to the enhancement of entrepreneurial skills and the cultivation of entrepreneurial aspirations among university students. Indeed, [Raza et al. \(2020\)](#) found a positive relationship between the development of entrepreneurial skills, entrepreneurial awareness, and entrepreneurial intention among Pakistani university students. [Widodo et al. \(2022\)](#) emphasized that entrepreneurial education supports developing basic skills, fosters entrepreneurial awareness, and significantly influences the entrepreneurial intentions of Pakistani university students ([Khawar et al., 2022](#)). Furthermore, [Saoula et al. \(2023\)](#) concluded that entrepreneurial education acts as a mediator that significantly enhances entrepreneurial inspiration and intention while providing essential entrepreneurial awareness.

In Pakistan's context, entrepreneurship education has been designed to inspire and motivate students to pursue professional careers effectively ([Khan et al., 2022](#); [Khawar et al., 2022](#); [Munawar et al., 2023](#)). This field of entrepreneurship education has garnered considerable attention and recognition within educational institutions, policy-making circles, and government initiatives, and it has been acknowledged for its significant role in fostering economic growth ([Mahmudin, 2023](#)). However, [Shahzad et al. \(2021\)](#) pointed out that there is a need to revamp the infrastructure of educational institutions and the university curriculum by incorporating entrepreneurship-training workshops, which should be essential

across all undergraduate disciplines in Pakistan. However, the entire model presents a novel approach within the Pakistani context, pushing new boundaries and contributing to the existing literature on entrepreneurial intention. Notably, no prior studies have explored the combined constructs, such as the impact of entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness on the intentions of Pakistani university students with the mediating effects of entrepreneurial education along with the mediating effects of entrepreneurial education.

2.6. Theoretical Framework

To address the research objectives, a theoretical framework has been designed based on the study's aim (see Figure 1).

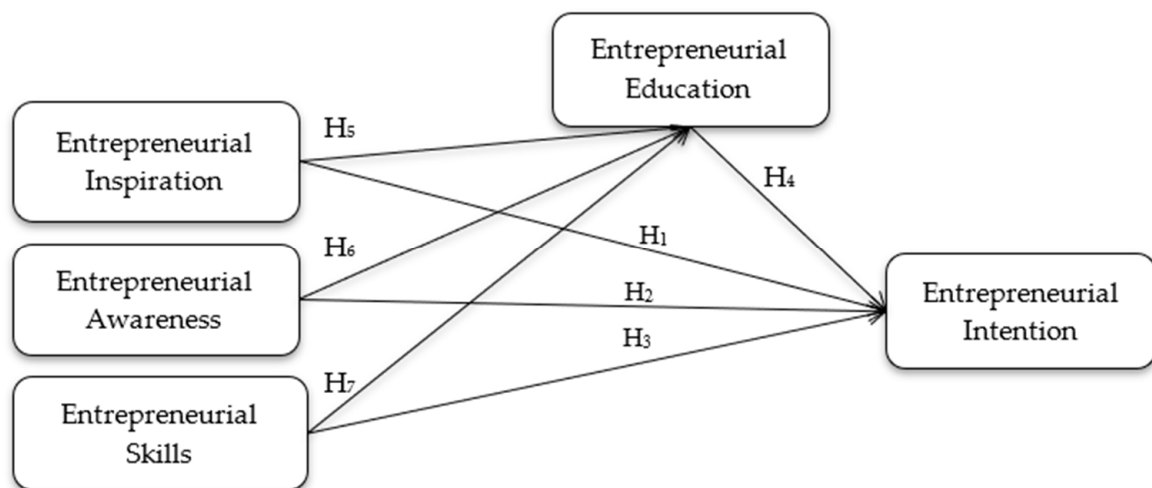


Figure 1. Theoretical framework.

H1: *Entrepreneurial inspiration has a positive impact on entrepreneurial intention among Pakistani university students.*

H2: *Entrepreneurial skills have a positive impact on entrepreneurial intention among Pakistani university students.*

H3: *Entrepreneurial awareness has a positive impact on entrepreneurial intention among Pakistani university students.*

H4: *Entrepreneurial education has a positive impact on entrepreneurial intention among Pakistani university students.*

H5: *Entrepreneurial education significantly mediates the relationship between entrepreneurial training and entrepreneurial intention among Pakistani university students.*

H6: *Entrepreneurial education significantly mediates the relationship between entrepreneurial skills and entrepreneurial intention among Pakistani university students.*

H7: *Entrepreneurial education significantly mediates the relationship between entrepreneurial awareness and entrepreneurial intention among Pakistani university students.*

3. Methodology

The current study adopts an explanatory approach, utilizing quantitative research through closed-ended questionnaire surveys with 5-point Likert scale responses, with 1 for strongly disagree to 5 for strongly agree. The online questionnaires were distributed across seven universities, comprising four private and three public institutions in Pakistan. The proposed mediating model consists of five constructs: entrepreneurial inspiration, entrepreneurial skills, entrepreneurial awareness, entrepreneurial education, and entrepreneurial intention. The constructs of the model were evaluated through different items from different resources, such as entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness, which have four items. Entrepreneurial education and entrepreneurial intention have five dedicated items to construct for evaluation. Data were gathered from final-year business students in the 2020 and 2021 cohorts at seven universities in the Punjab region of Pakistan (see Table 2). To analyze the path relationships among the constructs and test the hypotheses, SmartPLS (version 4) was employed.

Table 2. Respondents' details.

Characteristics	Number of Students	Percentages
Gender	N	
Males	488	56%
Female	382	44%
Engage in entrepreneurial activities		
Yes	705	81%
No	165	19%
Universities		
Gift University	127	14.60%
University Management and Technology	85	9.83%
University of Central Punjab	98	11.33%
COMSAT	112	12.95%
Superior University	122	14.10%
University of Gujrat	91	10.52%
University of Sargodha	119	13.76%
National University of Sciences and Technology	111	12.83%

The research population consists of 867 final-year business students from the 2020 to 2021 batches, specifically targeting those who had completed an entrepreneurship course. A simple random sampling technique was employed to gather data from final-year business students from various Pakistani universities in the 2020 to 2021 batches, specifically those who are willing to participate in the research. A total of 900 questionnaires were distributed, and a total of 886 responses were received from the respondents. After screening the data, 865 responses were deemed suitable for further analysis, with 18 respondents excluded due to blank responses and straight-line responses.

3.1. Data Analysis and Discussion

Table 2 indicates the respondent demographic profile based on business students who are enrolled in business studies at universities in the Punjab province of Pakistan. Several demographic questions were asked of the respondents, in terms of gender, to

classify the respondents based on male and female, institutes, and willingness to pursue entrepreneurship in the future. Table 1 shows that most respondents were men, with 56% male, 44% female, and 705 (81%) indicating a desire to engage in entrepreneurial activities. Out of a total of 865 respondents, 127 respondents are enrolled at Gift University (GU), 85 students are enrolled at the University Management and Technology (UMT), 98 students are enrolled at the University of Central Punjab (UCP), 112 students are enrolled at The Commission on Science and Technology for Sustainable Development in the South (COMSAT), 112 students are enrolled at University of Sargodha (SU), 91 students are enrolled at University of Gujrat (UOG), 119 students are enrolled at University of Sargodha (UOS), and 111 students are enrolled at National University of Sciences and Technology (NUST).

3.2. Model Measurement

According to Al-Qadasi et al. (2023), various factors contribute to students' entrepreneurial intentions and foster their entrepreneurial efficacy. These variables include personal input, environmental input, and behavioral output, which motivate individuals to pursue an entrepreneurial path and determine their future objectives. Further, Shahzad et al. (2021) proposed that the availability of entrepreneurship education considerably impacts students' entrepreneurial intentions. Therefore, to measure the construct of the model, such as to evaluate entrepreneurial inspiration, four items were used and adopted from Li et al. (2023), four items were adopted from Kisubi et al. (2021) for the evaluation of entrepreneurial skills, four items were used and adopted from Lestari et al. (2022) and Rincy (2019) for the evaluation entrepreneurial awareness, five items were used and adopted from Li and Wu (2019) and Rudhumbu et al. (2016) for the assessment for indications of entrepreneurship education, and five items were adopted from Rincy (2019) and Lestari et al. (2022) for the evaluation of entrepreneurial intention.

The current study used partial least squares structural equation modeling (PLS-SEM 4) to estimate the proposed structure model suggested by Hair et al. (2021). The SEM-PLS model was investigated in two stages: model measurement and structural models. Convergent validity (content validity and reliability), factor loading, discriminant validity, and composite reliability were used to evaluate the accuracy of model measurement. The study used R-square, inner collinearity, and a level of significance of 5% was used for structural models. Hair et al. (2021) recommended that a construct needs to be both reliable and satisfactory if specific criteria are met, including a loading factor of 0.708, a composite reliability (CR) of 0.700, and a Cronbach's Alpha value above the threshold of 0.700. The value of discriminant validity must be less than 0.850, and the extracted average variance (AVE) must exceed a threshold value of 0.500. In the next part, structural equation modeling will be used for creating hypotheses with a threshold level of significance of 5%.

3.3. Convergent Validity

The loading factor's size indicates each item's convergent validity within the parameters across different measurement approaches. According to Hair et al. (2020), the loading factor values should be greater than 0.708 and less than 0.900. Table 3 presents the findings related to the loading factors, demonstrating that each item is both positive and reliable, with a minimum loading factor of 0.643 and a maximum loading factor of 0.906. Additionally, as per the guidance of Hair et al. (2021), if the AVE is higher than 0.500, then the value of factor loading at 0.400 is also acceptable (see the Figure 2).

Table 3. Convergent validity and composite reliability.

Variable	Items	Factor Loading	CR	AVE
Entrepreneurial Inspiration	My consideration of starting a business is aided by my schooling in entrepreneurship.	0.719	0.721	0.521
	I concur that having my own business gives me a fantastic sense of accomplishment.	0.734		
	Over the past year, I've put a lot of effort into my creativity and entrepreneurship.	0.847		
	I believe that entrepreneurial inputs that significantly altered my "heart and mind" and led me to pursue starting a business.	0.827		
Entrepreneurial skills	I am confident of my skills and abilities to start a business.	0.828	0.754	0.506
	I believe that entrepreneurship course enhances my skills to deal with risks and uncertainties of the business	0.804		
	I believe that entrepreneurial self-efficacy effect the student's entrepreneurial intention in Pakistan.	0.752		
	I believe that entrepreneurial education enhances my skills to deal with risks and uncertainties	0.745		
Entrepreneurial Awareness	I believe that entrepreneurial awareness influences the intention to start a business among university students.	0.714	0.739	0.508
	I am sure that entrepreneurial awareness impacts the confidence and motivation of individuals to pursue entrepreneurial ventures?	0.906		
	Entrepreneurial education play in enhancing entrepreneurial awareness and subsequently influencing entrepreneurial intention.	0.825		
	I believe that entrepreneurial role models, such as, teachers can affect on an individual entrepreneurial awareness that increase entrepreneurial intentions	0.703		
Entrepreneurial Education	Through entrepreneurship education, my knowledge and interest in entrepreneurship have improved.	0.844	0.710	0.510
	I believe that educational activities include entrepreneurship-related topics given chance to students to launch their own businesses.	0.849		
	Entrepreneurship education prepared me to make innovative and informed decisions about career choices.	0.653		
	I believe that education in university level can develop entrepreneurial mindset by enhancing of knowledge and abilities.	0.645		
	I believe that practical base learning activities at classroom offers the necessary information for entrepreneurship.	0.730		
Entrepreneurial Intention	I have a strong intention to start a business in the future.	0.720	0.728	0.501
	My professional goal is to become an entrepreneur.	0.702		
	Entrepreneurship is the future form of employment attitude toward entrepreneurship.	0.734		
	I have seriously considered entrepreneurship as a highly desirable career option.	0.697		
	I have never thought of entrepreneurship as a career choice because it's very risky.	0.734		

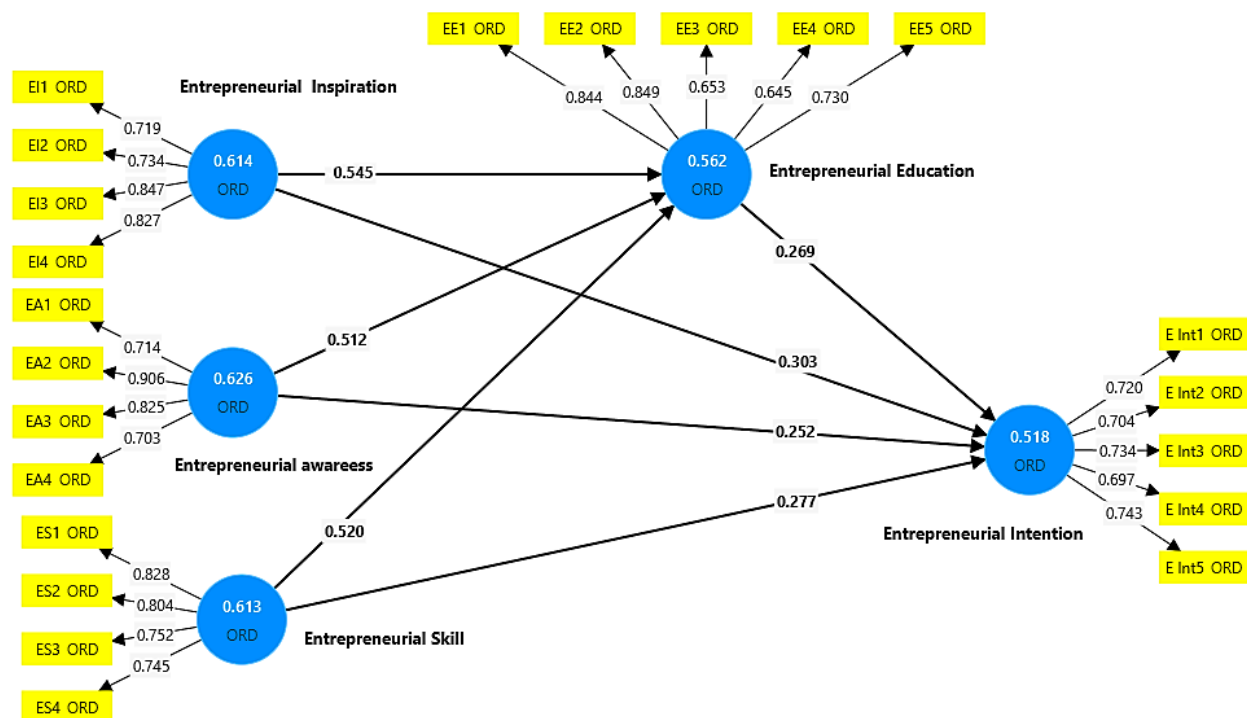


Figure 2. Model measurement.

Following the factor loading, the next step involves checking composite reliability, an indicator of statistical significance, to evaluate the internal consistency among the model variables, as recommended by Hair et al. (2021). The results in Table 3 indicate that the constructs inspected within the model are highly reliable and demonstrate a strong level of satisfaction, with loading factors and values ranging from a minimum of 0.643 to a maximum of 0.906. Additionally, the average variance extracted (AVE) should exceed 0.500, as suggested by Hair et al. (2021). The findings confirm that the model measurement is highly reliable and acceptable and meets the proposed threshold values (Hair et al., 2021). The findings are reliable and acceptable and indicate that the data are valid for further analysis.

3.4. Discriminant Validity (HTMT)

The subsequent phase in assessing the model involves evaluating discriminant validity, and the hetero-trait–monotrait (HTMT) ratio used measured the discriminant validity of the model, as recommended by Henseler et al. (2015). According to the practice, the value of discriminant validity is considered acceptable when the HTMT value is less than 0.850, as defined by Hair et al. (2021). Table 4 presents the results of the model's discriminant validity and presentation of HTMT values that are all less than 0.85. Thus, the results indicate that the measurements used in the model are reliable and effectively distinguish between different constructs.

Table 4. Discriminant validity (HTMT).

	Entrepreneurial Education	Entrepreneurial Intention	Entrepreneurial Inspiration	Entrepreneurial Skills	Entrepreneurial Awareness
Entrepreneurial Education					
Entrepreneurial Intention	0.781				
Entrepreneurial Inspiration	0.532	0.642			
Entrepreneurial Skills	0.583	0.496	0.434		
Entrepreneurial Awareness	0.797	0.607	0.448	0.441	

Following the discriminant validity assessment, the next step is to evaluate the inner collinearity among the constructs of the model; the variance inflation factor (VIF) was used in the context of partial least squares structural equation modeling (PLS-SEM). The purpose of analyzing inner collinearity is to determine the extent of collinearity among the model's constructs, ensuring that no significant collinearity issues could distort the results. According to [Hair et al. \(2021\)](#), it is recommended that the VIF value should remain below the threshold of 3.3 to confirm the absence of collinearity among the constructs in the inner model. The findings presented in Table 5 indicate that all VIF values are well within this acceptable range, leading to the conclusion that no collinearity issues are present in this study's data. This ensures the robustness and reliability of the model's estimations.

Table 5. Full collinearity.

Variables Path	VIF
Entrepreneurial education → Entrepreneurial intention	1.347
Entrepreneurial inspiration → Entrepreneurial education	2.117
Entrepreneurial inspiration → Entrepreneurial intention	2.145
Entrepreneurial skills → Entrepreneurial education	1.935
Entrepreneurial skills → Entrepreneurial intention	2.300
Entrepreneurial awareness → Entrepreneurial education	1.989
Entrepreneurial awareness → Entrepreneurial intention	2.006

3.5. Structural Model

After successfully measuring the measurement model, the next step is to calculate the structural model, which focuses on evaluating the relationships between the exogenous and endogenous constructs of the model. The first step in the structural model analysis is to evaluate the impact of the exogenous factors on the endogenous factors, utilizing the coefficient of determination (R-square) as a crucial step. According to the guidelines of [Chin et al. \(2010\)](#), the R-square value should range from 0 to 1, reflecting the proportion of variance in the endogenous variable that the exogenous variables can explain.

Therefore, as per the findings of R-square, it has been revealed that the coefficient of determination (R-square) for the constructs to entrepreneurial intention is 0.762, indicating that approximately 76% of the variance in the entrepreneurial intention variable can be attributed to the influence of exogenous factors such as entrepreneurial education, en-

entrepreneurial skills, entrepreneurial awareness, and entrepreneurial inspiration. It also has proven the substantial contribution of these factors in shaping entrepreneurial intentions. Conversely, the remaining 24% of the variance is influenced by other factors not explored within this paper's scope. This analysis underscores the significance of identified exogenous factors in fostering entrepreneurial intentions among university students. Second, the study shows that the R-squared value for entrepreneurial education is 0.257. This means that exogenous factors, such as entrepreneurial skills, entrepreneurial awareness, and entrepreneurial inspiration have 25.7% of the variance in entrepreneurial education (See Table 6). The value of the R-square suggests that entrepreneurial education has a considerable influence. Understanding these dynamics can assist educators and policy-makers in developing more effective measures to promote entrepreneurial education and, eventually, increase entrepreneurial intention among university students.

Table 6. Coefficient of determination.

Item	R ²
Entrepreneurial education	0.257
Entrepreneurial intention	0.762

The second phase of the analysis involves employing structural equation modeling (SEM) to carefully test the proposed hypotheses, with a significance level of 5%. This step is crucial, as it allows researchers to assess the relationships between the constructs within the model after confirming that the model has been effectively measured and validated. The process of hypothesis testing means evaluating whether the exogenous factors significantly influence the endogenous variables, as recommended by [Hair et al. \(2021\)](#). In this study, seven precise hypotheses have been formulated, detailed in Table 7. Each hypothesis hypothesizes a relationship between various exogenous factors, such as the impact of entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness on endogenous variables, including entrepreneurial education as a mediator and entrepreneurial intention.

Table 7. Results of hypotheses.

Relationship	T-Value	Path	p Value	Decision
Entrepreneurial inspiration → Entrepreneurial intention	3.002	0.303	0.001	Accepted
Entrepreneurial awareness → Entrepreneurial intention	2.175	0.277	0.015	Accepted
Entrepreneurial skill → Entrepreneurial intention	2.296	0.252	0.011	Accepted
Entrepreneurial education → Entrepreneurial intention	2.374	0.269	0.009	Accepted
Entrepreneurial inspiration × Entrepreneurial education → Entrepreneurial intention	3.763	0.545	0.023	Accepted
Entrepreneurial awareness × Entrepreneurial education → Entrepreneurial intention	3.550	0.520	0.002	Accepted
Entrepreneurial skill × Entrepreneurial education → Entrepreneurial intention	2.955	0.512	0.001	Accepted

In addition, the results of the hypotheses testing indicate that the exogenous factors (entrepreneurial inspiration, entrepreneurial skills, and entrepreneurial awareness) have a statistically significant impact on the endogenous variables (entrepreneurial intention). The finding reinforces that the identified exogenous factors play a critical role in influencing the outcomes of entrepreneurial education and entrepreneurial intention, thereby validating

the study's theoretical framework. The finding of the hypotheses is highlighted in Table 7 at 5% of significant levels.

The analysis provided compelling evidence supporting Hypothesis 1, which posits a significant relationship between entrepreneurial inspiration and entrepreneurial intention among Pakistani university students. The statistical analysis revealed a p -value of 0.001, which is considerably below the 5% significance level ($\alpha = 0.05$), as recommended by Hair et al. (2021). This finding underscores a strong statistical significance between the two variables. Additionally, the t -value associated with this relationship was 3.002, exceeding the threshold of 1.645, further validating the hypothesis.

Hypothesis 2, which emphasizes a significant correlation between entrepreneurial awareness and entrepreneurial intention, was also supported by the statistical analysis. The analysis yielded a p -value of less than 0.015, again below the 5% significance level. The path coefficient of 0.277 indicates a positive relationship, suggesting that higher levels of entrepreneurial awareness are associated with a greater likelihood of individuals expressing entrepreneurial intentions. The t -value for this relationship was calculated to be 2.175, reinforcing the statistical significance of the hypothesis.

Regarding Hypothesis 3, the analysis speculated a significant relationship between entrepreneurial skills and entrepreneurial intention. The results showed a p -value of 0.011, which is well below the 5% significance level, indicating a strong statistical association between entrepreneurial skills and intention. The path coefficient was 0.252, implying that, as an individual's entrepreneurial skills increase, so does their intention to engage in entrepreneurial activities. The t -value of 2.296, which exceeds the recommended threshold, further supports the hypothesis.

For Hypothesis 4, the analysis explored the relationship between entrepreneurial education and entrepreneurial intention, revealing a significant connection. The p -value was less than 0.009, below the 5% significance level, and the path coefficient was 0.269, quantifying the strength and direction of this relationship. The t -value associated with this relationship was 2.374, again exceeding the threshold, indicating that increased entrepreneurial education leads to heightened entrepreneurial intention.

Hypothesis 5 examined the mediating role of entrepreneurial education between entrepreneurial inspiration and intention. The statistical analysis yielded a p -value of less than 0.023, which is below the 5% significance level. The path coefficient of 0.545 and the t -value of 3.763, which exceed the threshold, suggest that entrepreneurial education significantly strengthens the relationship between inspiration and intention, highlighting its crucial mediating role.

Similarly, Hypothesis 6 investigated the mediating effect of entrepreneurial education on the relationship between entrepreneurial awareness and intention. The analysis showed a p -value of less than 0.002, significantly lower than the 5% significance level, indicating a strong mediation effect. The path coefficient was 0.520, and the t -value was 3.550, further confirming the importance of entrepreneurial education in enhancing the relationship between awareness and intention.

Lastly, Hypothesis 7 explored the mediating effect of entrepreneurial education on the relationship between entrepreneurial skills and intention. The analysis revealed a p -value of 0.001, below the significance threshold, suggesting a statistically significant mediation effect. The path coefficient was 0.512, and the t -value was 2.955, indicating that entrepreneurial education plays a vital role in mediating and enhancing students' entrepreneurial intentions, instilling confidence and empowering them to pursue entrepreneurial activities. A detailed results regarding structural model highlighted in the Figure 3.

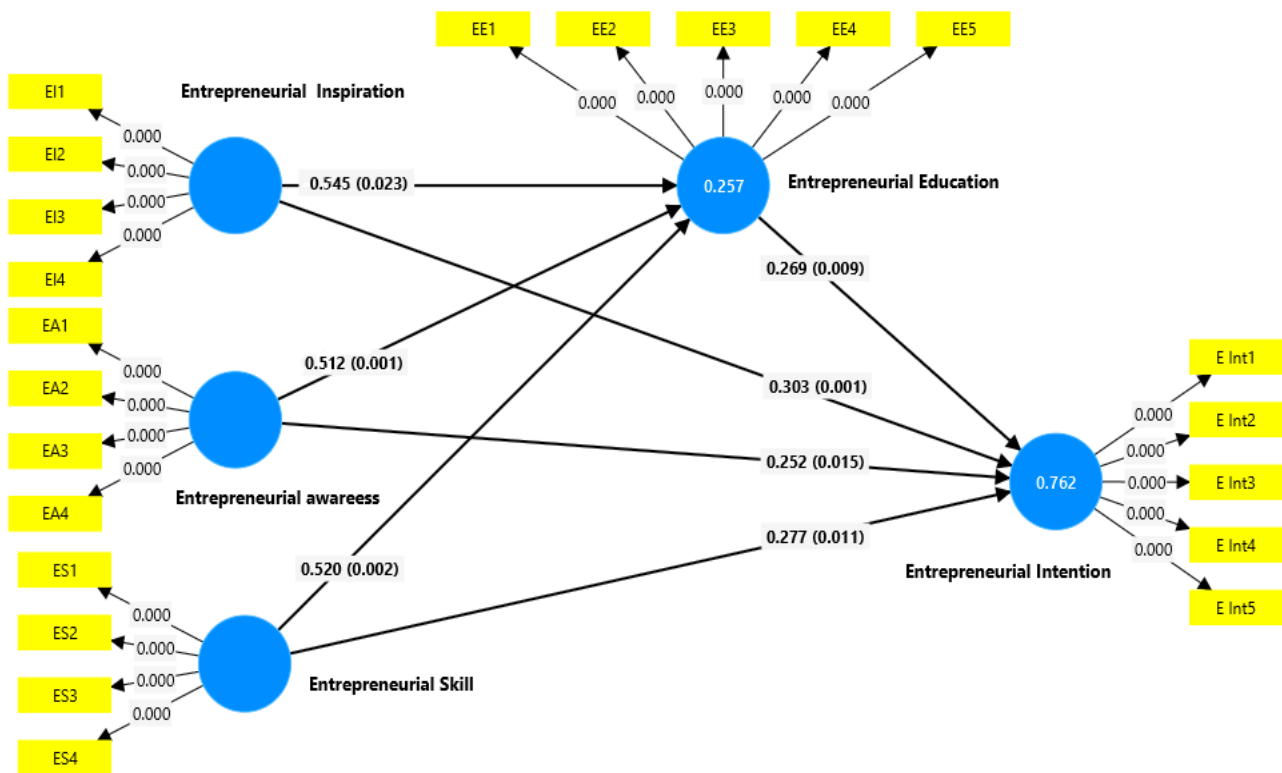


Figure 3. Structural model.

4. Discussion

The primary objective of the paper is to investigate those factors that affect individual entrepreneurial perceptions and how students' perceptions can encourage a propensity for entrepreneurship. According to the assumptions of Hypothesis 1, the analysis reveals a path coefficient of 0.303 for the relationship between entrepreneurial inspiration and entrepreneurial intention, supplemented by a p -value of 0.001. These results indicate that entrepreneurial inspiration significantly and positively affects students' intentions to engage in entrepreneurial activities. Furthermore, the findings of the study support previous research that has established a construction between entrepreneurial inspiration and the development of an entrepreneurial mindset, as mentioned by Li et al. (2023). Specifically, the study of Li et al. (2023) and Van Ewijk et al. (2021) confirmed that fostering entrepreneurial inspiration with experiment-based learning at the university level can effectively nurture an entrepreneurial mindset among university students. Finally, entrepreneurial inspiration plays a vital role in influencing students' entrepreneurial aspirations and endorsing the premise that increasing entrepreneurial inspiration might lead to stronger entrepreneurial beliefs and attitudes.

According to the assumptions of Hypothesis 2, the analysis demonstrates a path coefficient of 0.252 for the relationship between entrepreneurial awareness and entrepreneurial intention, with a p -value of 0.015. This statistical evidence suggests that entrepreneurial awareness plays a significant role in shaping an individual's intention to engage in entrepreneurial activities. Specifically, the findings indicate that sharp entrepreneurial awareness influences the intention to pursue entrepreneurship, fosters an innovative spirit, and enhances creative thinking. Moreover, the results reinforce previous research on entrepreneurial awareness in the entrepreneurial process. A study by Elizabeth Rincy (2019) indicated that an individual's awareness of entrepreneurship includes crucial knowledge and understanding for successfully launching and operating a business. However, entrepreneurial awareness not only helps them face challenges but also empowers them to

control new business opportunities that can arise during their entrepreneurial journey. Finally, the findings of this study underscore the vital role of entrepreneurial awareness in influencing entrepreneurial intention, promoting innovation, and enhancing creativity.

As for the assumption of Hypothesis 3, the analysis reveals a path coefficient of 0.252 for the relationship between entrepreneurial skills and entrepreneurial intention, with a corresponding p -value of 0.011. The findings suggest that strong entrepreneurial skills are crucial for individuals aspiring to start and manage their businesses. These entrepreneurial skills are essential for operating a business efficiently and navigating the complexities of the entrepreneurial landscape. Further, the results of this study corroborate previous research that emphasizes the importance of entrepreneurial skills in fostering entrepreneurial intention. As highlighted by [Khawar et al. \(2022\)](#), individuals with strong entrepreneurial skills are more likely to show confidence and self-motivation, which are crucial attributes for successfully launching and sustaining a business. Further, such skills enhance an individual's ability to make informed decisions and empower them to take calculated risks and adapt to changing market conditions with confidence. Finally, the findings of this study emphasize the vital role of entrepreneurial skills in shaping entrepreneurial intention and enhancing entrepreneurial skills to be better prepared to operate their businesses effectively and achieve long-term success.

As for the assumption of Hypothesis 4, the analysis reveals a statistically significant and positive relationship between entrepreneurial education and entrepreneurial intention, with a path coefficient value of 0.269, indicating that, for every one-unit change in entrepreneurial education, entrepreneurial intention is expected to increase by 0.269 units, with a p -value of 0.001. Further, the findings also indicated that entrepreneurial education has an insightful effect on shaping an individual's entrepreneurial intention by providing them with knowledge, awareness, and attitude, which are essential components of an entrepreneurial mindset. Thus, the results also support the findings of the previous studies of [Khawar et al. \(2022\)](#) and [Munawar et al. \(2023\)](#), which show that entrepreneurial education has a positive and significant effect on entrepreneurial intention by emphasizing the importance of entrepreneurship education in educational curricula to foster an entrepreneurial spirit and innovation.

As for the assumption of Hypothesis 5, the findings reveal that entrepreneurial education acts as a mediator, significantly influencing an individual's entrepreneurial intention by fostering entrepreneurial inspiration, awareness, and skills. The path coefficient value of 0.545 indicates that the mediator effect of entrepreneurial education on entrepreneurial intention is substantial, with a p -value of 0.023. Indeed, the finding suggests that entrepreneurial education plays a crucial role in shaping an individual's entrepreneurial intention by providing them with the necessary knowledge and attitude required for entrepreneurial pursuits. Furthermore, the results confirm the previous studies of [Saoula et al. \(2023\)](#), which reveal the positive and significant effects of entrepreneurial education as a mediator on entrepreneurial intention, highlighting the importance of incorporating entrepreneurship education into curricula to empower individuals with the necessary skills and knowledge to become a successful future entrepreneur. In addition, the findings also reveal that the presence of entrepreneurial education not only enhances the positive effects of entrepreneurial inspiration but also provides individuals with the necessary tools, frameworks, and confidence to pursue their entrepreneurial intention.

As for the assumption of Hypothesis 6, the analysis reveals that entrepreneurial education acts as a mediator, significantly influencing an individual's entrepreneurial intention with a substantial path coefficient value of 0.520, indicating that, for every one-unit change in entrepreneurial education, the entrepreneurial intention is expected to increase by 0.520 units, with the p -value of 0.002. The findings suggest that entrepreneurial

education, as a mediator, plays a crucial role in shaping an individual's entrepreneurial intention by providing them with appropriate entrepreneurial awareness and knowledge, which are essential mechanisms of an entrepreneurial mindset. Indeed, the findings also support the findings of previous studies by [Saoula et al. \(2023\)](#) and [S. Singh \(2020\)](#), which show that a positive and significant effect of entrepreneurial education as a mediator on entrepreneurial intention by highlighting the importance of entrepreneurship education in curricula to empower individuals with the necessary knowledge and awareness that are essential for starting and sustaining a business with efficiency.

As for the assumption of Hypothesis 7, the finding reveals that entrepreneurial education plays a crucial mediating role in shaping an individual's entrepreneurial intention, with a path coefficient value of 0.512 and a p -value of 0.011. The findings suggest that entrepreneurial education as a mediator significantly affects an individual's entrepreneurial intention by providing them with the necessary skills and self-confidence to handle business activities more efficiently, such as market knowledge, financial planning, and risk management, as well as building self-confidence through the acquisition of entrepreneurial knowledge and experience. Additionally, the results also support the findings of previous studies by [Khawar et al. \(2022\)](#) and [Saoula et al. \(2023\)](#), which demonstrated the positive and significant effects of entrepreneurial education as a mediator on entrepreneurial intention, highlighting the importance of incorporating entrepreneurship education into curricula to foster a culture of innovation and entrepreneurship.

5. Conclusions, Limitations, and Recommendations

The study's findings underscore the crucial role of entrepreneurial inspiration, entrepreneurial awareness, and entrepreneurial skills in shaping university students' entrepreneurial intentions and fostering their confidence, perception, attitude, and basic knowledge of how to run a business efficiently. The research reveals that these factors directly impact students' entrepreneurial intentions, enabling them to perceive entrepreneurship as a viable career option and inspiring them with the necessary skills and knowledge to succeed. Moreover, the study demonstrates that entrepreneurial education as a mediator is pivotal to strengthening an individual's entrepreneurial mindset and perception by enhancing their skills, entrepreneurial awareness, and knowledge. The findings also suggested that the presence of entrepreneurial education as a mediator strengthens the relationship between entrepreneurial inspiration, awareness, and skills and enhances students' entrepreneurial perception and intention. By shedding light on the importance of entrepreneurial education in shaping students' entrepreneurial intentions, this study contributes to business studies from a Pakistani perspective. It provides valuable insights for policymakers, academics, and other stakeholders. The study's findings will also enlighten policymakers and educationalists on how to develop practical policies to promote entrepreneurship among university students, ultimately contributing to the economy's growth.

The study's findings have certain limitations, and several directions for future research have been identified. First, the study is geographically confined to the Punjab province of Pakistan, limiting the generalizability of the results. Future research should consider including other provinces to broaden the applicability of the findings. Second, the sample was restricted to final-year undergraduate business students, which may not fully represent the wider student population. To overcome this limitation, future research could include vocational and medical students in the study population. Additionally, the current study relied on closed-ended questionnaires to collect data, which may not allow for a comprehensive understanding of students' perceptions and intentions regarding entrepreneurship. To overcome this limitation, future research could employ a face-to-face interview approach,

enabling researchers to gather more in-depth and nuanced information from students. By acknowledging these limitations and making recommendations for future research, this study aims to contribute to the development of a more comprehensive understanding of entrepreneurship among university students in Pakistan.

Author Contributions: Conceptualization and methodology, G.M. and S.N.'A.Z.; formal analysis, G.M., S.F.P. and S.N.'A.Z.; investigation, G.M. and S.N.'A.Z.; resources, G.M., S.N.'A.Z., S.F.P. and W.N.M.; data screen, S.N.'A.Z., S.F.P. and W.N.M.; writing—original draft preparation, G.M.; writing—review and editing, S.N.'A.Z. and N.K.A.S.; visualization, S.F.P. and N.K.A.S.; supervision, S.N.'A.Z., S.F.P. and W.N.M.; project administration, G.M.; funding acquisition, S.N.'A.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of the Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Terengganu, Malaysia.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data are available upon request from the corresponding author.

Acknowledgments: All the authors of the paper gratefully acknowledge the support from the Faculty of Business, Economics, and Social Development at Universiti Malaysia Terengganu, Malaysia. All authors also extend their thanks to all the respondents who voluntarily participated in this research.

Conflicts of Interest: The authors declare no conflicts of interest.

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