

Role of Entrepreneurial Education and Family Support in Shaping Entrepreneurial Intention: Mediating Effects of Self-Efficacy and Attitude toward Entrepreneurship

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Abstract

Entrepreneurial intention among university students has garnered increasing scholarly attention due to its potential to drive innovation, foster self-employment, and promote economic development, particularly in developing countries like Pakistan. In this respect, family support and entrepreneurial education are regarded as antecedents to influence the aspirations and willingness of people to become entrepreneurs. Nonetheless, the factors influencing entrepreneurial intention are not very well-examined. The purpose of this study is to investigate the direct impact of entrepreneurial education and family support on entrepreneurial intention, and to explore the mediating roles of self-efficacy and attitude toward entrepreneurship. The research design employed a quantitative and cross-sectional approach. The survey was used to gather data through structured questionnaires, which were completed by a sample size of 341 university-going students in private sector universities within the province of Punjab, Pakistan. A structural equation model (SEM) analysis was conducted using SmartPLS 4.0 to examine the direct and indirect relationships between the variables. Results show that entrepreneurial education and family support have no direct effect on students' entrepreneurial intentions; however, they do have an indirect effect through their impact on self-efficacy and attitude.

Keywords: Entrepreneurial Education, Family Support, Entrepreneurial Intention, Self-Efficacy, Attitude Toward Entrepreneurship.

Introduction

In the contemporary global economy, entrepreneurship has emerged as a vital catalyst for innovation, job creation, and sustainable economic growth. Governments, academic institutions, and international development agencies have increasingly emphasized entrepreneurial capacity as a means to tackle socio-economic challenges such as youth unemployment, underutilization of talent, and sluggish economic growth. Amid these efforts, a growing body of scholarship has focused on understanding the psychological and social processes that motivate individuals to pursue entrepreneurial careers. Recent discourse has shifted from a purely economic interpretation of entrepreneurship to a more nuanced view that integrates behavioral, educational, and socio-cultural perspectives. These perspectives argue that entrepreneurial intention (EI), the motivational factor that leads individuals to engage in entrepreneurial behavior, is influenced by a multitude of

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factors beyond mere opportunity or financial necessity. As such, attention has been directed toward understanding how individual self-belief, educational exposure, and family dynamics shape one's readiness and intention to engage in entrepreneurial activities. This growing recognition of entrepreneurship as a socially embedded and psychologically informed behavior necessitates an exploration of not only individual capabilities but also the external supports and learning environments that nurture entrepreneurial aspirations.

Recent literature has consistently emphasized the importance of EI as a precursor to entrepreneurial behavior (Farrukh et al., 2022). Grounded in Ajzen's (1991) Theory of Planned Behavior, numerous studies emphasize the roles of perceived behavioral control, subjective norms, and attitude in determining EI (Al Mamun et al., 2023). Scholars have also explored the influence of entrepreneurial education (EE) on self-efficacy, demonstrating that exposure to entrepreneurship-related curricula significantly enhances students' confidence in starting a business (Rashid & Ratten, 2023). Meanwhile, family support (FS) has emerged as a significant socio-cultural factor that shapes entrepreneurial motivation, especially in collectivist societies (Khan et al., 2022). Furthermore, the mediating roles of constructs such as self-efficacy and entrepreneurial attitude have been studied, suggesting that these psychological states link educational or familial inputs to final EI (Cheng et al., 2024). However, despite these insights, there remains limited integration of these constructs into a unified explanatory framework.

Entrepreneurship is increasingly seen as a solution to youth unemployment, which remains high globally and in Pakistan (ILO, 2023; PBS, 2023). Despite policy emphasis on entrepreneurship education (HEC, 2022), research often examines EE and family support in isolation, neglecting the mediating psychological processes shaping entrepreneurial intention. This study addresses this gap by proposing and testing a framework where EE and FS influence EI through self-efficacy and entrepreneurial attitude, respectively. By integrating personal beliefs, attitudes, and contextual enablers, the research advances theory and offers insights for policymakers and educators to design interventions fostering entrepreneurial readiness in socio-cultural contexts.

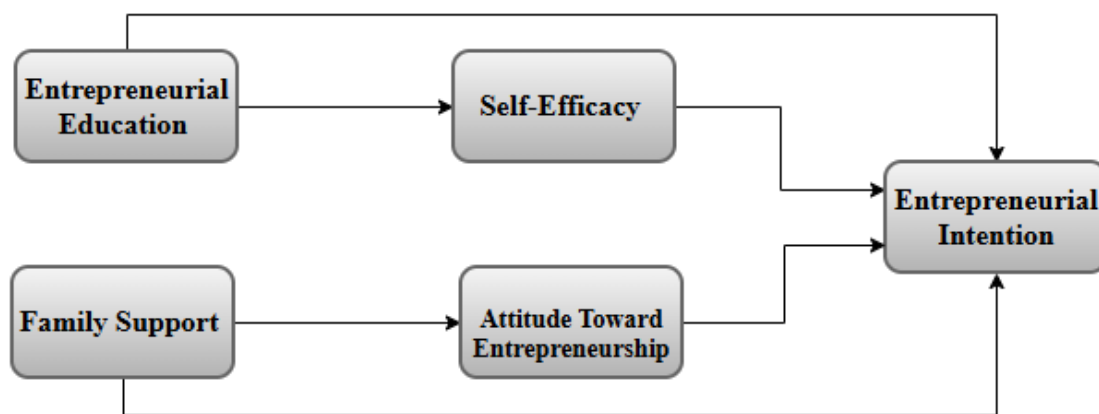
This study contributes to the growing literature on EI by integrating both psychological and contextual antecedents into a unified framework. Unlike previous research that isolates variables, this study investigates the dual mediating roles of self-efficacy and attitude toward entrepreneurship in linking EE and FS to EI. The model is empirically tested in the context of Pakistan, adding region-specific insights to a predominantly Western-centric discourse. The research not only bridges theoretical gaps but also provides actionable implications for educational institutions and policy designers targeting entrepreneurial development. Grounded in Ajzen's Theory of Planned Behavior (TPB), this study presents a theoretically coherent model that connects external influences (education and family) with internal cognitive and attitudinal processes (self-efficacy and attitude), ultimately leading to EI.

Theoretical Foundation

The Theory of Planned Behavior (TPB), developed by Ajzen (1991) as an extension of the earlier Theory of Reasoned Action (Fishbein & Ajzen, 1975), provides a compelling framework for understanding how individuals form intentions that ultimately guide their behavior. It has been derived from the necessity of situations where intention fails to be implemented due to external forces or inadequate self-belief. TPB introduced perceived behavioral control to balance the influence of attitude and normative influences. The construct has its foundation in the self-efficacy concept of social cognitive theory, as proposed by Bandura, which explains that the confidence an individual expresses in their ability to perform a behavior is significantly influential in forming

their intention and subsequent action (Ajzen, 1991). Over the last decade, TPB has undergone refinement and empirical validation, alongside bibliometric studies, which have documented its growth in various fields, including entrepreneurship, sustainability, health, and learning behaviors (Naskar et al., 2025). Interestingly, recent entrepreneurship studies still support the explanatory power of TPB since it is true that its thinking mapping has served ever since, and remains to explain why people select alternatives and subjectively respond to social influences, and gauge the possibility of getting into the business of starting a venture (Heredia Carroza et al., 2024; Relente et al., 2025). The involvement of TPB in the sphere of entrepreneurship can be naturally linked to its psychological and educational aspects of intention and volition. Modern-day research suggests that cognitive self-belief (typically expressed in terms of entrepreneurial self-efficacy) and attitudinal disposition towards taking entrepreneurial action are fundamental to the TPB concepts of perceived behavioral control and attitudinal evaluation (Ahmed et al., 2022; Sahid et al., 2024). Simultaneously, the effects of social and family norms can be related to notions of the TPB and the so-called normative element thereof, which points to what social/group norms influence individual inclination toward entrepreneurship (Ahmed et al., 2022; Yesmin, 2024).

Figure 1: Hypotheses Development



Hypotheses Development

The debate over the efficacy of entrepreneurship education in cultivating entrepreneurial mindsets and behaviors has gained renewed scholarly interest, particularly in light of global calls for economic resilience, self-employment, and innovation-driven growth. With the continued efforts of the formal education system to implement strategies aimed at creating job generators rather than job seekers, the world of higher education, as we all know it, has been gearing towards integrating entrepreneurship education within its academic programs. However, one big question remains: Does education on entrepreneurship have any substantive influence on people's intentions to take entrepreneurial actions? The proponents believe that entrepreneurship education imparts more than just technical expertise; it teaches the recognition of opportunities, the ability to take risks, and the development of an entrepreneurial orientation. These qualities are developed through experiential learning, case-based instruction, and the creation of real-world business plans (Zhang et al., 2022). Empirical evidence confirms the positive impact of entrepreneurship education (EE) on entrepreneurial intention (EI). A meta-analysis by Zhang et al. (2022) found a consistent association across various contexts, while Gao et al. (2022) emphasized the role of EE in fostering

skills, competencies, and a proactive mindset. In Pakistan, EE enhances students' perceptions of control and feasibility, which are central to the Theory of Planned Behavior (Soomro & Shah, 2022). However, outcomes depend on pedagogical design, cultural sensitivity, and institutional quality (Ahmed et al., 2022). Interactive, practice-based approaches provide psychological reinforcement, boosting self-confidence and strengthening EI more effectively than theoretical or abstract teaching models.

H₁: Higher levels of entrepreneurship education are positively associated with stronger entrepreneurial intention among university students.

The significance of family as a foundational social institution extends beyond mere provision of material resources; it also encompasses emotional encouragement, social validation, and normative support for entrepreneurial aspirations. In collectivist cultures, the endorsement of the family can significantly influence individuals' perceptions of the attractiveness and feasibility of entrepreneurship, aligning with both the normative and control aspects of the Theory of Planned Behavior (Ajzen, 1991). TPB identifies that intentions are actually developed through a combination of personal beliefs and perceived control; however, subjective norms, which represent perceptions of social constriction—often deeply rooted in family dynamics—also play a significant role in our intentions. The convergence of this theory is supported by empirical studies conducted over recent years. A considerable amount of research performed by Bouarir et al. (2023) indicates that there is a positive correlation between FS and EI among university students, suggesting that the emotional, psychological, and functional aspects of FS are constructively crucial in the development of a desire to be an entrepreneur. On the same note, studies conducted in Pakistan, which incorporated TPB constructs, concluded that FS mediated the relationship between attitudinal dispositions and EI among female students. This finding strongly reflects the normative power of family role identity on intention. Moreover, empirical data with vocational students in China reveal that family capital and the social support that comprise the additional procurement support, as well as the accessibility of the extended network of relatives, all have a significant impact on entrepreneurial speculations, which is facilitated through critical thinking and social support-based mechanisms.

H₂: Greater perceived family support is positively associated with higher levels of entrepreneurial intention among university students.

Entrepreneurship education (EE) alone is insufficient to drive entrepreneurial intention (EI) without activating psychological mechanisms, particularly entrepreneurial self-efficacy (ESE)—the belief in one's ability to perform entrepreneurial tasks (Bandura, 1977; Ajzen, 1991). ESE aligns with perceived behavioral control in the Theory of Planned Behavior, serving as a key predictor of EI. Empirical studies confirm EE strengthens ESE, which in turn enhances EI (Jiatong et al., 2021; Li et al., 2023). Evidence from China and Pakistan shows that students with entrepreneurship training report stronger ESE and EI (Soomro & Shah, 2022). During the COVID-19 pandemic, ESE fully mediated EE–EI links (Sohu et al., 2022).

H₃: Entrepreneurial self-efficacy mediates the relationship between entrepreneurial education and entrepreneurial intention.

The role of attitude in entrepreneurial decision-making has emerged as a central focus in recent theoretical and empirical debates, particularly regarding how familial and social contexts influence entrepreneurial cognitions. Within the framework of TPB, an individual's positive or negative evaluation of entrepreneurial activity is a critical precursor to their intention, reflecting both desirability and perceived value (Ajzen, 1991). While FS provides normative and motivational resources, its ultimate influence on intention may operate through the attitudes individuals adopt

toward entrepreneurial behavior. Empirical studies highlight attitude as a key mediator between family support (FS) and entrepreneurial intention (EI). Chauhan et al. (2024) found that contextual support, including family background, influenced EI primarily through attitude. Similarly, research on Pakistani students found that attitude toward entrepreneurship was the strongest predictor of EI, with perceived social and contextual support shaping intention through attitudinal change (Rizvi & Fatima, 2025). Consistent with the Theory of Planned Behavior, these findings suggest that external encouragement must be internalized as positive attitudes to shape intention effectively. Thus, FS is facilitated through emotional, instrumental, and normative channels, fostering EI by cultivating favorable attitudes. Accordingly, the following mediation hypothesis is proposed:

H₄: Entrepreneurial attitude mediates the relationship between perceived family support and entrepreneurial intention among university students.

Methodology

The researchers employed a quantitative cross-sectional design, as it best suits the examination of the interrelationships between all four areas (EI, FS, self-efficacy, and entrepreneurial attitudes) and entrepreneurial education. The target population for this study comprises undergraduate and graduate business students enrolled in public sector universities in Pakistan, particularly those offering programs in entrepreneurship, management, or business education. This population is selected because higher education institutions serve as incubators for entrepreneurial mindsets, and students in such programs are more likely to engage with entrepreneurial education, FS structures, and relevant behavioral constructs (Fayolle & Gailly, 2015). A convenience sampling technique was utilized due to its practical advantages in accessing a large and diverse set of respondents within academic institutions. Though non-probabilistic in nature, convenience sampling remains widely accepted in social science research where theoretical generalizability is prioritized over statistical representativeness (Etikan et al., 2016). The entire sample size was determined by the principles of Item Response Theory (IRT), which emphasizes the relationship between the number of items and the precision in measuring latent traits. Structural equation modelling (SEM) recommends that the sample size should be at least ten times larger than the number of scale items in the model (Hair et al., 2021). The recommended sample size (under the assumption of the five latent variables measured with approximately 36 questions) is 300. A total of 341 replies were collected, exceeding the required number, to add statistical strength and prevent data loss. The findings were collected through an organized questionnaire and analyzed through SPSS and SmartPLS.

Measurement

In this study, all the constructs were measured utilizing already validated scales. The items in the EE were adopted from Hasan et al. (2017), and the FS items were based on the study by Saoula et al. (2022). The items to measure SE were adapted from those of Saoula et al. (2022), whereas the attitude toward entrepreneurship was measured using the scale created by Linan and Chen (2009). The items that measured EI were collected by Saoula et al. (2022). The 7-point Likert scale was applied to all items measuring how strongly a participant disagrees or agrees with the statement, which enables providing a wider range of response variability and measurement sensitivity to different values (Joshi et al., 2015).

Data Analysis

Table 1: Regression weights

		ATE	EE	EI	FS	SE
Attitude Toward Entrepreneurship	ATE1	0.817				
	ATE2	0.846				
	ATE3	0.823				
	ATE4	0.840				
	ATE5	0.858				
Entrepreneurial Education	EE1		0.906			
	EE2		0.880			
	EE3		0.874			
	EE4		0.848			
	EE5		0.842			
	EE6		0.880			
Entrepreneurial Intention	EI1			0.886		
	EI2			0.914		
	EI3			0.896		
	EI4			0.916		
	EI5			0.886		
	EI6			0.927		
Family Support	FS1				0.876	
	FS2				0.916	
	FS3				0.869	
	FS4				0.912	
	FS5				0.867	
Self-Efficacy	SE1					0.823
	SE2					0.890
	SE3					0.890
	SE5					0.790

Factor loadings represent the correlation between observed indicators and their underlying latent constructs, serving as crucial indicators of measurement model reliability and construct validity in structural equation modeling. These loadings illustrate how well each item reflects its respective latent variable. In confirmatory research, a threshold of 0.70 or higher is commonly recommended to indicate strong convergent validity (Hair et al., 2022; Sarstedt et al., 2022). Loadings above 0.40 are sometimes acceptable in exploratory studies but may warrant scrutiny when theory or context justifies item retention (Ali et al., 2023). All items exceed the 0.70 threshold, affirming good indicator reliability.

Table 2: Validity Statistics

	Cronbach's alpha	(rho_a)	(rho_c)	(AVE)
Attitude Toward Entrepreneurship	0.893	0.895	0.921	0.701
Entrepreneurial Education	0.937	0.939	0.950	0.760
Entrepreneurial Intention	0.956	0.974	0.964	0.818
Family Support	0.933	0.937	0.949	0.789
Self-Efficacy	0.870	0.882	0.912	0.721

In order to ensure quality measurements are obtained during structural equation modelling, it is significant to test on convergent validity and internal consistency reliability of latent constructs. The internal consistency of every concept is tested by Cronbach Alpha, rho_A and Composite Reliability (rho_C) whereas convergent validity is reaching out by Average Variance Extracted (AVE). As determined by Hair et al. (2022) and Sarstedt et al. (2022), the value of Cronbach Alpha, rho_A, and rho_C is statistically significant (that is, the minimum threshold is 0.70), indicating that the required internal consistency is present. This implies that the items are always measuring the same construct. In the same regard, Hessler et al. (2016), declare that a construct is convergently valid enough when the AVE equals or rather exceeds 0.50 in that it shows that more than half of the variance of indicators is explained by the construct. Currently, all the individual structures, which lay in the model, exceed the provided limits.

Table 3: HTMT Value

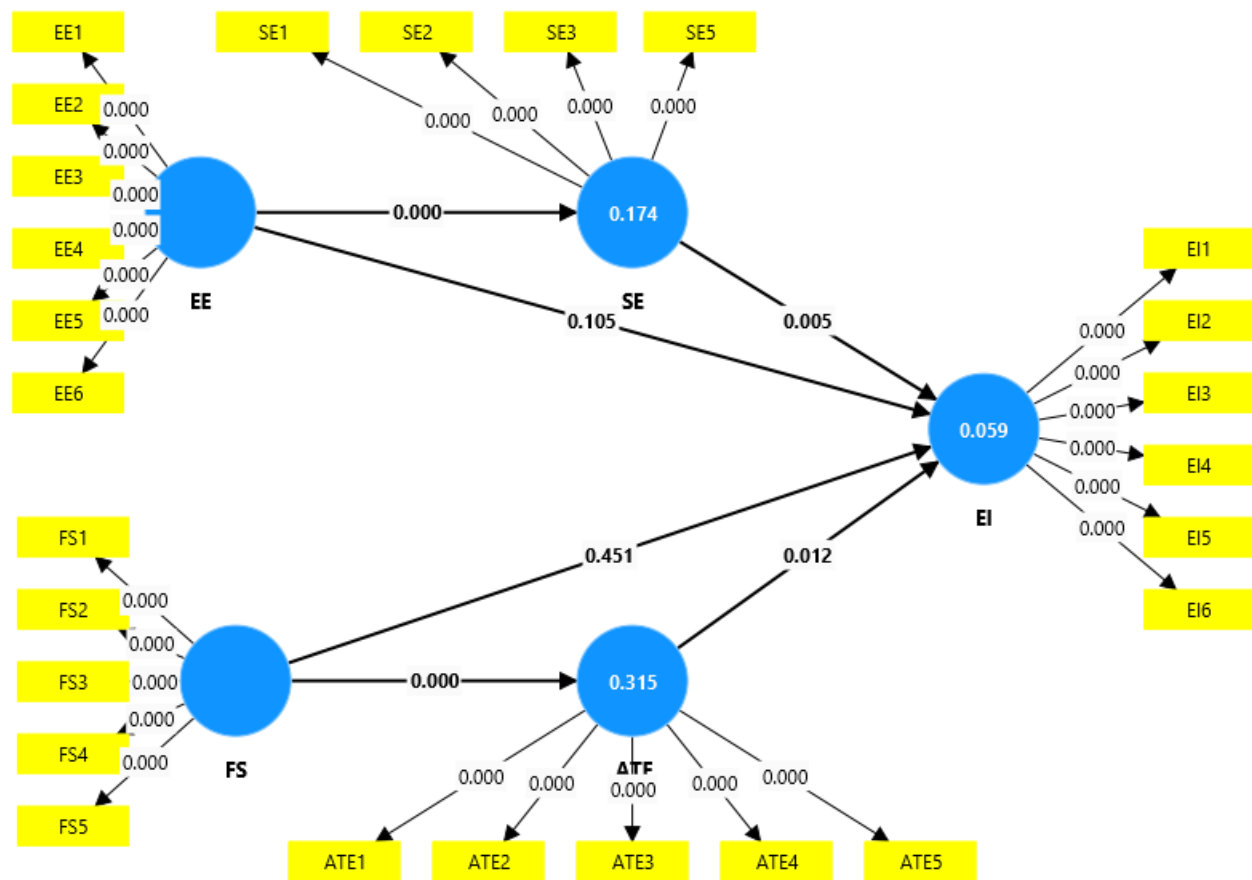
	ATE	EE	EI	FS	SE
Attitude Toward Entrepreneurship					
Entrepreneurial Education	0.614				
Entrepreneurial Intention	0.050	0.147			
Family Support	0.610	0.571	0.094		
Self-Efficacy	0.441	0.457	0.206	0.353	

Discriminant validity is all about ensuring that the constructs of a structural model are distinct and that these constructs do not conceptually overlap. Hair et al. (2022) and Sarstedt et al. (2022) conclude that according to research findings, the Heterotrait-Monotrait (HTMT) ratio is a valid method of assessing this validity. The small and large values of 0.85 and 0.90 respectively cite good discriminant validity. The provided model does not achieve the even higher requirement of 0.85 with HTMT values of 0.457 (SE-EE), 0.610 (FS-ATE) and 0.614 (EE-ATE). It gives further validation of construct integrity on the model since discriminant validity is supported between all constructs; it is ascertained by the fact that each of the latent variables has a greatly different conceptual universe.

Table 4: Model Fitness Indicators

	Saturated model	Estimated model
SRMR	0.049	0.091
d_ULS	0.829	2.922
d_G	0.548	0.610
Chi-square	1084.961	1195.676
NFI	0.864	0.850

Model fit indices assess how well a structural model reproduces the observed data. The standardized root means square residual (SRMR) values of 0.049 (saturated) and 0.091 (estimated) fall within acceptable thresholds, with values below 0.08 generally considered a good fit (Hair et al., 2022). Though the estimated model's SRMR is slightly higher, it remains marginally acceptable. The normed fit index (NFI) values of 0.864 and 0.850 exceed the 0.80 benchmark, indicating satisfactory model fit (Sarstedt et al., 2022). The chi-square difference and fit discrepancies (d_ULS, d_G) suggest minor deviations, yet overall, the model demonstrates an acceptable empirical representation.

Figure 2: Model fit**Table 5: Findings**

	Original sample	Sample mean	(STDEV)	T statistics	P values
Entrepreneurial Education -> Entrepreneurial Intention	0.127	0.129	0.078	1.621	0.105
Family Support -> Entrepreneurial Intention	0.048	0.049	0.064	0.753	0.451
Family Support -> Attitude Toward Entrepreneurship -> Entrepreneurial Intention	-0.087	-0.089	0.037	2.366	0.018
Entrepreneurial Education -> Self-Efficacy -> Entrepreneurial Intention	0.080	0.081	0.030	2.640	0.008

The results of the hypothesis testing indicate that there is disagreement in the data that tends to support the proposed correlations. Hypothesis 2 cannot be accepted because the level of statistical significance of the EE-EI correlation at the level of significance of 0.05 is not observed (0.127, $t = 1.621$, $p = 0.105$). The hypothesis is also supported because it has been established that a direct impact of family support on EI ($b = 0.048$, $t = 0.753$, $p = 0.451$) does not appear to be significant, which again suggests that there is no direct impact. The effect of family support on EI is indirect, mediated by an attitude towards entrepreneurship (with a standardized effect of -0.087, $t = 2.366$,

$p = 0.018$). Moreover, self-efficacy mediates the relationship between EE and EI, and thus does not directly relate to intention; instead, it increases self-efficacy, which has a positive relationship with intention ($\beta = 0.080$, $t = 2.640$, $p = 0.008$).

Discussion

The findings revealed that entrepreneurial education (EE) did not have a significant direct effect on entrepreneurial intention (EI), contrary to H_1 . This non-significant result suggests that merely being exposed to entrepreneurship education may not be sufficient to motivate students toward entrepreneurial career choices. Although earlier studies have consistently documented a positive association between EE and EI (Zhang et al., 2022; Gao et al., 2022), this divergence can be attributed to contextual or methodological factors. The second hypothesis (H_2) also failed to achieve statistical significance. Family support (FS) showed no direct effect on entrepreneurial intention. While TPB acknowledges the role of subjective norms in shaping intention (Ajzen, 1991), this result implies that in this sample, familial encouragement or support alone does not necessarily translate into entrepreneurial drive. This may reflect the ambivalent role of families in collectivist cultures like Pakistan, where risk aversion, preference for conventional employment, or lack of entrepreneurial exposure among parents may dilute the constructive influence of FS (Yesmin, 2024; Khan et al., 2022). Although FS is theoretically positioned to influence EI, its effect may not manifest directly unless internalized psychologically or attitudinally by the individual. Therefore, the absence of a direct effect suggests that FS might operate through more complex, indirect pathways, which this study further explored through mediation analysis.

In contrast, H_3 was supported, indicating that entrepreneurial self-efficacy (SE) significantly mediates the relationship between EE and EI. This result aligns with social cognitive theory and the TPB, which highlight the role of perceived behavioural control, often conceptualized as self-efficacy, in shaping intention (Bandura, 1977; Ajzen, 1991). The finding is consistent with recent empirical evidence demonstrating that EE enhances SE, which in turn strengthens EI (Li et al., 2023; Soomro & Shah, 2022). H_4 received empirical support, as entrepreneurial attitude significantly mediated the link between family support and entrepreneurial intention. This finding is theoretically coherent with TPB, wherein attitude serves as a proximal predictor of intention, shaped by social inputs including family norms (Ajzen, 1991). The result confirms that FS does not influence EI unless it cultivates a favourable attitudinal orientation toward entrepreneurship. This supports prior findings that suggest emotional encouragement and moral support from families foster positive evaluations of entrepreneurial careers, which then materialize as intentions (Cheng et al., 2024; Rizvi & Fatima, 2025). However, the negative coefficient, though significant, may indicate a more complex dynamic: in some cases, FS could be conditional or laden with expectations that temper enthusiasm for entrepreneurship.

Limitations and Future Directions

The present study offers important insights into the psychological and contextual mechanisms influencing EI among university students; however, several limitations must be acknowledged that may affect the interpretation and generalizability of the findings. First, experimental research was conducted as a cross-sectional study, where measurements were taken at a single point in time corresponding to the study's timeframe; therefore, it cannot establish cause-and-effect associations or analyse how entrepreneurial intent evolves over time. Longitudinal studies in the future would provide a more dynamic understanding of the interaction and change in educational exposure, FS, and self-efficacy, as well as the change in attitude toward entrepreneurial behaviour (Fayolle &

Gailly, 2015). It utilized a convenience sampling approach, which is not probability-based, as the researchers were interested in participants who were students completing their education at universities in the Punjab region of Pakistan, which is part of the private sector. It renders data highly available; however, this comes at the cost of limiting the sample's representativeness and its ability to be transferred to other demographics or regions. They must be carried out on a future basis, utilizing probabilistic methods of sampling and a broader spectrum of academic institutions, such as state universities and professional learning centers, to ensure that the findings can be extrapolated more effectively (Etikan et al., 2016). The use of self-reported questionnaires creates a possibility of standard method bias and social desirability bias, which could bias the responses that participants provide concerning their entrepreneurial attitudes and intentions.

Even though anonymity was guaranteed, to eliminate such risks, it may be recommended that the use of multiple data sources in future research be enforced, including peer evaluation or behavioral measures (Podsakoff et al., 2003). This study extracted a limited number of variables, such as EE, FS, self-efficacy, and entrepreneurial attitude, and excluded other variables that could prove influential constructs. Future scholars should consider incorporating additional mediators and moderators further to enhance their understanding of the EI formation process. One such issue may be the entrepreneurial mindset and resilience as psychological mediators, and contextual variables such as institutional support, digital literacy, or socioeconomic background as potential moderators of the observed relationships (Nabi et al., 2017; Rashid & Ratten, 2023).

Conclusion

This paper explored the relationship between entrepreneurial education, family support, and entrepreneurial intention, with self-efficacy and attitude towards entrepreneurship serving as mediators. The results indicate that EE and FS do not have a profound direct impact on EI. Instead, their influence stems from psychological and attitudinal processes, which underscore the critical role of internalized processes in motivating the entrepreneur. Particularly, EE enhances self-efficacy, which, in turn, supports the intention, whereas FS promotes a positive entrepreneurial attitude that subsequently drives EI. These findings are consistent with the Theory of Planned Behavior (Ajzen, 1991), which posits that modes of perception of capability and attitudinal orientation are the proximal variables that determine intention. Notably, the research adds value to the existing corpus of research by empirically confirming the presence of such mediating conditions in the South Asian context and contributing ideas that differ from those presented mainly by Western scholars. To policymakers and educators, the findings show that they must develop EE that inspires confidence via the process of learning, and the family and community players should organize favorable environments that influence the attitude positively. All in all, this study has highlighted that entrepreneurial preparedness is not just a product of structural or educational contributions, but rather the result of translating these contributions into self-beliefs and attitudinal commitment, which will be critical in eliciting sustainable entrepreneurial intentions.

References

- Ahmed, T., Chandran, V. G. R., Klobas, J. E., Liñán, F., & Kokkalis, P. (2022). Entrepreneurship education and entrepreneurial intentions: A systematic review and future research agenda. *International Journal of Management Education*, 20(2), 100630. <https://doi.org/10.1016/j.ijme.2022.100630>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

- Al Mamun, A., Fazal, S. A., Ahmad, G. B., & Syed, F. A. (2023). Predicting entrepreneurial intention and behavior among Malaysian university students: Testing the theory of planned behavior and entrepreneurial self-efficacy. *Journal of Entrepreneurship in Emerging Economies*, 15(2), 237–260. <https://doi.org/10.1108/JEEE-08-2022-0251>
- Ali, M., Khan, N. A., & Ahmed, M. (2023). Evaluating reflective measurement models in SEM using SmartPLS: Guidelines for applied research. *Journal of Contemporary Research*, 15(1), 33–47.
- Amofah, K., & Saladrighes, R. (2022). Impact of attitude towards entrepreneurship education and role models on entrepreneurial intention. *Journal of Innovation and Entrepreneurship*, 11(1), 36. <https://doi.org/10.1186/s13731-022-00214-7>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bouarir, H., Saoula, O., & Touil, A. (2023). Family support and entrepreneurial intention: An integrative literature review. *Journal of Entrepreneurship in Emerging Economies*, 15(3), 567–584. <https://doi.org/10.1108/JEEE-03-2022-0078>
- Bouarir, N., et al. (2023). Role of family on motivation and entrepreneurial intentions among higher education students. *Empirical Economics Letters*, 23(Special Issue 2), 153–160.
- Chauhan, R., Singh, R., & Pandey, S. (2024). Environmental support and entrepreneurial intention: The mediating role of attitude. *Journal of Small Business and Enterprise Development*, 31(2), 321–339. <https://doi.org/10.1108/JSBED-06-2023-0241>
- Cheng, H., Li, J., & Zhao, S. (2024). Linking family support and entrepreneurial intention: A mediating model of attitude and self-efficacy. *Journal of Small Business and Enterprise Development*, 31(1), 88–107. <https://doi.org/10.1108/JSBED-12-2022-0509>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Farrukh, M., Khan, A. A., & Shahid Khan, M. (2022). Entrepreneurial intentions: The role of individualism and collectivism in shaping youth motivation. *Journal of Entrepreneurship Education*, 25(4), 1–12. <https://www.abacademies.org/articles/entrepreneurial-intentions-the-role-of-individualism-and-collectivism-in-shaping-youth-motivation-14652.html>
- Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75–93. <https://doi.org/10.1111/jsbm.12065>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- Gao, Y., Li, Y., & Yang, D. (2022). Exploring the impact of entrepreneurship education on entrepreneurial intention: Evidence from China and beyond. *International Journal of Management Education*, 20(3), 100729. <https://doi.org/10.1016/j.ijme.2022.100729>
- George, D., & Mallery, P. (2020). *IBM SPSS statistics 26 step by step: A simple guide and reference*. Routledge.
- Hair, J. F., Howard, M. C., & Nitzl, C. (2022). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 144, 114–123. <https://doi.org/10.1016/j.jbusres.2022.01.027>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405–431. <https://doi.org/10.1108/IMR-09-2014-0304>
- Heredia Carroza, L., Díaz-Chao, A., & Sainz-González, R. (2024). Entrepreneurial intentions and behavior in higher education: Integrating theory of planned behavior and human capital theory. *Journal of Business Research*, 171, 114101. <https://doi.org/10.1016/j.jbusres.2023.114101>

- Higher Education Commission. (2022). *Pakistan National Entrepreneurship Policy Framework*. Government of Pakistan. <https://www.hec.gov.pk/>
- International Labour Organization. (2023). *Global employment trends for youth 2023: Investing in transforming futures for young people*. ILO. <https://www.ilo.org/>
- Jena, R. K. (2020). Measuring the impact of business management students' attitude towards entrepreneurship education on entrepreneurial intention: A case study. *Computers in Human Behavior*, 107, 106275. <https://doi.org/10.1016/j.chb.2020.106275>
- Jiatong, W., Murad, M., Bajun, F., Tufail, M. S., Mirza, F., & Rafiq, M. (2021). Impact of entrepreneurial education, mindset, and creativity on entrepreneurial intention: Mediating role of entrepreneurial self-efficacy. *Frontiers in Psychology*, 12, 724440. <https://doi.org/10.3389/fpsyg.2021.724440>
- Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396–403. <https://doi.org/10.9734/BJAST/2015/14975>
- Khan, K., Ahmed, M., & Ali, S. (2022). The role of family support in shaping entrepreneurial intention: Evidence from Pakistani university students. *Journal of Entrepreneurship and Innovation in Emerging Economies*, 8(1), 33–52. <https://doi.org/10.1177/23939575221075678>
- Li, Y., Cao, K., Jenatabadi, H. S., et al. (2023). Impact of entrepreneurial education on entrepreneurial intention with mediating self-efficacy: Evidence from China. *Frontiers in Psychology*, 14, 1240910. <https://doi.org/10.3389/fpsyg.2023.1240910>
- Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, 16(2), 277–299. <https://doi.org/10.5465/amle.2015.0026>
- Naskar, S., Ghosh, S., & Mishra, P. (2025). Bibliometric and content analysis of the theory of planned behavior (TPB): Trends and future directions. *Journal of Behavioral and Experimental Economics*, 102, 102063. <https://doi.org/10.1016/j.socec.2024.102063>
- Pakistan Bureau of Statistics. (2023). *Labour force survey 2022–2023*. Government of Pakistan. <https://www.pbs.gov.pk/>
- Qazi, Z., Qazi, W., Raza, S. A., & Yousufi, S. Q. (2022). Investigating women's entrepreneurial intention: The moderating role of family support. *ASR Chiang Mai University Journal of Social Sciences and Humanities*, 9(1).
- Rashid, M. S., & Ratten, V. (2023). Entrepreneurial education and self-efficacy: A pathway to entrepreneurial intentions. *Education + Training*, 65(1), 112–130. <https://doi.org/10.1108/ET-03-2022-0102>
- Relente, J. T. C., Balan, M., & Fajardo, A. C. (2025). An extended TPB model predicting entrepreneurial behavior among Southeast Asian university students. *Asia Pacific Journal of Innovation and Entrepreneurship*, 19(1), 77–98. <https://doi.org/10.1108/APJIE-11-2024-0183>
- Rizvi, M. S., & Fatima, N. (2025). Attitude as a mediator in the relationship between social support and entrepreneurial intention: Evidence from Pakistan. *South Asian Journal of Business and Management Cases*, 14(1), 44–60. <https://doi.org/10.1177/22779779241234965>
- Sahid, N. S. M., Hashim, N. A., & Musa, M. (2024). A TPB perspective on youth entrepreneurial intention: A Malaysian outlook with policy implications. *Journal of Entrepreneurship and Public Policy*, 13(1), 38–55. <https://doi.org/10.1108/JEPP-07-2023-0051>
- Saoula, O., Shamim, A., Ahmad, M. J., & Abid, M. F. (2023). Do entrepreneurial self-efficacy, entrepreneurial motivation, and family support enhance entrepreneurial intention? The mediating role of entrepreneurial education. *Asia Pacific Journal of Innovation and Entrepreneurship*, 17(1), 20–45. <https://doi.org/10.1108/APJIE-08-2022-0102>

- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2022). Partial least squares structural equation modeling. In H. Latan & R. Noonan (Eds.), *Partial least squares path modeling* (2nd ed., pp. 1–41). Springer. https://doi.org/10.1007/978-3-030-80519-7_1
- Sohu, J. M., Junejo, I., Khuwaja, F. M., Qureshi, N. A., & Dakhan, S. A. (2022). The impact of entrepreneurial education on entrepreneurial intention during the COVID-19 pandemic: An empirical study from Pakistan. *Journal of Asian Finance, Economics and Business*, 9(3), 95–103. <https://doi.org/10.13106/jafeb.2022.vol9.no3.0095>
- Soomro, B. A., & Shah, N. (2022). Entrepreneurship education, entrepreneurial self-efficacy, need for achievement and entrepreneurial intention among commerce students in Pakistan. *Education + Training*, 64(1), 107–125. <https://doi.org/10.1108/ET-01-2021-0023>
- Yesmin, S. (2024). The influence of family and religious norms on entrepreneurial intention in Islamic contexts. *International Journal of Entrepreneurial Behavior & Research*, 30(2), 344–362. <https://doi.org/10.1108/IJEBR-03-2023-0291>
- Zhang, J., Wei, Q., Chen, X., & Yu, J. (2022). Relationship between entrepreneurship education and entrepreneurial intention among college students: A meta-analysis. *Frontiers in Psychology*, 13, 978480. <https://doi.org/10.3389/fpsyg.2022.978480>
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265–1272. <https://doi.org/10.1037/0021-9010.90.6.1265>