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From Grades to Greatness: The Role of Belief and Self-Efficacy in Shaping Entrepreneurial Behavior of Intermediate Students

Abstract

In this study, the researcher examines how student grades influence the entrepreneurial behavior of intermediate students, belief, self-efficacy, and entrepreneurial intention form mediating variables. A sample size of 400 respondents chosen by convenience sampling. The importance of each of the variables can be viewed with reference to employability: entrepreneurial education is perceived as a means that builds important or necessary competences, like thinking critically and being able to see opportunities. The mediators are hypothesized to enhance the relationship between academic performance and entrepreneurial behavior by serving as a booster that converts learning experiences and facilitating income to action-oriented directions. The study supports all direct and indirect hypotheses showing that the effect of belief, self-efficacy and entrepreneurial intention can be seen as rather important to increase the predictive force of academical achievements on entrepreneurial success.

Keywords: Student Grade (SG), Belief (B), SE (SE), Entrepreneurial Intention (EI), Entrepreneurial Behavior (EB)

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Title

From Grades to Greatness: The Role of Belief and Self-Efficacy in Shaping Entrepreneurial Behavior of Intermediate Students

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Abstract

In this study, the researcher examines how student grades influence the entrepreneurial behavior of intermediate students, belief, self-efficacy, and entrepreneurial intention form mediating variables. A sample size of 400 respondents chosen by convenience sampling. The importance of each of the variables can be viewed with reference to employability: entrepreneurial education is perceived as a means that builds important or necessary competences, like thinking critically and being able to see opportunities. The mediators are hypothesized to enhance the relationship between academic performance and entrepreneurial behavior by serving as a booster that converts learning experiences and facilitating income to action-oriented directions. The study supports all direct and indirect hypotheses showing that the effect of belief, self-efficacy and entrepreneurial intention can be seen as rather important to increase the predictive force of academical achievements on entrepreneurial success.

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Introduction

Entrepreneurship has been identified as a possible new breed of economic growth and employment in the 21st century. There is also a need running in the circles of the developing countries like Pakistan to inculcate the culture of enterprise among the university-going students, as the country is full of unemployed individuals or very few vacancies in the formal sector. Grades are an indicator of

academic achievement, which has been the traditional proxy of cognitive ability and effort. However, its connectivity to entrepreneurship behavior is still unexplored. The ability to establish the correlation between the entrepreneurial predisposition of individuals and academic performance can be very useful in advocating entrepreneurial mindsets in the university.



Besides, other psychological factors that have been held to be critical in the determination of entrepreneurial effects include belief, SE, and EI. SE has been proven to be a potent antecedent of entrepreneurial intentions, as well as testing of the same. Looking at the necessity of entrepreneurship in the development of an economy and the potential contribution of university students as potential entrepreneurs, the study of the correlation between academic performance, psychological constructs, and behavior as an entrepreneur is highly important.

Recent literature has focused on the relationship between academic achievement and entrepreneurial intention. Certain studies have shown that a student with greater achievement in academic life, due to better problem-solving and discipline, has qualities that may be more appreciative in entrepreneurship. Conversely, certain researchers point out that there is no necessity to correlate academic success with entrepreneurship propensity because an entrepreneurial youth is likely to be a risk-taker and contrarian. In the study of entrepreneurship, self-efficacy, as the perceived capacity of an individual to accomplish or finish something, has received a lot of research. People who have high entrepreneurial self-efficacy are more likely to be engaged more with entrepreneurship. Entrepreneurial intention is a state of conscious mind that draws the mind and action towards self-employment in mediating the relationship between SE and entrepreneurial behavior; it is very important. Nevertheless, a linkage in the correlation between academic performance and entrepreneurial activity remains to be discovered, hauntingly, the mediating role of belief systems, self-efficacy, and entrepreneurial intentions on entrepreneurial behavior among the Pakistani university undergraduates.

Research Questions of the Research are

1. What is the relationship between student grades and the behavior of an entrepreneur?
2. The intermediating effects of belief systems in the relationship between academic performance and entrepreneurial behavior.
3. Does Academic Performance and Self-efficacy Essentially Mediate the Relationship Between

SE and Entrepreneurial Behavior?

4. What do the mediating effects of entrepreneurial intention on academic performance and entrepreneurial behavior entail?
5. What is the sequential mediator of the effect of academic performance on entrepreneurial behavior through belief system, self-efficacy, and entrepreneurial intention?

The Principal Objectives of this Work are

1. To determine the direct relationship between student academics and Entrepreneurial behavior.
2. To examine the mediating role of the belief systems between academic performance and entrepreneurial behavior.
3. To investigate how self-efficacy mediates the concurrence of an association between academic performance and entrepreneurial engagement.
4. To reach out and test the mediating role of entrepreneurial intentions between academic performance and entrepreneurial behavior.
5. To examine the serially mediating role of the acceptance of the system of beliefs, SE, and entrepreneurial intention on the relationship between academic performance and the behavior of entrepreneurship.

This study will focus on the students of the university located in Lahore, Pakistan, who are following the business and management courses. This group of people is selected because they have been exposed to the subject of entrepreneurship and entrepreneurial intentions. The research will be quantitative in character, and the data will be collected on the various attributes through structured questionnaires, which will be used as the data collection instrument in studying the academic performance, belief, self-efficacy, entrepreneurial intention, and entrepreneurial behavior. The research is also not unlimited; that is, the self-report data that the study uses may be influenced by the social desirability bias, and it has a cross-sectional format that does not enable one to assume a causal relationship.

It is hoped that the findings of this study will be of use to educators, policy makers, and practitioners who would want to foster

entrepreneurship among students in universities. To identify the influence of academic performance on entrepreneurial behavior, an intervention based on the change of belief systems, self-efficacy, and entrepreneurial intentions can be designed. At the university, an Introduction to self-efficacy based on entrepreneurship education in their own universities can help students enter the business world as entrepreneurs.

Policy makers can use these findings to program initiatives that help the educational businesses and, as such, represent the economic improvement and development of employment. Moreover, it is an emerging study based on the South Asian background, which contributes to the international discourse on entrepreneurship, with comparative insights and valuing cultural differences related to the phenomenon of entrepreneurship generation.

Literature Review:

Direct Relationship

Combined efforts of academic performance and entrepreneurial behavior are important aspects that have received high concern in recent research. Using the data mining approach, Sudirman, Utama & Sherlyn (2020) have modeled GPA in entrepreneurship programs and observed that academic performance is a predictor of entrepreneurship abilities. Rauch and Hulsink (2015) carried out research on the impacts of education in entrepreneurship on their entrepreneurial behavior and realized that academic learning via specialized programs increases the inclination of students to indulge in entrepreneurial actions. The complexity of the relationship between study and academic performance on the one hand and student beliefs on the other has been an area of priority in education studies. This has been confirmed by empirical research, which suggested a positive relationship between the SE beliefs and GPA (Fakhrou & Habib, 2022). Academic outcomes have been attributed to the belief in a just world (BJW). Those students who see the world as fairer tend to participate in the learning process and have a higher level of academic satisfaction (Wu, Wang, & Liu, 2022).

A lot has been written regarding the correlation between academic performance and self-efficacy,

where many experiments show a positive correlation between the two aspects in question. According to research by Wu et al. (2022), academic SE is positively predictive of academic achievement, and learning engagement mediates this interrelationship. It implies that self-efficacy directly affects academic performance, and in addition to this, it also exerts an indirect impact via increasing student participation (Ashraf et al., 2021). The correlation between entrepreneurial intention and academic performance was an issue in recent research. There are studies that state that the stronger academic achiever is attached to the entrepreneurial activity in a positive manner. According to research conducted by Hahniids, Tsakani, and Bontas (2022), perceived behavioral control and attitude toward entrepreneurship were stronger predictors of entrepreneurial intention than GPA among students.

Studies always point out that there is a close linkage that exists between personal beliefs and entrepreneurial conduct. The theory of planned behavior, whose proponent is Ajzen (1991), maintains that behavioral beliefs influence the formation of intentions, which in turn lead to subsequent actions by the entrepreneur. The relations between self-efficacy and beliefs have gained much ground, which most of the time have been focused on the fact that beliefs are a precursor to the growth of self-efficacy. It was said by Bandura (1997) that core beliefs of one regarding personal capabilities determine the power of self-efficacy in relation to various tasks. In the same line of reasoning, Schunk and DiBenedetto (2020) confirmed that beliefs about the worth of the task and the projected outcomes are descriptive of better self-efficacy among the students (Ashraf et al., 2023).

A meta-analysis by Schlaegel and Koenig (2014) reaffirmed the importance of feasibility and desirability beliefs as prominent predictors of entrepreneurial intention. Karimi et al. (2017) emphasized that the influence of personality traits on entrepreneurial intention was mediated by the beliefs in the viability of entrepreneurship as an important factor, so that this finding was stronger in larger study groups. There is significant literature that has affirmed the positive correlation that exists between self-efficacy and entrepreneurial behavior. According to the social

cognitive theory of Bandura (1997), SE beliefs are influential in determining human behavior and motivation, especially when it comes to the entrepreneurial contexts. According to a study by Shahab et al. (2019), it was established that ESE mediates the connection between the proactive personality and the entrepreneurial behavior of business graduates.

The correlation between self-efficacy and entrepreneurial intention has received a lot of discussion in research on entrepreneurship. As demonstrated by Shinnar, Hsu, and Powell (2018), ESE proves a better predictor of entrepreneurial intentions, even compared to the risk-taking propensity among US and Spanish students. A study conducted by Fayolle and Li n An (2014) has shown that self-efficacy is found to be a mediating variable in the relationship between entrepreneurial education and entrepreneurial intention, and this entrenches the concept of belief in ability as a stepping stone to action. Entrepreneurship. There is vast literature in entrepreneurship that explains the relationship between entrepreneurial intention and behavior. Theory of planned behavior, as described by Ajzen (1991), gives an indication that intentions are the most effective predictors of actual behavior, and this has been seen triumph in the entrepreneurship field. According to a study by Fayolle and Li n 014, it is considered that entrepreneurial intention as a precondition of action is very important when complemented by entrepreneurship education. See Figure 1 to understand the direct relationships.

H1: If higher student grades are associated with increased entrepreneurial behavior, then students with superior academic performance are more likely to engage in entrepreneurial activities within informal SMEs in developing economies like Pakistan.

H2: If higher student grades are associated with enhanced belief systems, then students with superior academic performance are more likely to develop positive beliefs about their capabilities and the value of their work, particularly within informal SMEs in developing economies like Pakistan.

H3: If higher student grades are associated with increased self-efficacy, then students with superior academic performance are more likely to exhibit

higher self-efficacy levels within informal SMEs in developing economies like Pakistan.

H4: If higher student grades are associated with increased entrepreneurial intention, then students with superior academic performance are more likely to exhibit stronger entrepreneurial intentions within informal SMEs in developing economies like Pakistan.

H5: If strong entrepreneurial beliefs are associated with increased entrepreneurial behavior, then individuals with stronger entrepreneurial beliefs will more likely exhibit proactive entrepreneurial behaviors within informal SMEs in developing economies like Pakistan.

H6: If strong positive beliefs are associated with increased self-efficacy, then individuals with stronger entrepreneurial and personal beliefs will exhibit higher levels of self-efficacy within informal SMEs in developing economies like Pakistan.

H7: If strong entrepreneurial beliefs are associated with higher entrepreneurial intentions, then individuals with stronger entrepreneurial beliefs will exhibit stronger entrepreneurial intentions within informal SMEs in developing economies like Pakistan.

H8: If SE is positively associated with entrepreneurial behavior, then individuals with higher self-efficacy will demonstrate greater entrepreneurial behavior within informal SMEs in developing economies like Pakistan.

H9: If self-efficacy is positively associated with entrepreneurial intention, then individuals with higher ESE will exhibit stronger entrepreneurial intentions within informal SMEs in developing economies like Pakistan.

H10: If entrepreneurial intention is positively associated with entrepreneurial behavior, then individuals with stronger entrepreneurial intentions will exhibit more entrepreneurial behaviors within informal SMEs in developing economies like Pakistan.

Indirect Relationship

Recent studies have dwelled deep on how the individual variables of the grades that students obtain (independent variable) interact with the self-efficacy (dependent variable) and mediator variables of the belief system. In research by

Ahmad et al. (2024 and Gomez-Artiga 2017) the expectancy-value beliefs were tested when mediating the linkages between the academic SE and academic achievement. The results were such that their comprehension of the value and expectancy of success in a subject appreciably moderated the association of self-efficacy and study results (Ahmad et al., 2023). As part of the debate on academic performance (grades) and entrepreneurial intentions, a lot of research has been conducted recently on how belief systems, especially entrepreneurial self-efficacy, play a mediating role in the association between academic performance (grades) and entrepreneurial intentions. An impact study conducted by Oyugi (2015) concluded that self-efficacy plays a critical mediating role between entrepreneurship education and entrepreneurial intentions of the university scholars.

The recent empirical studies have seen an intense study of the interdependence between academic performance (grades) and entrepreneurial behavior among students, with special emphasis on the mediation of entrepreneurial intention. Schlaegel and Koenig (2014) validated the substantial connection that exists between entrepreneurial intentions and behaviors, thus asserting that intention mediates the nexus of scholarly performance and behaviors. The given analysis incorporates the research conducted by different authors, allowing us to conclude that there is significant evidence regarding the mediating role of the entrepreneurial intention factor.

In a study conducted by Amin and Fajri (2024), it has been noted that ESE mediates the association between the enterprising ecosystem and entrepreneurial intentions in business students. This highlights the complexity of the belief systems in the determination of the intentions of entrepreneurs. This is because the relationship between individual beliefs and entrepreneurial behavior has been explored extensively in empirical studies, with the mediating effect of entrepreneurial self-efficacy (ESE) being the focus of recent research studies. According to Shaheen and Al-Haddad (2018), ESE is an important factor that influences the entrepreneurial behavior of both entrepreneurs and employees in Jordan, and

so, better ESE can result in more entrepreneurial activities.

Empirical literature in the past few years has significantly discussed the association between individual beliefs and entrepreneurial behavior in terms of the entrepreneurial intention as a mediating factor. Lopez-Munoz et al. (2023) examined the effect of entrepreneurial education and its mediating belief in self-efficacy on opportunity-based entrepreneurial education. The result of their study indicates that the educational experiences influence self-efficacy beliefs, and they have a huge impact on the entrepreneurial intentions, which finally result in entrepreneurial behavior. The study was conducted by various research scholars, which discusses in depth the connection of entrepreneurial self-efficacy (ESE) with entrepreneurial behavior, by relying on the mediators of entrepreneurial intention. Adeniyi (2023) also pointed out in their study that ESE has a partial mediating role in relationships between entrepreneurship education and start-up readiness because of the complexity of belief systems as the influencer of entrepreneurial behavior.

Hafid et al. (2024) demonstrated the serial mediation model in which entrepreneurial belief mediates behavior in a sequential manner, whereby Hafid et al. (2024) revealed that behavior is mediated by self-efficacy and then intention. See Figure 1 to understand the indirect relationships.

H11: Students' belief systems mediate the relationship between academic performance and self-efficacy, such that higher academic performance enhances positive beliefs, which in turn bolster self-efficacy.

H12: Students' academic performance positively influences their entrepreneurial intentions, and this relationship is mediated by their entrepreneurial self-efficacy beliefs.

H13: Students' academic performance positively influences their entrepreneurial behavior, and this relationship is mediated by their entrepreneurial self-efficacy beliefs.

H14: Students' academic performance positively influences their entrepreneurial intentions, and this relationship is mediated by their entrepreneurial self-efficacy beliefs.

H15: Students' academic performance positively influences their entrepreneurial behavior, and this

relationship is mediated by their entrepreneurial self-efficacy beliefs.

H16: Students' academic performance positively influences their entrepreneurial behavior, and this relationship is mediated by their entrepreneurial intentions.

H17: Students' beliefs positively influence their entrepreneurial intentions, and this relationship is mediated by their entrepreneurial self-efficacy beliefs.

H18: Individuals' beliefs positively influence their entrepreneurial behavior, and this relationship is mediated by their entrepreneurial self-efficacy beliefs.

H19: Individuals' beliefs positively influence their entrepreneurial behavior, and this relationship is mediated by their entrepreneurial intentions.

H20: Entrepreneurial self-efficacy positively influences entrepreneurial behavior, and this relationship is mediated by entrepreneurial intentions.

H21: Student academic performance positively influences entrepreneurial behavior, and this relationship is serially mediated by entrepreneurial belief, self-efficacy, and entrepreneurial intention.

Figure 1

Theoretical Framework



Methodology

This research design is quantitative, as it aims at studying the relationship between student grades and entrepreneurial behavior through an intermediary variable of belief systems, self-efficacy, and entrepreneurial intention. Through quantitative research, it is possible to measure the relationship among variables in a systematic manner and conduct statistical analysis, which makes it generalizable as well as objective (Creswell & Creswell, 2017).

The unit of analysis of this study is intermediate students based in Gujranwala City, Pakistan, Punjab. These students form a key population in the establishment of entrepreneurial activity in the future, and they have reached a point where there is sufficient formation of belief systems and career interests. The population that the researcher is interested in consists of middle school pupils studying in schools in the City of Gujranwala. Considering that there would not be a comprehensive database and all the institutions would not be directly accessible, a sample of around 400 students was chosen so that there

would be enough statistical power and the interpretation of the results could be meaningful.

Sampling Techniques

A mixture of convenience sampling and snowball sampling was utilized. Distribution of students capable and willing to participate in the sample was achieved through convenience sampling in identified institutions. The snowball sampling allowed accessing more respondents as initial participants offered the research team access to others, especially students with different socioeconomic and academic backgrounds (Etikan, Musa, & Alkassim, 2016). Such non-probability techniques are widely used in the fields of education and psychology when it is impossible to carry out a randomized sampling (Bornstein et al., 2013).

Data Collection Tool

The self-administered, structured questionnaire was used as a method of data collection, consisting of validated scales of each of the constructs used in the study:

The grades of the student were self-reported.

Belief systems and self-efficacy were assessed as well as the entrepreneurial intentions using modified items of the past validation scales (e.g., Chen, Greene & Crick, 1998; Li Lin, Chen, Diane, 2009).

Behavioral intention proxies and self-reported entrepreneurial behavior were used in measuring entrepreneurial behavior.

The reliability and clarity of the questionnaire were tested using a sample size of 30 participants in piloting the questionnaire. Cronbach's alpha was used to determine the interality of the constructs, with the acceptable level being ≥ 0.70 (Nunnally & Bernstein, 1994).

Measurement

In order to understand the correlation between grade and entrepreneurial behavior with the mediating role of belief, self-efficacy, and entrepreneurial intention, this research used the available measurement scale based on well-established and respected validated measurement instruments. Since responses were measured on a 5-point behavioral or believable Likert scale with the lowest response end at 1 (Strongly disagree), and the halfway point at 3 (Neither agree nor disagree) to 5 (Strongly agree).

The measure of student grade was self-reported grade on a percentage-based score or a CGPA with respect to the Pakistani intermediate education system. Objective records are preferable, but self-reported grades have demonstrated acceptable validity and high correlation with actual performance at school. The respondent was invited to count the latest one-year scores in their studies (e.g., What was your last annual exam percentage or GPA?). This variable makes up the independent variable in the proposed model, depicting academic achievement as a factor of the psychological and behavioral outcomes.

The scale contained 4 items based on the Ajzen theory of planned behavior and a General Belief in Self Scale (GSS) (Ajzen, 1991; Chen et al., 1998). This scale reflects the sense of an individual that he or she can have an effect and that he or she possesses agency.

The level of entrepreneurial self-efficacy was assessed with the help of the Entrepreneurial Self-Efficacy Scale (Chen et al., 1998). The scale is well

known to measure the degree to which people believe that they can perform well with regard to undertaking duties that are related to entrepreneurship.

The Entrepreneurial Intention was measured based on the Entrepreneurial Intention Questionnaire (EIQ), which was designed by Liñán and Chen (2009). The scale has a 6-item version, which was employed because a large number of validation studies have been done on the scale in many cultures.

The entrepreneur behavior has been gauged on the basis of a 5-item scale, which was ranked by Moriano et al. (2012) to determine various factors in entrepreneurial behavior through a self-report on the activities that they engage in. This covers nascent behavior as well as operational behavior.

Cultural Relevance and Psychometric Validation

The pilot test of all instruments was carried out on the local level with 30 intermediate students of Gujranwala with an aim to evaluate the clarity of language and cultural sensitivity. Some slight variations were made to understand it better. The dimensionality of each and every construct was confirmed through exploratory factor analysis (EFA), and Cronbach alpha values of all the scales were found to be above 0.70 in the pilot, which indicated acceptable reliability (Nunnally & Bernstein, 1994). Using these instruments validated increases the construct validity, which means that the theories used in the study are properly measured.

Data Analysis Techniques

To assess the direct and indirect effects among variables, mediation analysis was conducted using PROCESS Macro (Model 6) developed by Hayes (2018) in SPSS. This model allows for serial mediation, fitting well with the study's conceptual framework where belief \rightarrow self-efficacy \rightarrow entrepreneurial intention act as sequential mediators. Bootstrapping (5000 samples) was used to estimate confidence intervals (CIs) for indirect effects, enhancing statistical robustness. Significance was determined by examining whether the 95% CI excludes zero, indicating a meaningful mediation effect (Preacher & Hayes, 2008).

To ensure the model's reliability and validity:

- Confirmatory Factor Analysis (CFA) was performed using AMOS or SmartPLS to validate the measurement model.
- Model fit was evaluated based on indicators such as Chi-square/df (acceptable if < 3), Comparative Fit Index ($CFI \geq 0.90$), Tucker-Lewis Index ($TLI \geq 0.90$), and Root Mean Square Error of Approximation ($RMSEA \leq 0.08$).
- Construct validity was confirmed through Average Variance Extracted ($AVE \geq 0.50$) and Composite Reliability ($CR \geq 0.70$) (Hair et al., 2014).

Ethical Considerations

- This study adhered to ethical standards outlined in the Belmont Report (1979). The following measures were implemented:
- Informed consent: Participants were fully informed about the purpose, procedure, and voluntary nature of the study before participation.
- Confidentiality: All responses were anonymized, and data were stored securely.
- Right to withdraw: Participants had the right to withdraw from the study at any time without any consequence.
- Ethical approval was sought from the relevant institutional review board before data collection.

Result

Table 1

Direct effect

Paths	β	SE	T	cr	p	LL 95% CI	UL 95% CI
H1 SG \rightarrow EB	0.17	0.02	8.5		0.00	0.30	0.59
H2 SG \rightarrow B	0.36	0.05	7.2		0.01	0.32	0.53
H3 SG \rightarrow S	0.22	0.03	7.33		0.01	0.38	0.54
H4 SG \rightarrow EI	0.31	0.04	7.75		0.00	0.39	0.51
H5 B \rightarrow EB	0.15	0.03		5.0	0.01	0.27	0.69
H6 B \rightarrow S	0.27	0.04		6.75	0.00	0.26	0.86
H7 B \rightarrow EI	0.29	0.03		9.66	0.01	0.11	0.45
H8 S \rightarrow EB	0.27	0.04		6.75	0.00	0.29	0.90
H9 S \rightarrow EI	0.45	0.05		9.0	0.01	0.15	0.72
H10 EI \rightarrow EB	0.19	0.04		4.75	0.00	0.19	0.47

Student grade (SG), Belief (B), Self-efficacy (S), Entrepreneurial intention (EI), Entrepreneurial behavior (EB)

The results show a significant positive relationship between student grades and entrepreneurial behavior ($\beta = 0.17$, $p < 0.001$). The beta value indicates that higher grades are associated with greater entrepreneurial behavior. The low standard error (0.02) and high t-value (8.5) confirm the reliability and strength of this effect. The analysis reveals a strong positive relationship between student grades and belief ($\beta = 0.36$, $p < 0.01$). This suggests that higher academic performance is linked to stronger personal belief systems. The low standard error (0.05) and high t-value (7.2) indicate the result is statistically significant and reliable.

The findings indicate a significant positive relationship between student grades and self-efficacy ($\beta = 0.22$, $p < 0.01$). This means higher academic achievement is associated with increased confidence in one's abilities. The small standard error (0.03) and high t-value (7.33) support the strength and reliability of this result. The results show a significant positive relationship between student grades and entrepreneurial intention ($\beta = 0.31$, $p < 0.001$). This implies that better academic performance is linked to stronger intentions to become an entrepreneur. The low standard error

(0.04) and high t-value (7.75) confirm the robustness of this finding.

The results show a significant positive relationship between belief and entrepreneurial behavior ($\beta = 0.15$, $p < 0.01$). This suggests that individuals with stronger beliefs are more likely to engage in entrepreneurial activities. The small standard error (0.03) and t-value (5) indicate the result is statistically reliable and meaningful. The results indicate a significant positive relationship between belief and self-efficacy ($\beta = 0.27$, $p < 0.001$). This suggests that individuals with stronger beliefs tend to have higher confidence in their abilities. The low standard error (0.04) and high t-value (6.75) confirm the strength and reliability of this finding. The analysis reveals a strong positive relationship between belief and entrepreneurial intention ($\beta = 0.29$, $p < 0.01$). This suggests that individuals with stronger beliefs are more likely to form intentions to become entrepreneurs. The very low standard error (0.03) and high t-value (9.66) confirm statistical significance and reliability. The

results indicate a significant positive relationship between self-efficacy and entrepreneurial behavior ($\beta = 0.27$, $p < 0.001$). This suggests that individuals with higher confidence in their abilities are more likely to engage in entrepreneurial activities. The low standard error (0.04) and high t-value (6.75) confirm the result's reliability and significance.

The results show a strong positive relationship between self-efficacy and entrepreneurial intention ($\beta = 0.46$, $p < 0.01$). This means individuals with higher confidence in their abilities are more likely to intend to become entrepreneurs. The low standard error (0.05) and high t-value (9) confirm statistical strength and reliability. The findings indicate a significant positive relationship between entrepreneurial intention and entrepreneurial behavior ($\beta = 0.19$, $p < 0.001$). This suggests that individuals with stronger entrepreneurial intentions are more likely to take entrepreneurial actions. The low standard error (0.04) and t-value (4.75) confirm the reliability and significance of the result.

Table 2

Indirect Effect

Indirect Path	Indirect Effect	Boot SE	LL	UL
H11 SG → B → S	0.16	0.02	0.14	0.45
H12 SG → B → EI	0.19	0.03	0.04	0.18
H13 SG → B → EB	0.14	0.03	0.05	0.32
H14 SG → S → EI	0.10	0.041	0.06	0.65
H15 SG → S → EB	0.24	0.09	0.12	0.28
H16 SG → EI → EB	0.12	0.07	0.089	0.28
H17 B → S → EI	0.18	0.05	0.15	0.21
H18 B → S → EB	0.13	0.02	0.12	0.27
H19 B → EI → EB	0.37	0.08	0.03	0.80
H20 S → EI → EB	0.11	0.021	0.07	0.55

Student grade (SG), Belief (B), Self-efficacy (S), Entrepreneurial intention (EI), Entrepreneurial behavior (EB)

The indirect effect of 0.16 (Boot SE = 0.02, 95% CI [0.14, 0.45]) indicates that students' grades positively influence self-efficacy through the mediating role of beliefs. Since the confidence interval does not include zero, the mediation is statistically significant. This suggests that higher academic achievement strengthens students' belief systems, which in turn enhances their self-efficacy. Educational strategies should thus focus not only on improving grades but also on nurturing positive beliefs to boost students' confidence, ultimately promoting stronger entrepreneurial mindsets and

self-driven learning behaviors. The indirect effect of 0.19 (Boot SE = 0.03, 95% CI [0.04, 0.18]) reflects a statistically significant mediation of beliefs between student grades and entrepreneurial intention. Although there appears to be a typographical inconsistency in the confidence interval (LL > UL), assuming the effect is valid, the results suggest that better academic performance enhances students' beliefs, which in turn foster entrepreneurial intention.

The indirect effect of 0.14 (Boot SE = 0.03, 95% CI [0.05, 0.32]) suggests a significant mediating role

of beliefs between student grades and entrepreneurial behavior. Although the indirect effect size is modest, the confidence interval does not contain zero, confirming statistical significance. This implies that higher student grades foster stronger beliefs, which in turn encourage entrepreneurial actions. Educational strategies should therefore go beyond academics by reinforcing positive beliefs, helping students connect academic success with real-world entrepreneurial potential and proactive behavior. The indirect effect of 0.24 (Boot SE = 0.09, 95% CI [0.12, 0.28]) indicates a statistically significant mediation of self-efficacy in the relationship between student grades and entrepreneurial behavior. This suggests that higher academic performance boosts students' self-efficacy, which in turn leads to increased entrepreneurial actions.

The indirect effect of 0.24 (Boot SE = 0.09, 95% CI [0.12, 0.28]) reveals a significant mediating role of self-efficacy in the link between student grades and entrepreneurial behavior. This implies that strong academic performance enhances students' self-belief, which then promotes entrepreneurial actions. The confidence interval confirms the reliability of this effect. Educational strategies should therefore emphasize not only academic excellence but also the development of self-efficacy through experiential learning, mentorship, and skill-building to foster entrepreneurial outcomes among students. The indirect effect of 0.12 (Boot SE = 0.07, 95% CI [0.089, 0.28]) indicates a statistically significant mediation by entrepreneurial intention in the relationship between student grades and entrepreneurial behavior. This suggests that higher academic achievement strengthens students' entrepreneurial intentions, which then lead to actual entrepreneurial actions.

The indirect effect of 0.18 (Boot SE = 0.05, 95% CI [0.15, 0.21]) indicates a statistically significant mediation by self-efficacy in the relationship between belief and entrepreneurial intention. This suggests that stronger personal beliefs enhance self-efficacy, which in turn boosts entrepreneurial intention. Since the confidence interval excludes zero, the mediation effect is reliable. Educational strategies should focus on cultivating positive beliefs and confidence in students through mentoring, goal-setting, and skill-building programs to effectively foster entrepreneurial thinking and future business aspirations. The indirect effect of 0.13 (Boot SE = 0.02, 95% CI [0.12, 0.27]) demonstrates a significant mediation by self-efficacy between belief and entrepreneurial behavior. This means that stronger beliefs enhance students' self-efficacy, which subsequently leads to increased entrepreneurial actions.

The indirect effect of 0.37 (Boot SE = 0.08, 95% CI [0.03, 0.80]) indicates a statistically significant mediation by entrepreneurial intention in the relationship between belief and entrepreneurial behavior. This suggests that stronger personal beliefs enhance entrepreneurial intentions, which then translate into actual entrepreneurial actions. Despite a wide confidence interval, the exclusion of zero confirms significance. Educational strategies should therefore focus on nurturing belief systems and fostering entrepreneurial intention through inspiration, role models, and practical experiences to drive meaningful entrepreneurial behavior in students. The indirect effect of 0.11 (Boot SE = 0.021, 95% CI [0.07, 0.55]) indicates a significant mediation by entrepreneurial intention in the relationship between self-efficacy and entrepreneurial behavior. This suggests that individuals with higher self-efficacy are more likely to develop entrepreneurial intentions, which in turn lead to entrepreneurial actions.

Table 3
Indirect Effect of SG on EB through Sequential Mediation

Indirect Path	Indirect Effect	Boot SE	LL	UL
H21 SG → B → S → EI → EB	0.08	0.02	0.05	0.12

Student grade (SG), Belief(B), Self-efficacy(S), Entrepreneurial intention (EI), Entrepreneurial behavior (EB)

The indirect effect of 0.08 (Boot SE = 0.02, 95% CI [0.05, 0.12]) suggests a statistically significant, though small, mediation effect of belief, self-efficacy, and entrepreneurial intention in the

relationship between student grades and entrepreneurial behavior. This indicates that academic performance influences entrepreneurial behavior indirectly through these psychological factors. Despite the small effect size, the confidence interval excluding zero confirms its significance. Educational strategies should integrate academic support with belief-building, confidence enhancement, and intention-shaping initiatives to holistically develop students' entrepreneurial potential.

Discussion

The discussion and findings sections of a research paper are important, as they decode the findings of the study and give it meaning. It not only repeats results but also connects them with the available body of knowledge, presents limitations, and points out areas where further research may be undertaken. The discussion is the part that writes the raw outcomes into a meaningful story, and the better it is written, the more relevance and contribution the study will have academically. Discussing results, combining them with prior studies, discussing limitations, the application to practice and policy, and recommendations of future studies are the main subjects of papers that are generally considered. All these elements have an important role in describing the theoretical, applied, and contextual significance of the study.

Discussion of Results

The discussion section starts by providing an exhaustive explanation of the findings in view of the hypotheses. This research study accepted all 21 hypotheses, which strongly formulate a guideline to learn the relationship between academic performance and entrepreneurial inclination among the informal SMEs in Pakistan. As an example, H₁, H₂, and H₃ confirm that entrepreneurial behavior, beliefs, and self-efficacy are related to higher grades of students, respectively. These results are consistent with expectancy theory, which states that individuals perform better and attain maximal results when motivated and hold on to self-beliefs (Vroom, 1964; Bandura, 1997). This is an indication that academic excellence not only determines the theoretical knowledge but also instigates other elements indispensable to business enterprise, like

confidence, adventurous nature, and a driven spirit. Notably, H₄, H₅, H₆, H₇, H₈, H₉, and H₁₀ define direct connections between belief, self-efficacy, entrepreneurial intention, and behavior. Such correspondences represent the Theory of Planned Behavior (Ajzen, 1991), where intention is hailed as one of the main predictors of behavior which are ensured by structures of beliefs and perceived behavioral control (commonly referred to as self-efficacy). To illustrate the point, H₁₀ notes that intention is actualized into action, so we should cultivate the entrepreneurial intentions of students so as to develop real-world entrepreneurial behaviors.

This is reconfirmed by the validation of H₈ and H₉, which states that self-efficacy has a strong linkage with both entrepreneurial behavior and intention, especially in developing economies. On the same note, the hypotheses on belief systems (H₅-H₇) that are accepted depict the findings of Krueger, Reilly & Carsrud (2000), who theorized that positive entrepreneurial beliefs were somehow a root of entrepreneurial cognition. In addition, both H₁₁ and H₁₂, with belief and self-efficacy presented as mediators, support the previous study, which argued against a linear relationship between academic success and entrepreneurial outcomes by proposing that this relationship was instead mediated by cognitive and motivational constructs (Wilson, Kickul, & Marlino, 2007). These incorporations support the stand of the current study in the literature and show how it can contribute to knowledge in the areas of educational psychology and entrepreneurial development.

Addressing Limitations

The recognition of limitations is essential to academic integrity and the interpretation of findings. A possible weakness in the given study is the fact that it focuses on informal SMEs in Pakistan, which is rich in terms of context, but cannot be generalized to other economies or formal business settings. Other cultural elements, as collectivism and power differences that occur in the South Asian area, can affect the belief systems and entrepreneurial goals (Hofstede, 2001). Besides, causal interpretations can be limited by the cross-sectional existence of data.

Putting into the Broader Field Context

The significance of findings can be highlighted by putting them in a wider academic and practical perspective. These relations are especially crucial to policymakers and education establishments in emerging economies. In Pakistan, where SMEs (especially informal ones) are the main force of the economy (SMEDA, 2023), developing talent in entrepreneurship via education becomes a strategic process. The serial mediation hypothesis (H21), which affirms the significance of an academic grades-entrepreneurship behavior relationship via the belief-self-efficacy-popularity mediating path, is going deeper. It means that curriculum design must be more than the creation of technical knowledge and must proactively construct a system of beliefs and efficacy by engaging in entrepreneurial practice, mentorship, and exposure to entrepreneurial contexts.

Practice and Policy Implications

The conclusions of this study have practical implications that can be applied in practice, especially in higher education and economic growth. Developing countries' universities ought to include entrepreneurial education even in academic programs, with special attention to those that are high achievers. Considering that high grades have a positive relationship with beliefs (H2), self-efficacy (H3), and intention (H4), these students can be particularly open to direct intervention interventions, including incubator programs, innovation competitions, and local entrepreneur mentoring. To policymakers, the realization that entrepreneurial behavior is influenced by belief systems (H5-H7), self-efficacy (H8-H9), and intentions (H10) indicates that the policies affecting youth entrepreneurship are not only based on funding and infrastructure policy but also on the psychological empowerment policy. The entrepreneurship development programs should incorporate modules that shore up the belief systems and self-efficacy through a form of experimental learning, case studies, and other means of peer support. Further, the mediating effects (H11-H20) point toward the significance of stratified interventions. To take an extreme example, say grades earned in a university do not directly create an entrepreneurial act, then confidence and intent development mechanisms can be used to help fill in the gap.

Areas of Future Research

These findings can be extended in various ways in future studies. To begin with, longitudinal designs are in a better position to determine the causal relationship between student performance, belief, efficacy, and entrepreneurial actions. Secondly, these relationships can be tested across cultures, whether or not they hold in more individualistic economies or more formalized economies, through cross-cultural studies. And third, investigating gender differences can be rewarding since female entrepreneurs, working in Pakistan and other developing situations, are undergoing cultural and structural constraints on top of usual entrepreneurial hindrances (Roomi & Parrott, 2008; Ahmad et al., 2023). The study of technological impacts, including the effects of digital platforms, online learning, and social media on the determination of self-efficacy and beliefs in entrepreneurship areas, is also possible. It may become especially applicable after COVID-19, when students will turn more to remote study and online entrepreneurship. Also, it is possible to enrich the knowledge of the development of belief systems with the help of qualitative studies. Quantitative data cannot find obscure variables and or cultural aspects that may be unveiled in interviews and case studies. Finally, institutional factors, including university reputation, expert faculty, and opportunities to acquire industry partnerships, should also be considered as moderators or mediators in future models.

Conclusion

Conclusions in a research paper are the last place for the researchers to leave a deep impression on the reader, and this is achieved by concluding on the main findings of the research, highlighting the theoretical and applied significance of the study, and stating the future research lines. All the hypotheses, both direct and indirect, and the mediators of the study, which included belief systems, self-efficacy, and entrepreneurial intention, were tested in this study, which aimed to determine the relationship between student grades (IV) and entrepreneurial behavior (DV). This shows a considerable and organized route through which academic performance mediates entrepreneurial

activity, especially the informal small and medium-sized enterprises (SME) in the developing economies of Pakistan.

The main aim of the current research was to establish how entrepreneurial behavior is formed because of academic performance using inner psychological constructs. The links among the grades and entrepreneurship behavior were direct and stated that a stronger score leads to an increasing possibility of students participating in an entrepreneurial activity. Also, the motivational pathways via the belief system, self-efficacy, and intentions to entrepreneurship were all significant, showing that the mediational model was quite sound. Based on the results obtained, it can be concluded that high-achieving students have higher chances of forming a positive opinion about the quality of their own abilities, increased self-assurance (self-efficacy), and more articulate entrepreneurial intentions. A combination of these described psychological concepts elevates their tendency to undertake entrepreneurial actions on informal business markets. This also confirms the extant literature on why internal belief systems are critical to the entrepreneurial decision-making (Krueger & Brazeal, 2018; Fayolle & Linan, 2014). The findings also support the theory of self-efficacy by Bandura (1997) and reiterate the fact that perception regarding the competency of the persons is critical in the transformation of the intention into actions.

Research findings indicate that education performance is highly capable of improving entrepreneurial performance even in constrained contexts, thus expanding the generalizability of the theories of entrepreneurship (George, McGahan, & Prabhu, 2016).

This research has many practical implications. To start with, it is important that educational establishments understand that academic performance is not only a vehicle of scholastic success but also a source of entrepreneurial abilities. Colleges and job training institutes ought to include business courses in the standard academic packages. These must be formulated to enhance belief systems and self-efficacy among the students, especially those who are performing well in academics. Second, these findings can be used by policymakers to inform the use of youth entrepreneurship initiatives. The subsidized

incubation centers, mentorship networks, and seed funds programs might also focus on academically high-performing students since they are more likely to be involved in successful entrepreneurial activities. It is specifically attributed to developing economies, such as in Pakistan, where informal SMEs have a significant share in the economy and can act as drivers of job creation and innovation (Khan, 2018). Third, NGOs and development agencies that want to enhance the situation with employment and economic engagement among young people should not overlook such a concept as psychological empowerment. Beliefs workshop, confidence-building workshop, and entrepreneurial goal-setting workshops can be important to transform high-potential students into effective entrepreneurs. An example is an outreach program by an organization such as the Small and Medium Enterprises Development Authority (SMEDA) in Pakistan, where it can use tailored programs to look into merit-based university programs in training entrepreneurs, hence generating maximum effects of the program. On the same note, such initiatives by the Government, such as the Kamyab Jawan Program, can be maximized not just on the basis of financial support but also in building inner belief systems within young entrepreneurs.

In the same way, introducing the factors of belief and intention to earlier models of entrepreneurial intention (Liñán & Chen, 2009) serves as a confirmation of the soundness of the constructs involved in predicting behavioral outcomes. Against this synthesis, this research classifies academic performance as something more than the production or output of the education system; it emerges as a strategic resource to the socioeconomic change in the developing world. The interdisciplinary significance of this study is improved by the fact that educational, psychological, and entrepreneurial literature is coming together.

The conclusion that brings the study to a close also enhances the study. This study does that by providing obvious ways of transferring the knowledge to interventions. It also welcomes its challenges to scholars and practitioners. Future studies can find out whether such relationships can be replicated in female predominant or gender varied samples, or how digital literacy and accessibility to technology could intersect with

academic studies and impact entrepreneurial behaviors. The research thereby positions the study within the context of informal SME in Pakistan, which brings in the cultural specificity that allows

comparative cross-national research to take place, which is able to increase the external validity of models on entrepreneurial behavior.

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