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Personality Factors Moderate the Relationship between Entrepreneurial Education and Entrepreneurial Intentions

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Abstract

The study investigates the relationship between Entrepreneurial Education and Entrepreneurial Intentions with the moderating effect of Personality Factors among the selected universities students in Mardan and Malakand division of Khyber Pakhtunkhwa, Pakistan. The self-administered questionnaire among 385 students was distributed using proportionate stratified random sampling and then the data was analyzed through the Statistical Package of Social Science (SPSS). The current research findings show a positive relationship between Entrepreneurial Education and Entrepreneurial Intentions. Moreover, Personality Factors moderates the relationship between Entrepreneurial Education and Entrepreneurial Intentions in the university students. The research findings are helpful for university students in Pakistan. The study has as long as limitations and recommendations for the future studies.

Keywords: Entrepreneurial Educations, Entrepreneurial Education, Personality Factors, University students, Theory of Planned Behavior, PROCESS macro

Vol. 3 No. 10 (2025)

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1. INTRODUCTION

According to (Bratucu & Lixandroiu, 2020), entrepreneurship has grown to be a significant social, economic, and globally acknowledged phenomenon. Additionally, according to (Ordeñana *et al.,* 2024), entrepreneurship is essential since it boosts economic efficiency, introduces market innovation, and creates new jobs. The creative and innovative process of entrepreneurship has the potential to improve social welfare, revitalize and expand markets, add value to products, boost productivity, and advance economic development (Esfandiar *et al.,* 2019; Guerrero *et al.,* 2008; Urbano *et al.,* 2017). According to (Samydevan *et al.,* 2021), an individual's entrepreneurship is thought to convert the mindset of self-empowering to market economic development by providing work possibilities and integrating economic global market.

For individuals, this kind of possible choosing consequence is business growth, which begins with the development of business conceptions models. Entrepreneurship is the process by which people become responsive. According to ((Furdui *et al.,* 2021), successful entrepreneurs need to possess specific skills in order to start and build a business. Furthermore, according to (Boubker & Arround, 2021), elements including market knowledge, a lack of entrepreneurial education, and strong business and entrepreneurial aspirations models are indicators of bad success in the entrepreneurial sector. Due to their unique economic and sociocultural characteristics, entrepreneurial parenting is generally beneficial for fostering and expanding the entrepreneurial class (Ordenana *et al.,* 2024).

Additionally, a spirit of entrepreneurship is crucial for the developing world since it brings together different sectors with innovative capacity and initially focuses on fostering economic progress. Only a small number of families are entrepreneurs, running their traditional businesses in traditional markets (Pencarelli & Taha, 2020). According to research findings, Pakistan accounts for 85% of the country's entrepreneurial sector but only makes up 7% of its GDP (Qamar *et al.,* 2021). According to (Qamar & Ansari, 2021), Pakistan has 245 million people, making it the fifth most populous country in the world. The country's literacy rate is currently 60.3%, meaning that an estimated 90 million people lack literacy.

Thus, academics and institutions should be aware of and focus on potential entrepreneurs and the factors that encourage their entrepreneurial behavior in order to guarantee an ongoing intake of new entrepreneurial brains for the growth of the economy. As a result, in the current study, the researcher examined the variables that affect students' entrepreneurial intentions.

2. LITERATURE REVIEW AND HYPOTHESES

The Theory of Planned Behavior (TPB) states that once an individual has an intention—a function of positive attitudes toward the behavior, perceived norms, and control—the next stage is to enact such an intention through startup activities, among other factors, is the most widely used theoretical framework for explaining and estimating students' decision-making to embark on an entrepreneurial venture (Gieure *et al.,* 2020). As a result, prior researchers have thoroughly investigated the TPB model with Entrepreneurial Intentions (Bouarir *et al.*, 2023; Gieure *et al.*, 2020) and verified that Entrepreneurial Intentions is positively connected with students' real behavior. In particular, prior study indicates that a person's phase predicts the possibility of starting a new business that is focused on real behavior.

Vol. 3 No. 10 (2025)

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2.1 Concept of Entrepreneurial Intentions

The term "entrepreneurial intention" describes a person's desire to launch and run a new company. It also refers to a person's intentional decision to follow an entrepreneurial career path and their intention to start a new company (Cuervo *et al*., 2007). Entrepreneurial intention is influenced by a variety of factors, such as individual characteristics like personality traits and past experience, environmental factors like the availability of resources and support systems, and the perceived viability and desirability of launching a new business venture (Elnadi & Gheith, 2021). Research indicates that entrepreneurial purpose is a powerful predictor of entrepreneurial behavior. People with high entrepreneurial goals are more likely to start and run successful new enterprises (Liu *et al*., 2021).

In the dynamic area of entrepreneurship, entrepreneurial intentions have grown to be a major concern (Dao *et al*., 2021). The majority of long-term research shows that an individual's entrepreneurial behaviors can be predicted by their entrepreneurial intentions. In order to involve academics, politicians, and practitioners, it is necessary to determine what motivates entrepreneurial ambitions. Soto and Teemu (2021) investigate that entrepreneurial intentions are defined as people's confidence in their capacity to start and successfully manage a new business.

2.3 Concept of Entrepreneurial Education

According to (Wardana *et al*., 2020), entrepreneurial education is a learning activity that explains how to improve the knowledge required for such activities, attitudes, abilities, and personality traits toward entrepreneurship. Learning about entrepreneurship, developing these skills, and developing entrepreneurial cultures and identities on a societal, collective, and individual level all depend on education, according to the research. There is no denying the importance of business education these days. Fleck *et al*. (2021) investigated students' perspectives on their future careers and the skills they acquire. They found that their perceptions of their need for information are positive and unambiguous.

The study also demonstrated that if people receive entrepreneurial information that gives them the necessary administrative abilities, they will develop entrepreneurial intentions and participate in future entrepreneurial activities. The existence of correlation between the profiles of young people enrolling in higher education programs is examined by (Cioca & Bratu, 2021). They discover that a large number of young people change occupations due to the importance of research, which is skewed against the government that supports academia and the educational system. There is a clear need for career counseling because over one-third of college students choose careers that are not in line with their inclinations (Ordeñana *et al*., 2024). Additionally, the study proposes ways to make entrepreneurial education more effective.

The study is significant because it generates effective models of motivation that may be applied in the field of human resources in the future, and it concluded that new methods to student motivation are needed (Frolova *et al*., 2021).

2.4 Relationship of Entrepreneurial Education with Entrepreneurial Intentions

The developing of entrepreneurial intentions is significantly influenced by entrepreneurship education. Entrepreneurial education is becoming more and more attractive in educational institutions (Bratucu *et al*., 2020). According to (Wardana *et al*., 2020), entrepreneurial education at the higher education level should consider the appropriate teaching method that enables university students to gain firsthand experience

Vol. 3 No. 10 (2025)

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about business practice together. This approach can further increase the students' mindset of entrepreneurial intentions. Therefore, the development of entrepreneurial intention is greatly aided by higher education institutions.

Several previous research studies indicate that students in higher education have little desire to launch their own firm. Research on students' plans to launch their own businesses is therefore essential. The study examines factors including subjective happiness, family employment history, and entrepreneurship education that influence these goals (Kassymova, 2021). Entrepreneurship education is another effective way to address unemployment (Remeikiene *et al*., 2013). Additionally, entrepreneurship education is significant because entrepreneurial activities are viewed as a critical component of economic growth, innovation, and employment (Giacomin *et al*., 2011). Previous research indicates that entrepreneurship education influences students' development of entrepreneurial inclinations (Wach & Bilan, 2021).

According to study, however, entrepreneurship education has no effect on the development of entrepreneurial intentions (Anwar *et al*., 2021). According to (Wardana *et al*.,2020), more study is still required to determine how education affects entrepreneurial inclinations. This is supported by the belief that different countries may experience different effects from entrepreneurship education programs on entrepreneurial inclinations (Yuan *et al*., 2020). Therefore, it can be said that there is a research gap that requires more investigation. Thus, this study will investigate whether entrepreneurship education contributes to the development of entrepreneurial goals among college students. Thus, it is hypothesized that

Hypothesis 1: There is a positive relationship between Entrepreneurial Education and Entrepreneurial Intentions.

2.5 The moderating role of Personality Factors

Personality factors may affect the association between entrepreneurial education and entrepreneurial inclinations. Certain personality factors have been shown to either increase or diminish the impact of the interaction between the variables that both influence and reflect an individual's response to their surroundings (Adjei & Clark, 2010). University students with an internal locus of control exhibited a stronger association between self-efficacy and entrepreneurial intentions, according to a study looking at the moderating effect of the personality factors "locus of control" on this relationship (Zhao & Seibert, 2006).

According to this study (Elnadi & Gheith, 2021), individuals in higher education who possess a strong personality can identify opportunities more quickly and turn them into entrepreneurial intentions. In the present study, we discover that personality characteristics moderate the association between university students' entrepreneurial goals and entrepreneurial education. The study put out the following hypotheses to determine the relationship between personality factors, entrepreneurial education, and entrepreneurial intentions based on the relationships found in the literature.

Hypothesis 2: Personality Factors moderates the relationship between Entrepreneurial Education and Entrepreneurial Intentions.

Vol. 3 No. 10 (2025)

Journal of Social Signs Review

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2.6 Conceptual Framework

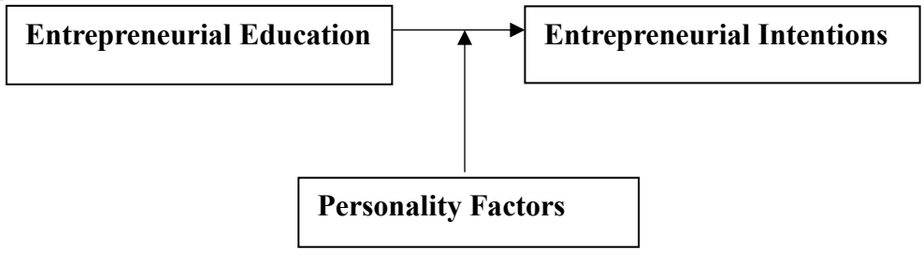

Figure 2.1 Conceptual Framework

3. METHODOLOGY

To investigate how entrepreneurial education shapes entrepreneurial intentions, a quantitative, descriptive, and causal approach was used. Additionally, the association between entrepreneurial education and entrepreneurial intentions is examined, along with the moderating effect of personality factors.

3.1 Population

The total number of students enrolled in these public sector HEIs in the Mardan and Malakand divisions is 58253, according to HEC university-wise enrollment, 2020–21.

3.2 Sample Size

The study picked Khyber Pakhtunkhwa in the first step and used simple random selection to select the Mardan and Malakand divisions from the chosen population in the second stage. In stage three, public sector universities in these divisions are chosen using a proportionate stratified random sampling method. In the divisions of Mardan and Malakand, there are thirteen recognized universities. 385 respondents were selected from those divisions using the sampling formula's proportionate stratified random application. Questionnaires, which were taken from earlier research projects, were employed as the data collection tool for this study; the items were used to measure the various scales. All of them were measured for degree of agreement using a 5-point Likert scale (1 being strongly disagree and 5 being strongly agree) (Likert *et al.*, 1934).

4. DESCRIPTIVE STATISTIC

The standardized values of the univariate summary statistics for many variables are calculated using the descriptive technique in a single table. The descriptive statistic includes basic statistics like sample size, minimum and maximum values, mean values, and standard deviation values. This analysis helps in understanding and summarization of data points by exposing patterns that characterize each aspect of the data. Mean values can be used to provide a brief summary of the overall trend of the data. Initially, statistics were examined for any anomalous or missing values. During the initial phase, the completed questionnaires from respondents were thoroughly examined. Similarly, aberrant values in the data were identified by measuring the maximum and lowest values of each variable using descriptive statistics.

Table 4.1: ***Model 1: Descriptive Statistics (N=385) Students***

Variable	Min	Max	M	S D	Skewness	Kurtosis
EE	1.00	5.00	2.99	1.29	.37	-1.35
EI	1.10	4.98	3.41	1.30	.10	1.52
PF	1.08	5.00	2.98	1.19	.08	1.43

Note: Entrepreneurial Education (EE), Entrepreneurial Intentions (EI), Personality Factors (PF).

Vol. 3 No. 10 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

Print ISSN 3006-466X

Descriptive statistics for study variables, including means, minimum and maximum values, standard deviations, skewness and kurtosis are shown in Table 4.1 bases on responses from 385 university students. This gives an overview of data variability, data normality and central tendency.

Table 4.2: ***Cronbach's Alpha for Variables***

Variables	Adapted from	Items	Cronbach's alpha
Entrepreneurial Education	(Jones & English, 2004)	4	0.863
Entrepreneurial Intentions	(Liñán & Chen, 2011)	6	0.864
Personality Factors	(Zhao *et al.*, 2005)	9	0.764

The results in Table 4.2 showed that all of the values' Cronbach's alpha values fell within an acceptable range, making it possible to conclude that the data set is reliable and that further analysis is possible.

Table 4.3: ***Multicollinearity Test Results of Constructs (N=385)***

Variables	Tolerance	VIF
Entrepreneurial Education	0.691	1.192
Entrepreneurial Intentions	0.756	1.026
Personality Factors	0.911	1.428

Table 4.3 shows that all VIF and tolerance values were within these acceptable ranges. Because multicollinearity is not a problem and the statistical significance of the independent variables is unaffected, the study can move forward with confidence.

Table 4.4 Correlation Analysis

The Pearson correlation coefficients between Entrepreneurial Education, Entrepreneurial Intentions and Personality Factors are displayed in Table 4.4.

Students with greater social cognitive skills are more likely to engage in Entrepreneurial Education, according to a strong positive association between Entrepreneurial Intentions ($r = 0.71$) and Personality Factors ($r = 0.72$ $p < 0.01$). Moreover, the correlation between Entrepreneurial Intentions and Personality factors ($r = 0.77$) shows that the data are suitable for additional moderation studies since all correlations are generally positive, statistically significant, and lie below the multicollinearity threshold.

	EE	EI	PF
Entrepreneurial Education	1		
Entrepreneurial Intentions	0.71**	1	
Personality Factors	0.72**	0.77**	1

*Note. **. Correlation is significant at the 0.01 level (2-tailed). Entrepreneurial Education (EE), Entrepreneurial Intentions (EI), Personality Factors (PF).*

4.1 Regression Analysis

To overcome across that constraint, regression analysis was employed to evaluate the level of dependence between variables. Regression analysis may not always retain the significance found in correlation analysis, which is important to keep in mind. The suggested relationships were investigated using Andrew F. Hayes' (2016) PROCESS Macro, which employs a bootstrapping technique by choosing random samples from the data to give trustworthy statistical estimations. Model 4 of the PROCESS Macro was used to investigate the direct association between entrepreneurial education and entrepreneurial

Vol. 3 No. 10 (2025)

Journal of Social Signs Review

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Print ISSN 3006-466X

intentions as well as the moderating influence of personality factors on the same relationship.

4.1.1 Direct Effect of Entrepreneurial Education on Entrepreneurial Intentions

Regression analysis is used to examine the relationship between Entrepreneurial Education (EE), an independent variable, and Entrepreneurial Intentions (EI), a dependent variable. The goal of this analysis was to determine whether students' entrepreneurial education significantly predicts their entrepreneurial intentions. In Table 4.5, "X" stands for entrepreneurial education and "Y" for entrepreneurial intentions. The results in Table 4.5 and Figure 4.1, which show a p-value of 0.000, far below the 0.01 significance level, suggest a strong and statistically significant correlation between entrepreneurial education and entrepreneurial intentions. The confidence interval, which excludes zero at the Lower Limit (LLCI = 0.51) and Upper Limit (ULCI = 0.68), further demonstrates the stability of this relationship.

According to the regression coefficient (β = 0.59), entrepreneurial intentions increase by 0.59 units for each unit increase in entrepreneurial education. A sustained and trustworthy assessment of this effect is shown by the positive standard error (SE = 0.04). These results suggest that college students who participate more in entrepreneurial courses will demonstrate higher levels of entrepreneurial intentions. These findings support the second hypothesis, which posits a favorable correlation between entrepreneurial education and entrepreneurial intentions.

Table: 4.5: ***Direct Effect of Entrepreneurial Education on Entrepreneurial Intentions***

Predictors	B	SE	T	P	LLCI	ULCI
EE to EI	0.59	0.04	13.29	0	0.51	0.68

N = 385, CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit

Figure 4.1: Direct effect of X on Y

Hypothesis Testing

H2: There is a positive relationship between Entrepreneurial Education and Entrepreneurial Intentions.

Supported

4.1.2 Moderating role of Personality Factors on Entrepreneurial Education Entrepreneurial Intentions

The moderating effect of Personality Factors (PF) was examined in the link between Entrepreneurial Education (EE) and Entrepreneurial Intentions (EI). The goal was to determine whether the strength of the association between entrepreneurial education and entrepreneurial intentions is affected by personality variables. The independent variable in the model was entrepreneurial education (X), the dependent variable was entrepreneurial intentions (Y), and the moderator was personality factors (W). An interaction term (EE × PF) was used to test the moderation effect. Entrepreneurial education considerably raises entrepreneurial intentions (β = 0.58, p < 0.000), according to Table 4.6 data. Furthermore, personality factors had a strong favorable impact on entrepreneurial intentions (β = 0.49, p < 0.001). Most significantly, the interaction term (EE × PF) has statistical significance (β = 0.19, p < 0.01).

Vol. 3 No. 10 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

Print ISSN 3006-466X

The bootstrapped confidence interval for this interaction (LLCI = 0.11, ULCI = 0.28), which excludes zero, confirms the moderation effect. These results show that the positive relationship between entrepreneurial education and entrepreneurial intentions is greatly enhanced by personality variables. In particular, students are more likely to convert their entrepreneurial education into entrepreneurial intentions if they have greater personality factors.

Table 4.6: ***Moderating Role of Personality Factors on Entrepreneurial Education Entrepreneurial Intentions***

Predictors	B	SE	T	P	LLCI	ULCI
EE (X)	0.58	0.05	12.03	0.000	0.49	0.68
PF (W)	0.49	0.04	12.25	0.000	0.41	0.57
EE × PF	0.19	0.05	4.17	0.001	0.11	0.28

N = 385 Note: LL = Lower Limit; UL = Upper Limit: CI = Confidence Interval

H5: Personality Factors moderates the relationship between Entrepreneurial Education and Entrepreneurial Intentions.

Supported

5. DISCUSSION AND CONCLUSION

The study's findings show a strong and significant connection between entrepreneurial education and entrepreneurial intentions among college students. The hypothesis created to accomplish this goal is supported by the statistical analysis, which shows that students who are more deeply involved in entrepreneurial education typically display higher levels of entrepreneurial intentions.

We have developed a structural framework for the study of Entrepreneurial Education with Entrepreneurship Intentions. In line with the (Ajzen, 1991) TPB, our first goal was to determine whether providing students with entrepreneurship education had an impact on their ambition to launch their own company. We examined hypothesis 1 in order to quantify this. The findings validated our hypothesis and agreed with those of earlier research, including (Wardana et al., 2020; Anwar et al., 2021). According to a recent study, entrepreneurial intentions emerge as a result of entrepreneurship education.

The current study examined the link between entrepreneurial education and entrepreneurial intentions among Pakistani university students in Khyber Pakhtunkhwa. The empirical results show that students' entrepreneurial intentions are significantly and favorably impacted by entrepreneurial education, suggesting that students' intentions toward entrepreneurial education is increased when they are exposed to courses, training, and experiential learning related to entrepreneurship (Adjei & Clark, 2010).

The current study examined the impact of personality factors on the connection between entrepreneurial education and entrepreneurial intentions among Pakistani university students in Khyber Pakhtunkhwa. The empirical results show that students' entrepreneurial intentions are significantly and favorably impacted by entrepreneurial education, suggesting that exposure to courses, training, and experiential learning related to entrepreneurship increases students' inclination toward entrepreneurial career paths (Adjei & Clark, 2010). More importantly, the PROCESS Macro Model 1 results, which demonstrated that the interaction term between Entrepreneurial Education and Personality Factors was statistically significant, supported the proposed moderation effect. This significant link suggests that students' personality factors have an impact on how much entrepreneurial education fosters entrepreneurial intentions. In particular, there was

a stronger positive correlation between entrepreneurial education and entrepreneurial intentions among students who had good personality factors. This result suggests that personality traits enhance the efficacy of entrepreneurship education by facilitating students' better assimilation, comprehension, and application of the knowledge and skills obtained through educational interventions.

All of the hypothesis mentioned above are empirically supported by the study's results, which suggest that among university students in Khyber Pakhtunkhwa, Pakistan, entrepreneurial education has a strong and favorable link with entrepreneurial intentions. Additionally, the moderation analysis indicates that personality factors significantly strengthen the association between entrepreneurial education and entrepreneurial intentions. This research shows that university students who have a strong drive to succeed and plan ahead are more likely to have entrepreneurial intentions, which is consistent with TPB and SCT theories.

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