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THE IMPACT OF INNOVATION AND ENTREPRENEURSHIP EDUCATION AND INITIATIVE PERSONALITY ON ENTREPRENEURIAL INTENTIONS OF HIGHER VOCATIONAL COLLEGE STUDENTS

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Abstract:

This study focuses on three main issues, namely the relationship between students' general demographic characteristics (e.g., age, gender, place of residence, and annual income) and the entrepreneurial intentions in higher vocational colleges, how innovation and entrepreneurship education influence the entrepreneurial intentions of students in higher vocational colleges, how an active personality shapes the entrepreneurial intentions of students in higher vocational colleges. Employing quantitative research methods and various statistical techniques, including descriptive, correlational, and regression analyses, this paper explores the relationships among demographic variables, innovation and entrepreneurship education, active personality, and entrepreneurial willingness. Based on the findings, several recommendations are presented. The results of this research offer theoretical support for enhancing innovation and entrepreneurship education strategies for students in higher vocational colleges. Students can enhance their entrepreneurial capabilities and boost their self-worth by emphasizing crucial factors such as innovation, entrepreneurship education, and proactive personality traits.

Keywords: *Innovation and Entrepreneurship Education, Initiative Personality, Entrepreneurial Intentions, Vocational College Students*

INTRODUCTION

Accelerating urbanization has led to a knowledge-based economy, requiring the cultivation of innovative and entrepreneurial talent. Colleges and universities are urged to integrate innovation and entrepreneurship education into their curriculum to adapt to the development trend. Innovation and entrepreneurship drive economic growth and urban development (Wu et al., 2024). They improve a city's competitiveness and promote industrial upgrading and economic structure transformation. Furthermore, entrepreneurship creates employment, drives social and technological progress, and alleviates the employment problem (Tian et al., 2020). The State has increasingly emphasized labor education for students, aiming to instill a spirit of labor. The most fundamental task of labor education is to instill in students the spirit of labor,

embodied in the creation of social wealth and a better life (Zhou et al., 2023).

Entrepreneurial activities involve entrepreneurs identifying business opportunities and using resources to create commercial value. It is a complex form of labor for entrepreneurs and an effective driver of social and economic development. Therefore, the Ministry of Education actively responds to the establishment of innovation and entrepreneurship courses in universities, promotes the integration of innovation and entrepreneurship education with professional course teaching, constructs a cascade curriculum system for innovation and entrepreneurship, and builds a high-quality resource library for innovation and entrepreneurship education (Zheng et al., 2021). The study also investigates the mechanisms linking innovation and entrepreneurship education to entrepreneurial intention among higher vocational students, identifies the influencing factors of higher vocational students' entrepreneurial intention, and promotes innovation and entrepreneurship education by cultivating students' initiative personality (Wang, 2024). The reform and innovation of innovation and entrepreneurship education in higher vocational colleges aim to meet social development needs. They are the only way to reform and develop higher vocational education itself.

LITERATURE REVIEW

Gender and Entrepreneur Education

Gender plays a significant role in entrepreneurship, and individual characteristics and sociocultural factors influence it. Studies have shown that gender affects the effects of explanatory variables such as innovation, entrepreneurship education, and proactive personality on entrepreneurial intentions (Guo, 2024). Men are more inclined to pursue entrepreneurial opportunities because of the social roles they are assigned— exploration and competition. At the same time, women may be restricted by family responsibilities and social expectations (Jiao & Liu, 2024). The role of gender in innovation and entrepreneurship education is emphasized, suggesting that the same educational resources may have different effects on the entrepreneurial intentions of men and women (Li & Luo, 2023). Proactive personality's impact on entrepreneurial intentions is more significant among men, who are psychologically more confident and decisive. The long-term influence of the stereotype that "women are not suited for entrepreneurship" may also lessen the effect of innovation and entrepreneurship education on female students' entrepreneurial intentions. Breaking gender stereotypes and creating an equitable entrepreneurial environment is crucial (Laliberté, 2024).

Age significantly affects entrepreneurial intention, with students of different age groups showing variations in entrepreneurial cognition, resource acquisition, and risk tolerance. A review of three scholars' research supports the hypothesis that age impacts entrepreneurial intention. Zheng Yaoyi et al. (2021) found that as students progress through the academic years, their entrepreneurial intention strengthens, especially third-year students, due to innovation and entrepreneurship education. He and Zhang (2020) propose the concept of proactive personality, which they argue increases with age and may influence entrepreneurial intention.

The residence place significantly impacts individual behavior and intentions, particularly in entrepreneurship, influencing entrepreneurial opportunities, resource acquisition, and entrepreneurial intentions through the

sociocultural environment. Research has found that place of residence significantly affects entrepreneurial intentions by influencing entrepreneurial resources, entrepreneurial atmosphere, and sociocultural factors (Tian et al., 2020). The differences between urban and rural areas and between developed and less developed regions significantly affect entrepreneurial intentions. The role of place of residence as a moderating variable in the relationship between entrepreneurship education and entrepreneurial intentions has also been established (Shi et al., 2018). Further research has found that differences in place of residence affect the relationship between proactive personality and entrepreneurial intentions. In regions with a strong entrepreneurial atmosphere and abundant resources, a proactive personality has a more significant positive impact on entrepreneurial intentions. In regions with a poorer entrepreneurial environment, individuals may struggle to form strong entrepreneurial intentions despite having proactive personalities.

Family annual income has been shown to significantly influence entrepreneurial intentions, as it affects individuals' access to resources and, indirectly, their values, risk tolerance, and social networks (Zhang & Tang, 2020). Students from higher-income families generally have more disposable resources, providing a strong foundation for their entrepreneurial activities (Margulies, 2024). Empirical analysis indicates a positive correlation between annual family income and entrepreneurial intentions among students in higher vocational colleges. Xu et al. (2019) argue that higher-income families emphasize independence and innovative spirit, stimulating students' entrepreneurial potential. Zhang's research shows that annual family income indirectly enhances entrepreneurial intentions by affecting students' self-efficacy and risk tolerance.

Innovation and Entrepreneurship

Innovation and entrepreneurship education in higher vocational colleges is vital for nurturing students' entrepreneurial intentions and capabilities (Liu et al., 2024). Studies reveal that students who receive this education exhibit greater entrepreneurial interest, motivation, and risk tolerance and are more likely to achieve entrepreneurial success (Sheng & Xu, 2024). They acquire knowledge and skills related to entrepreneurship, enhancing their confidence and determination. The impact of innovation and entrepreneurship education on students' entrepreneurial intentions is profound and lasting, even after graduation (Song et al., 2024). The moderating role of gender, as well as the impact of cultural background and the entrepreneurial environment, is also considered. Wang (2024) synthesizes previous findings, emphasizing the crucial role of innovation and entrepreneurship education in cultivating students' innovative thinking, entrepreneurial skills, and entrepreneurial spirit, and calls for further strengthening of this education (Yu & Yu, 2024).

Initiative Personality

A proactive personality, defined as actively taking action and seeking opportunities, is strongly associated with entrepreneurial intention. Studies indicate that individuals with proactive personalities exhibit greater entrepreneurial interest, motivation, and intention (Liu, 2023). They are more likely to identify and utilize entrepreneurial opportunities and maintain high entrepreneurial intention after graduation (Zhou et al., 2023). The impact of a proactive personality on entrepreneurial intention is more significant in males and is influenced by cultural contexts (Bai, 2021). Innovation and

entrepreneurship education can enhance students' entrepreneurial intentions among those with proactive personalities (Li et al., 2021).

Entrepreneurial Intention

Entrepreneurial intention refers to an individual's willingness to start a new business or engage in entrepreneurial activities. It is a key indicator of entrepreneurial potential (Zhao & Wang, 2024). Research has shown that innovation, entrepreneurship education, and proactive personality affect entrepreneurial intention among students in higher vocational colleges (Yan, 2024). Students who have received innovation and entrepreneurship education exhibit higher entrepreneurial intentions, and students with proactive personalities are more inclined to do so (Wu et al., 2024). The interaction among innovation, entrepreneurship education, and proactive personality in stimulating students' entrepreneurial intention has also been studied (Zhang & Song, 2024). The influence of demographic variables on entrepreneurial intention has also been explored.

RELATED STUDIES

Innovation and Entrepreneurship

In today's era of global economic integration and fierce market competition, innovation and entrepreneurship have become significant drivers of economic growth and social development. As cradles for cultivating high-quality, skilled talent, vocational colleges have attracted widespread attention for their students' entrepreneurial intentions and abilities. This study explores the impact of innovation and entrepreneurship education and proactive personality on the entrepreneurial intentions of vocational college students. By reviewing relevant literature, this paper will reveal the crucial role of innovation and entrepreneurship in stimulating students' entrepreneurial intentions. Numerous scholars have explored the significant impact of innovation and entrepreneurship on students' entrepreneurial intentions through empirical studies. They have found that students who received innovation and entrepreneurship education exhibited higher entrepreneurial intentions and were more likely to start their businesses after graduation. Innovation and entrepreneurship education enhances students' entrepreneurial intentions by changing their professional attitudes and values, improving their self-efficacy and innovation capabilities, and indirectly promoting the formation of entrepreneurial intentions by enhancing their innovation capabilities and entrepreneurial skills.

Initiative Personality

Entrepreneurship is a major driver of economic growth and job creation. Vocational colleges are critical for nurturing high-skilled talent, and research examines the impact of innovation and entrepreneurship education on students' entrepreneurial intentions and capabilities. This study explores the significant influence of proactive personality, an individual trait, on students' entrepreneurial intentions. Proactive personality refers to self-motivated, future-oriented individuals who actively seek opportunities. Numerous studies have confirmed the positive correlation between proactive personality and entrepreneurial intentions, highlighting proactive personality as an important predictor of entrepreneurial behavior. Research also indicates that a proactive personality enhances entrepreneurial intentions by influencing individuals' career choices, attitudes, and behaviors, as well as their ability to identify and

capitalize on entrepreneurial opportunities. Cultural background also plays a role, as verified in the Chinese context. Overall, the literature indicates that proactive personality is a key predictor of students' entrepreneurial intentions and behaviors.

Entrepreneurial Intention

The role of entrepreneurship in economic growth and job creation has led to a focus on students' entrepreneurial intentions and capabilities in higher vocational colleges. This study examines the impact of innovation, entrepreneurship education, and proactive personality on these intentions. The literature review reveals that these factors play crucial roles in stimulating entrepreneurial intentions. Numerous scholars have researched the significant impact of innovation, entrepreneurship education, and proactive personality on students' entrepreneurial intentions. Studies have confirmed the positive impact of innovation and entrepreneurship education on entrepreneurial intentions, and proactive personality has been identified as an important variable predicting students' entrepreneurial intentions. Research has demonstrated that individuals with proactive personalities are more likely to express entrepreneurial intentions, and the relationship is stable across different cultural backgrounds. Innovation and entrepreneurship education can enhance entrepreneurial intentions by improving entrepreneurial knowledge and skills, and a proactive personality can enhance them by improving innovation capabilities and risk-taking willingness. The formation of entrepreneurial intentions is promoted by influencing individuals' cognition and behavior. The joint impact of innovation, entrepreneurship education, and proactive personality on entrepreneurial intentions has been confirmed, emphasizing their complementary roles in stimulating entrepreneurial intentions.

Research Questions

1. What is the relationship between general demographic characteristics (e.g., age, gender, place of residence, and annual income) and students' entrepreneurial intentions in higher vocational colleges?
2. In what ways do innovation and entrepreneurship education influence the entrepreneurial intentions of students in higher vocational colleges?
3. How does an active personality shape students' entrepreneurial intentions in higher vocational colleges?

METHODOLOGY

Research Design

This study used a questionnaire survey to collect the information required for the research. Firstly, through a literature review, this study selected an information measurement method that meets the practical research needs of the discipline. Many researchers widely use this method, which is highly reliable and valid. Finally, students from Chinese vocational colleges who studied from 2023 to 2024 completed a questionnaire on the research topic (see Appendix 1). The core variable scale mainly includes four variables: student personal information, entrepreneurship education, proactive personality, and entrepreneurial intention. To ensure a representative sample for exploring the impact of entrepreneurship education and proactive personality on entrepreneurial intention, a simple random sampling method was used. Based on statistical considerations and using the Yamane formula with a 95% confidence level and a

5% error range, a total sample size of 3750 units was determined, and 750 students were randomly selected at a sampling rate of 20%. These methods were crucial for ensuring sample diversity and representativeness, thereby enhancing the credibility and universality of the study. By utilizing these approaches, the research aimed to minimize sampling bias and ensure that the findings more accurately portrayed the characteristics of the surveyed individuals in relation to their entrepreneurial intentions, influenced by innovation and entrepreneurship education as well as proactive personality traits, while also considering demographic variables such as gender, age, place of residence, and annual family income.

FINDINGS

Descriptive Statistics

Table 1 shows the frequency distribution of demographic factors. From the table, it can be seen that the total sample size of this article is 750. Among the 750 respondents who received the questionnaire, 388 were male (51.73%) and 362 were female (48.27%). In terms of age distribution, 7.47% of the respondents are aged 18 and below, 38.67% are aged 19, accounting for the most significant proportion, 30.93% are aged 20, 18.8% are aged 21, and only 4.13% are aged 22 and above; From the distribution of residential areas, 513 respondents came from cities, accounting for 68.4%, and 237 respondents came from rural areas, accounting for 31.6%; In terms of annual household income, 75.07% of the respondents have a moderate level of household income; From the distribution of academic years, more than half of the respondents are in their second year of college; In terms of professional distribution, 33.73% of respondents come from engineering/technology majors, 42.93% from business/management majors, 18.53% from arts/humanities majors, and the rest from health science majors.

Table 1. Frequency Analysis Results

1. Gender:	**Frequency**	**Percent**
Male	388	51.73
Female	362	48.27
Total	750	100.0
2. Age	**Frequency**	**Percent**
18 years old or below	56	7.47
19 years old	290	38.67
20 years old	232	30.93
21 years old	141	18.80
22 years old or above	31	4.13
Total	750	100.0
3. Place of Residence	**Frequency**	**Percent**
City	513	68.40
Village	237	31.60
Total	750	100.0
4. Annual Household Income	**Frequency**	**Percent**
Low Income	110	14.67
Middle Income	563	75.07
High Income	77	10.27
Total	750	100.0
5. School Year	**Frequency**	**Percent**

First Year	61	8.13
Second Year	378	50.40
Third Year	256	34.13
Fourth Year or Above	55	7.33
Total	750	100.0
6. Major	**Frequency**	**Percent**
Engineering/Technology	253	33.73
Business/Management	322	42.93
Arts/Humanities	139	18.53
Health Sciences	36	4.80
Total	750	100.0

Table 2 presents descriptive statistics for demographic factors. The table shows that the sample size is 750, with a minimum gender value of 1 and a maximum gender value of 2. The mean is 1.483 and the standard deviation is 0.5, indicating that the gender distribution of the respondents is more male than female, and the overall fluctuation of the data is relatively small; The average age is 2.735, indicating that the majority of respondents are aged 20 and above; The average distribution of residential areas is 1.316, with a standard deviation of 0.465, indicating that the majority of respondents come from cities and the data is generally evenly distributed; The average annual household income is 1.956, with a median of 1 and a standard deviation of 0.498, indicating that the majority of respondents' household income levels are above average, and the overall fluctuation of the data is relatively small; The average annual value is 2.407, the standard deviation is 0.743, and the median is 2, indicating that most of the respondents are in their second year of college; The average distribution of majors is 1.944, indicating that the majority of majors are engineering technology or business management; From the perspectives of financial knowledge reserve, attitude towards entrepreneurial choices, and whether to take action for entrepreneurship, the overall attitude of the respondents towards entrepreneurship is positive and willing to take action for it.

Table 2 Descriptive Statistical Analysis Results of Demographic Factors

Items	N	Min	Max	Mean	SD	Medium
Gender	750	1.000	2.000	1.483	0.500	1.000
Age	750	1.000	5.000	2.735	0.985	3.000
Place of Residence	750	1.000	2.000	1.316	0.465	1.000
Family Annual Income	750	1.000	3.000	1.956	0.498	2.000
School Year	750	1.000	4.000	2.407	0.743	2.000
Major	750	1.000	4.000	1.944	0.844	2.000
How do you rate your overall financial knowledge?	750	1.000	5.000	2.420	1.035	2.000
How important do you consider entrepreneurship as a career option?	750	1.000	2.000	1.715	0.452	2.000
How often do you access information related to entrepreneurship or business start-ups?	750	1.000	5.000	3.168	1.068	3.000

Inferential Statistics

Table 3 The Independent Samples t-test of the Gender Factor

Item	Gender (Mean ± Standard Deviation)		*t*	*p*
	Male(*n*=388)	Female(*n*=362)		
Entrepreneurial Intention	2.66±0.79	3.73±0.77	-18.927	0.000**

* $p<0.05$ ** $p<0.01$

Table 4 Depth Analysis - Effect Size Indicator Table

Item	S2pooled(Joint Variance)	Cohen's *d* Value
Entrepreneurial Intention	0.609	1.383

Table 3 shows significant differences in entrepreneurial intentions across gender groups. Specific analysis shows that gender significantly affects entrepreneurial intention at the 0.01 level (t = -18.927, p = 0.000). Specific comparative differences indicate that the average value for males (2.66) is significantly lower than that for females (3.73). As shown in Table 4, when the t-test showed a significant difference ($p<0.05$), the effect size (Cohen's d = 1.383) was greater than 0.80, indicating that the gender variable showed a greater difference.

Table 5 The One-way ANOVA of Age

Item	Age (Mean ± Standard Deviation)					*F*	*p*
	18 years (*n*=56)	19 years (*n*=290)	20 years (*n*=232)	21 years (*n*=141)	22 years (*n*=31)		
Entrepreneurial Intention	2.92±1.03	2.78±0.81	3.28±0.95	3.66±0.79	4.35±0.20	43.252	0.000**

* $p<0.05$ ** $p<0.01$

Table 5 shows that all age groups exhibit significant differences ($p<0.05$) in entrepreneurial intention, indicating differences in entrepreneurial intention across age groups. It can be concluded that there are significant differences in entrepreneurial intention across age groups. Post-inspection analysis is required.

Table 6 Multiple Comparisons of Age

Item	(I)Age	(J)Age	(I)Mean	(J)Mean	Difference(I-J)	*p*
Entrepreneurial Intention	18 years old	19 years old	2.915	2.783	0.132	0.290
	18 years old	20 years old	2.915	3.277	-0.362	0.005**
	18 years old	21 years old	2.915	3.664	-0.748	0.000**
	18 years	22 years	2.915	4.346	-1.431	0.000**

Item	(I)Age	(J)Age	(I)Mean	(J)Mean	Difference(I-J)	*p*
	old	old				
	19 years old	20 years old	2.783	3.277	-0.494	0.000**
	19 years old	21 years old	2.783	3.664	-0.881	0.000**
	19 years old	22 years old	2.783	4.346	-1.563	0.000**
	20 years old	21 years old	3.277	3.664	-0.387	0.000**
	20 years old	22 years old	3.277	4.346	-1.069	0.000**
	21 years old	22 years old	3.664	4.346	-0.682	0.000**

* $p<0.05$ ** $p<0.01$

The above variance analysis revealed significant differences in entrepreneurial intention across age groups. Specifically, LSD method analysis showed that age had a significant effect on entrepreneurial intention at the 0.01 level (F=43.252, p=0.000).

Table 7 The Independent Samples t-test on the Place of Residence Factor

Item	Place of Residence (Mean ± Standard Deviation)		*t*	*p*
	City(*n*=513)	Rural(*n*=237)		
Entrepreneurial Intention	2.90±0.89	3.77±0.78	-13.584	0.000**

* $p<0.05$ ** $p<0.01$

Table 8 Depth Analysis - Effect Size Indicator Table

Item	S2pooled(Joint Variance)	Cohen's *d* Value
Entrepreneurial Intention	0.733	0.961

Table 7 shows that using a t-test (also known as an independent sample t-test) to study the differences in entrepreneurial intention among residents, it can be concluded that there are significant differences in entrepreneurial intentions among samples from different residential areas. As shown in Table 8, when the t-test showed a significant difference ($p<0.05$), the effect size (Cohen's d Value=0.961) was greater than 0.80, indicating that the greater the difference in the expression of regional variables, the greater the use of the effects scale.

Table 9 The One-way ANOVA of Annual Household Income

Item	Annual Household Income (Mean ± Standard Deviation)			*F*	*p*
	Low(*n*=110)	Middle(*n*=563)	High(*n*=77)		
Entrepreneurial Intention	2.23±0.57	3.23±0.90	4.10±0.43	121.717	0.000**

Item	Annual Household Income (Mean ± Standard Deviation)			*F*	*p*
	Low(*n*=110)	Middle(*n*=563)	High(*n*=77)		

* $p<0.05$ ** $p<0.01$

Table 9 shows significant differences in entrepreneurial intention across annual income groups, indicating differences in entrepreneurial intention. Post-inspection analysis is required.

Table 10 Multiple Comparisons of Annual Household Income

Item	(I)Annual Household Income	(J)Annual Household Income	(I)Mean	(J)Mean	Differences(I-J)	*p*
Entrepreneurial Intention	Low	Middle	2.230	3.235	-1.005	0.000**
	Low	High	2.230	4.096	-1.866	0.000**
	Middle	High	3.235	4.096	-0.861	0.000**

* $p<0.05$ ** $p<0.01$

The analysis of variance in Table 10 shows significant differences in entrepreneurial intention among samples with different annual incomes. Specifically, the LSD method shows a significant correlation (p=0.01) between annual income and entrepreneurial intention (F=121.717). The comparison results of the average scores of groups with significant differences are "Middle>Low; High>Low; High>Middle".

Table 11 The One-way ANOVA of School Year

Item	School Year (Mean ± Standard Deviation)				*F*	*p*
	First Year (*n*=61)	Second Year (*n*=378)	Third Year (*n*=256)	Fourth Year (*n*=55)		
Entrepreneurial Intention	3.01±0.80	2.88±0.92	3.53±0.90	3.74±0.73	35.570	0.000**

* $p<0.05$ ** $p<0.01$

Table 11 shows significant differences in entrepreneurial intentions among all samples based on the current academic year at the university. It needs post-inspection analysis.

Table 12 Multiple Comparisons of School Year

Item	(I)School Year	(J)School Year	(I)Mean	(J)Mean	Differences(I-J)	*p*
Entrepreneurial Intention	First Year	Second Year	3.008	2.881	0.127	0.302
	First Year	Third Year	3.008	3.530	-0.522	0.000**
	First Year	Fourth	3.008	3.742	-0.734	0.000*

Item	(I)School Year	(J)School Year	(I)Mean	(J)Mean	Differences(I-J)	*p*
		Year				*
	Second Year	Third Year	2.881	3.530	-0.649	0.000**
	Second Year	Fourth Year	2.881	3.742	-0.861	0.000**
	Third Year	Fourth Year	3.530	3.742	-0.212	0.109

* $p<0.05$ ** $p<0.01$

Analysis of variance revealed significant differences in entrepreneurial intention across samples from different academic years. Specifically, the LSD method was used to obtain a 0.01 level significance (F=35.570, p=0.000) for entrepreneurial intention in academic years. After comparing the group-average values with significant differences, the results were: "Third Year>First Year; fourth Year>First Year; Third Year>Second Year; fourth Year>Second Year."

Table 13 The One-way ANOVA of Major

Item	Major (Mean ± Standard Deviation)				*F*	*p*
	Engineering/ Technology (*n*=253)	Business/ Management (*n*=322)	Arts/ Humanities (*n*=139)	Health Sciences (*n*=36)		
Entrepreneurial Intention	2.65±0.72	3.26±0.98	3.84±0.78	3.54±0.53	65.470	0.000**

* $p<0.05$ ** $p<0.01$

Table 13 shows significant differences in entrepreneurial intention across professional samples, indicating that further analysis is needed.

Table 14 Multiple Comparisons of Major

Item	(I)Major	(J)Major	(I)Mean	(J)Mean	Differences(I-J)	*p*
Entrepreneurial Intention	Engineering / Technology	Business/ Management	2.646	3.263	-0.616	0.000**
	Engineering / Technology	Arts/ Humanities	2.646	3.845	-1.198	0.000**
	Engineering / Technology	Health Sciences	2.646	3.543	-0.896	0.000**
	Business/ Management	Arts/ Humanities	3.263	3.845	-0.582	0.000**
	Business/ Management	Health Sciences	3.263	3.543	-0.280	0.060
	Arts/	Health	3.845	3.543	0.302	0.056

Item	(I)Major	(J)Major	(I)Mean	(J)Mean	Differences(I-J)	*p*
	Humanities	Sciences				

* $p<0.05$ ** $p<0.01$

Post hoc comparisons revealed significant differences in entrepreneurial intention across majors (see Table 14). Specifically, the LSD method was used to show that the majors showed a 0.01 level significance (F=65.470, p=0.000) in entrepreneurial intention. The average scores of groups with significant differences were compared as "Business/Management > Engineering/Technology; Arts/Humanities> Engineering/Technology; Health Sciences > Engineering/Technology; Arts/Humanities> Business/Management".

Innovation and Entrepreneurship Education Influenced by Entrepreneurial Intention

Multiple Linear Regression Analysis is applied to this study.

$$Y = \beta_0 + \beta_1 X$$

Where Y = Entrepreneurial Intention

X = Innovation and Entrepreneurship Education

Table 15 Multiple Linear Regression Analysis of Innovation and Entrepreneurship Education Influencing Entrepreneurial Intention (n=750)

	Unstandardized Coefficients		Standardized Coefficients Beta	*t*	*p*	Collinearity Diagnosis	
	B	Standard Error	*Beta*			VIF	Tolerance
Constant	1.971	0.124	-	15.920	0.000**	-	-
Innovation and Entrepreneurship Education	0.322	0.032	0.346	10.092	0.000**	1.000	1.000
R^2			0.120				
Adjust R^2			0.119				
F			$F(1,748)=101.847, p=0.000$				
D-W Value			1.909				

Dependent Variable： Entrepreneurial Intention

* $p<0.05$ ** $p<0.01$

Table 15 shows that, using entrepreneurship and innovation education as the independent variable and entrepreneurship intention as the dependent variable in a linear regression analysis, the model formula is: Entrepreneurship Intention = 1.971 + 0.322* Entrepreneurship and Innovation Education. The R-squared value for the model is 0.120, indicating that entrepreneurship and innovation education explain 12.0% of the variation in entrepreneurship intention. Summary analysis shows that all entrepreneurship and innovation

education will have a significant positive impact on entrepreneurial intention. This proves the H1 of this article.

Initiative Personality Influenced on Entrepreneurial Intention

The Multiple Linear Regression Analysis is applied in this study.

$$Y = \beta_0 + \beta_1 X$$

Where Y = Entrepreneurial Intention
X = Initiative Personality

Table 16 Multiple Linear Regression Analysis of Initiative Personality Influencing Entrepreneurial Intention (n=750)

	Unstandardized Coefficients		**Standardized Coefficients Beta**	***t***	***p***	**Collinearity Diagnosis**	
	B	Standard Error	*Beta*			VIF	Tolerance
Constant	1.124	0.117	-	9.632	0.000**	-	-
Initiative Personality	0.559	0.031	0.553	18.142	0.000**	1.000	1.000
R^2			0.306				
Adjust R^2			0.305				
F			*F* (1,748)=329.125,*p*=0.000				
D-W Value			1.515				

Dependent Variable : Entrepreneurial Intention
* $p<0.05$ ** $p<0.01$

Table 16 shows that, for linear regression analysis with proactive personality as the independent variable and entrepreneurial intention as the dependent variable, the model formula is: entrepreneurial intention = 1.124 + 0.559 * proactive personality. The R-squared value of the model is 0.306, indicating that proactive personality explains 30.6% of the change in entrepreneurial intention: a one percentage point change in proactive personality corresponds to a 30.6 percentage point change in entrepreneurial intention. A summary analysis shows that a proactive personality has a significant positive impact on entrepreneurial intention, thereby validating the second research hypothesis of this article.

DISCUSSION

The Influence of Demographic Variables on Entrepreneurial Intention: Demographic factors such as age, gender, and socio-economic background influence entrepreneurial intention, though to varying degrees. Students from certain demographic groups showed higher entrepreneurial intentions due to access to resources or exposure to entrepreneurial environments. Research on demographic factors has found that female students are more likely to be stimulated by their entrepreneurial awareness. Older students, students in rural areas, students with higher annual family incomes, students in their junior and senior years, and students majoring in arts/humanities have higher entrepreneurial awareness.

The Impact of Innovation and Entrepreneurship Education on Entrepreneurial Intention: The results revealed that structured innovation and

entrepreneurship education positively impacted entrepreneurial intention. Vocational college students who received formal training in entrepreneurship were more likely to have a strong entrepreneurial mindset and were more motivated to start their ventures. The Effect of Proactive Personality Traits on Entrepreneurial Intention: Proactive personality traits —such as initiative, risk-taking, and persistence —significantly influence entrepreneurial intention. Students with proactive personalities were likelier to engage in entrepreneurial activities, suggesting that personality plays a crucial role in shaping entrepreneurial aspirations. The final choice of major is closely related to entrepreneurial awareness. Art and humanities students typically possess strong innovative thinking, cultural understanding, and communication skills, which enable them to tackle challenges in the entrepreneurial process more effectively and to identify entrepreneurial opportunities in the creative and cultural industries easily. Therefore, students in these majors have a strong sense of entrepreneurship.

In relation to existing literature, these findings support previous research emphasizing the importance of personal traits and educational influences on entrepreneurial intention. Specifically, the positive correlation between innovation education and entrepreneurial intention aligns with the work of scholars such as Rauch and Frese (2007), who highlighted the importance of entrepreneurship training in fostering entrepreneurial intentions. Similarly, the impact of proactive personality traits on entrepreneurial intention is consistent with the work of Zhao, Seibert, and Lumpkin (2010), who found that proactive individuals are more likely to engage in entrepreneurial activities.

This study contributes to understanding entrepreneurial intention in vocational colleges by highlighting that educational programs and individual personality traits play a significant role in fostering entrepreneurial intentions. These findings also suggest that demographic factors should not be overlooked, as they influence the opportunities and motivations for entrepreneurship across different student groups. Integrating Innovation and Entrepreneurship Education: Vocational colleges should include innovation and entrepreneurship education as a core component of their curricula. This can be achieved through specialized courses, internships with start-up businesses, and practical training that allows students to apply theoretical knowledge to real-world scenarios. Accommodating Diverse Demographic Groups: Educational programs should be tailored to meet the specific needs of various demographic groups. This may involve offering scholarships, mentorship programs, and outreach initiatives that ensure equal access to entrepreneurial resources for all students.

CONCLUSION

Funding and Support for Entrepreneurship Programs: Policymakers should advocate for increased funding for entrepreneurship education in vocational colleges. This funding can be used to improve educational infrastructure, offer scholarships, and develop partnerships with industry to enhance practical learning. Addressing Barriers for Specific Demographic Groups: Policymakers should design policies to reduce barriers faced by students from specific demographic groups, such as those from disadvantaged socio-economic backgrounds or underrepresented genders. This could involve targeted funding, mentorship programs, and inclusivity initiatives.

Exploring Additional Influencing Factors: Future studies should examine other factors influencing entrepreneurial intention, including cultural and

environmental factors. Understanding how different cultures or regional factors affect entrepreneurial intentions can help tailor programs to specific contexts. Longitudinal Studies: Longitudinal research is recommended to track the development of entrepreneurial intention over time, especially as students transition from education to the workforce. This would provide insights into how entrepreneurial intentions evolve and into the factors that contribute to their success in real-world entrepreneurship. Expanding Research to Other Educational Contexts: Further studies should replicate this research in other educational settings or geographic regions to determine the generalizability of the findings. This will help build a more comprehensive understanding of entrepreneurial intention across educational and cultural contexts.

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