

THE INFLUENCE MECHANISM OF INNOVATION AND ENTREPRENEURIAL EDUCATION ON STUDENTS' ENTREPRENEURIAL INTENTION IN PRIVATE COLLEGES IN GUIZHOU PROVINCE, CHINA

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Abstract

The research topic “The Influence Mechanism of Innovation and Entrepreneurial Education on Students' Entrepreneurial Intention in Private Colleges in Guizhou Province, China” This study examined the dimensions of Innovation and Entrepreneurial Education and the influence of entrepreneurial self-efficacy on college students' entrepreneurial intention, as well as the mediating role of entrepreneurial self-efficacy in the impact of innovation and entrepreneurial education on college students' entrepreneurial intention. The study also explored the moderating role of the internal-external locus of control on the relationship between entrepreneurial self-efficacy and entrepreneurial intention. Both qualitative and quantitative research methods were used, and a survey of 400 valid questionnaires was collected. Empirical analysis and hypothesis testing showed that entrepreneurial theory education and education support had a significant positive impact on the formation of entrepreneurial intention, while entrepreneurial practice education did not. Entrepreneurial self-efficacy played a mediating role in theory education and education support, but not in practice education. Meanwhile, the internal personality of control played a moderating role.

Keywords: innovation and entrepreneurial education; entrepreneurial intention; entrepreneurial self-efficacy; internal-external personality of control

Introduction

Entrepreneurship is the driving force of economic growth and innovation, and the mechanism of the influence of entrepreneurship education on college students' entrepreneurial willingness has attracted extensive attention from the academic and practical circles. The research of Lincoln (2010) found that participation in entrepreneurship education courses has a positive impact on college students' entrepreneurial intention. The study of scholar Wu (2011) shows that entrepreneurship education can promote the entrepreneurial intention and behavior of college students. The study of Scholar Huang (2011) found that entrepreneurship education can promote the entrepreneurial intention and behavior of college students. The research of Liu, Chen & Wang (2014) shows that college students' participation in innovation and entrepreneurship education activities can enhance their entrepreneurial willingness and ability. Entrepreneurship education provides basic knowledge and skills that entrepreneurs need, including marketing, financial management and business planning. These knowledge and skills can promote college students' entrepreneurial intention and behavior (Wu, 2011).

Entrepreneurship education can also stimulate the innovative spirit and entrepreneurial attitude of college students, cultivate their entrepreneurial spirit of daring to try, not afraid of failure and positive entrepreneurial attitude, so as to promote their entrepreneurial intention and behavior (Lincoln, 2010). Entrepreneurship education can provide a large number of network resources, such as industry reports, business model cases and entrepreneurship mentors, which can help college students better understand the market and industry dynamics, so as to promote their entrepreneurial intention and behaviors (Huang, 2011). Innovation and entrepreneurship education has a positive impact on college students' entrepreneurial intention, and knowledge and skills, spirit and attitude, network resources are important factors affecting the mechanism. Therefore, universities should actively carry out innovation and entrepreneurship education, so as to improve students' entrepreneurial willingness and ability and further promote the development of innovation and entrepreneurship.

The research framework of this paper mainly focuses on the influence of different dimensions on the entrepreneurial intention of college students and the influence on the entrepreneurial self-efficiency of college students. The objective is to examine the relationship among Innovation and Entrepreneurial Education, entrepreneurship intention and self-efficiency, to test the mediating effect of the impact of entrepreneurial self-efficiency on college students' entrepreneurial intention and to explore the moderating effect of internal and external control personality traits on the effect of self-efficiency on college students' entrepreneurial intention. At the same time, this study also conducted an empirical study on the influence of internal control personality and external control personality.

Research Objectives

1: To examine the relationship among Innovation and Entrepreneurial Education, entrepreneurship intention and self-efficiency.

2: To test the mediating effect of the impact of entrepreneurial self-efficiency on college students' entrepreneurial intention.

3: To explore the moderating effect of internal and external control personality traits on the effect of self-efficiency on college students' entrepreneurial intention.

Literature Reviews

Innovation and entrepreneurial education should not only teach the knowledge and theory of entrepreneurship, but also pay attention to practical experience and skills. In this study (Li, 2013) constructed a model of the relationship between college entrepreneurial education (student attitude factor, school teaching factor), college students' professional values and college students' entrepreneurial intention, as well as the role of entrepreneurial intention in entrepreneurial behavior. The objective is to study the mechanism of entrepreneurial education on entrepreneurial intention. According to the study (Pan & Lu, 2020) empirically-analyzed the influence of lecture reports, entrepreneurship courses, entrepreneurship competition, entrepreneurship training, practical training and entrepreneurial self-efficacy on college students' entrepreneurial intention and their correlation based on the framework of entrepreneurial education that combines theory and practice, and found that many external factors have a significant impact on college students' entrepreneurial intention. Based on the social embedding theory, according to

the study (Pan & Lu ,2021) built a model of the relationship between college students' entrepreneurial social embedding, entrepreneurial intention and entrepreneurial self-efficacy in order to study the influence of entrepreneurial support, entrepreneurial resistance, value identification and cultural norm variables on college students' entrepreneurial intention, as well as the mediating role of entrepreneurial self-efficacy. Therefore, the following hypothesis is proposed:

H1: Entrepreneurial theory education has a positive and significant impact on college students' entrepreneurial intention

H2: Entrepreneurial practice education has a positive and significant impact on college students' entrepreneurial intention

H3: Entrepreneurial education support has a positive and significant impact on college students' entrepreneurial intention

The innovation and entrepreneurship theory of college students has a great influence on the self-efficiency of college students. Entrepreneurial self-efficacy is easily affected by internal and external factors. According to the study (Dang & Wei,2011) found that individual factors affecting entrepreneurial self-efficacy include individual characteristics and cognitive characteristics, and individual characteristics include gender, major, educational level, age, entrepreneurial education, etc. Based on a questionnaire survey of college students, according to the study (Chen & Yin, 2015) earnestly summarized the development status of college students' entrepreneurial self-efficacy, and analyzed the significant differences in self-efficacy in terms of gender, ability to start a business, grade and major. Therefore, the following hypothesis is proposed:

H4: Entrepreneurial theory education is positively related to entrepreneurial self-efficiency

H5: Entrepreneurial practice education is positively related to entrepreneurial self-efficiency

H6: Entrepreneurial education support is positively related to college students' entrepreneurial intention

With the continuous in-depth research on personality traits, this psychological theory began to be applied to the field of management, and is often used in personality assessment. It is the most inseparable part of human resource management and other research activities that take individual behavior as the object. At present, although there is no unified definition of personality

traits in the academic community, it is generally accepted that personality traits are regarded as individual characteristics, reflecting the stable behavior patterns of individuals in physical and psychological aspects such as observation, perception and expression. In this study of (Yuan, Zhang & Cheng, 2019) believe that personal traits are unique personality characteristics of individuals, among which the personal traits that entrepreneurs need to possess are important factors affecting the entrepreneurial intention of individuals.

College students with internal control tendency are more likely to show higher self-efficacy and entrepreneurial intention, while those with external control tendency are relatively lower (Chen & Shieh, 2006; Li, Zhao, & Hu, 2018). At the same time, college students with internal control tendency show stronger coping ability and adaptability in the face of entrepreneurial risks and uncertainties, and are more likely to start a business successfully (Chen & Shieh, 2006). When the self-efficacy of college students with internal control tendency is low, the inhibitory effect on entrepreneurial intention is relatively small, while the opposite is true for college students with external control tendency (Zhao, Li, & Rauch, 2019). Therefore, the following hypothesis is proposed:

H7: Entrepreneurial self-efficiency is positively related to college students' entrepreneurial intention

H8: Internal and external control personality traits moderate the impact of self-efficiency on entrepreneurial intention

H9: Entrepreneurial self-efficiency plays a mediating role in the influencing mechanism of entrepreneurial theory education on entrepreneurial intention

H10: Entrepreneurial self-efficiency plays a mediating role in the influence mechanism of entrepreneurial practice education on entrepreneurial intention

H11: Entrepreneurial self-efficiency plays a mediating role in the influencing mechanism of entrepreneurial education support on entrepreneurial intention

Research Methodology

The research used qualitative research design, the research population was collected from the private universities in Guizhou province, China. Due to the condition of COVID pandemic, the data was mostly collected by email and Wenjuanxing APP. The research was chosen at random for the questionnaire

survey: Guiyang College of Humanities and Technology, Guizhou Qiannan College of Economics, Guizhou Qiannan College of Science and Technology, and Guiyang College of Information Technology. These students will be included in a sample for the study's questionnaire survey. 400 questionnaires were collected.

The valid data obtained through the questionnaires were analyzed using SPSS 26 and AMOS 24 software. Exploratory factor analysis by SPSS observed variables is the first step in a preliminary validity inspection preliminary validity of each variable. Then exploratory factor analysis of each variable is carried out. During the Reliability analysis, Cronbach coefficient and composite reliability test and CR test will be more scientific and persuasive. During the validity analysis, KMO and Bartlett tests are generally adopted.

Results

Descriptive Statistical Analysis: As shown in Table 1, there are 291 female students in the valid sample, accounting for 72.8% of the valid sample, while 109 male students, accounting for 27.2%. In the grade distribution of valid samples, the majority are juniors and seniors, accounting for 37.8% and 29.8% of the total number of students, respectively. As the surveyed schools are mainly science and engineering, the subject distribution of valid samples is mostly science and engineering, accounting for 81.6%.

Table1: Basic statistics of sample information

Basic Information	Grouping	Number	Percentage
Gender	Male	109	27.2%
	Female	291	72.8%
Discipline	Science	185	46.3%
	Engineering	141	35.3%
	Liberal arts	70	17.5%
	Other	4	1.0%
Grade	Freshman year	56	14.0%
	Sophomore year	74	18.5%
	Junior year	151	37.8%
	Senior year	119	29.8%
Cadre experience	Yes	265	66.3%
	No	135	33.8%
Part-time experience	Yes	388	97.0%

	No	12	3.0%
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Correlation analysis: The existence of a link between variables and its strength are examined using correlation analysis. Most often, Pearson correlation analysis is employed. The correlation coefficient between variables' absolute values, which indicates a positive correlation, is used to determine the degree of correlation. The higher the correlation, the greater the absolute value. The results shown in Table 2.

Table 2: Results of correlation analysis

	Entrepreneurial Theory Education	Entrepreneurial Practice Education	Entrepreneurial Education Support	Self-efficacy	Entrepreneurial Intention
Entrepreneurial Theory Education	1				
Entrepreneurial Practice Education	-.041	1			
Entrepreneurial Education Support	.500**	-.030	1		
Entrepreneurial Self-efficacy	.446**	-.020	.493**	1	
Entrepreneurial Intention	.349**	.018	.449**	.381**	1

Note: *** indicate $p<0.001$ ** $p<0.01$ * $p<0.05$

Path analysis: Based on the path relationship among variables designed by the theoretical modeling this paper and the results of exploratory factor analysis and confirmatory factor analysis, structural equation modeling (SEM) is constructed, which can not only reflect the relationship between latent variables and measurement items, but also show the structural relationship between latent variables. The results shown in Figure 2 and Table 3.

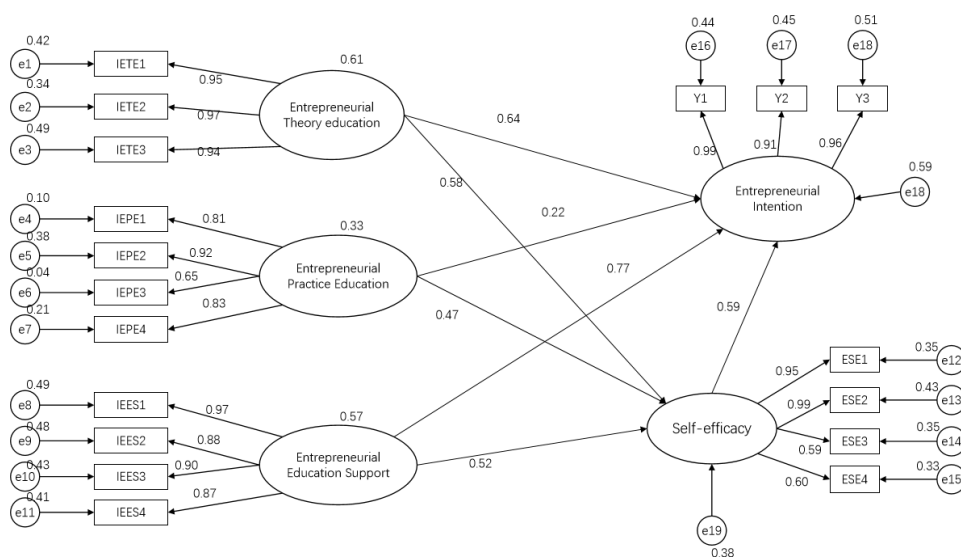


Figure 2: Structural equation model diagram

Table 3: Path and load coefficient estimation results among SEM variables

No.	Hypothesis	Estimate	S.E.	C.R.	P	Inspection results
H1	Entrepreneurial Theory Education-> Entrepreneurial Intention	0.64	0.072	2.508	**	Support
H2	Entrepreneurial Practice Education-> Entrepreneurial intention	0.22	0.127	1.747	0.081	Not Support
H3	Entrepreneurial Education Support-> Entrepreneurial intention	0.77	0.084	4.863	***	Support
H4	Entrepreneurial Theory Education-> Self-efficiency	0.58	0.049	5.029	***	Support
H5	Entrepreneurial Practice Education-> Self-efficiency	0.47	0.048	1.026	0.078	Not Support
H6	Entrepreneurial Education Support-> Self-efficiency	0.52	0.069	2.277	***	Support

H7	Self-efficiency-> Entrepreneurial intention	0.59	0.105	2.671	**	Support
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Note: *** indicate $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

Mediating effect: The study's hypothesis states that each of the three mechanisms: the mechanism of entrepreneurial theory education affecting entrepreneurial intention, the mechanism of entrepreneurial practice education affecting entrepreneurial intention, and the mechanism of Innovation and entrepreneurial education support affecting entrepreneurial intention, should be examined in turn in order to determine the mediating role of entrepreneurial self-efficiency. The results shown in Table 4.

Table 4: Test results of the mediating effect of self-efficiency on entrepreneurial theory education.

Dependent variable	Independent variables	R	R-sq	F	Beta.	t
Entrepreneurial Intention	Theory education	0.43	0.185	45.070 ***	0.258	4.408 * *
	Self-efficiency				0.294	5.560 * *
Entrepreneurial Intention	Practice education	0.3819	0.1458	33.8851***	0.0343	0.5566
	Self-efficiency				0.3983	8.2229***
Entrepreneurial Intention	Education support	0.4778	0.2283	58.7081 ***	0.3006	6.5383 * *
	Self-efficiency				0.2272	4.2932 * *

Note: *** indicate $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

Moderating effect: The moderating impact of internal and external regulating personality factors on entrepreneurial self-efficiency and entrepreneurial intention was investigated using SPSS. The Table 5 illustrates how internal and external control personality qualities influence entrepreneurial self-efficiency and intention. It shows that in the model, $p = 0.0416 < 0.05$, and the confidence interval at the 95% level is between 0.0001 and 0.0433, excluding 0. Therefore, internal and external control personality trait has a

moderating effect between entrepreneurial self-efficiency and entrepreneurial intention, and hypothesis H8 is supported.

Table 5: The moderating effect of internal and external controlling personality on entrepreneurial self-efficiency and entrepreneurial intention.

	coeff	se	t	p	LLCI	ULCI
Self-efficiency	0.5436	0.1483	3.6646	***	0.2520	0.8353
Internal and external Controlling Personality	0.6593	0.1824	3.6141	***	0.3007	1.0179
Entrepreneurial self-efficiency * Internal and external Control Personality	0.0216	0.0110	1.9524	**	0.0001	0.0433

Note: *** indicate $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

Discussions

According to the existing research, innovation and entrepreneurship theory education has a positive impact on the entrepreneurial intention of college students. The research of Rauch & Hulsink (2015) shows that innovation and entrepreneurship theory education can not only improve college students' entrepreneurial willingness, but also increase their success rate of entrepreneurship. Education can help students better understand markets and industries, understand competition and risks, and provide necessary skills and knowledge. In my paper, innovation and entrepreneurship theory education also has a positive impact on the entrepreneurial intention of college students. According to the research of Chen & Wang (2019), innovation and entrepreneurship practice education can improve the self-confidence and initiative of college students and enhance their innovation awareness and entrepreneurial spirit. By participating in practical projects, students can have an in-depth understanding of their strengths and weaknesses, discover their potential for innovation, and learn the ability to face challenges and solve problems. But in my paper, innovation and entrepreneurship practice education has no impact on the entrepreneurial intention of college students. According to the research of Li, Liu, Zhang, & Xie (2020), education support for innovation and entrepreneurship can promote the improvement of college students'

entrepreneurial intention. In my paper, innovation and entrepreneurship education support also has a positive impact on the entrepreneurial intention.

The research of Li, Liu, Zhang, & Xie (2020) shows that college students' self-efficacy plays an intermediary role between innovation and entrepreneurship education and entrepreneurial intention. They found that by improving college students' entrepreneurial self-efficacy, innovation and entrepreneurship education can promote college students' entrepreneurial willingness and action. In my paper, self-efficacy plays a partial mediating role. In the research of Zhao, Seibert, & Hills (2005) shows that people with internal control personality tendency also show higher entrepreneurial self-efficacy. In my paper, people with internal control personality tendency are more inclined to use their own abilities and resources to solve problems. Such autonomy and initiative make them more likely to feel self-efficacy, and thus more likely to start a business.

New Knowledges

The study provides evidence supporting the notion that entrepreneurial theory education has a positive and significant impact on college students' entrepreneurial intention. This finding reinforces the importance of incorporating theoretical knowledge in entrepreneurship education to foster students' entrepreneurial intentions. Also, it suggests that entrepreneurial practice education may not have a significant impact on college students' entrepreneurial intention. This finding challenges the assumption that practical experiences alone can significantly increase entrepreneurial intentions among college students, highlighting the need for further research and improvement in practical education approaches. The study provides evidence supporting the idea that entrepreneurial education support positively influences college students' entrepreneurial intention. This emphasizes the significance of providing adequate support mechanisms and resources to enhance students' entrepreneurial intentions. The study supports the notion that entrepreneurial theory education is positively related to entrepreneurial self-efficacy. This reinforces the idea that theoretical knowledge can contribute to the development of self-efficacy beliefs in entrepreneurship.

Entrepreneurship and innovation are not just found in academic institutions. To encourage students' innovation and entrepreneurship, we must create a social environment that incorporates science and technology, industry, finance, investment, and other industries. A variety of entrepreneurial skills, entrepreneurial literacy, innovative thinking, and entrepreneurial spirit are necessary for starting a new business. Based on the hypotheses and their support or lack of support.

Conclusions

This research discovers that innovation and entrepreneurship theory education, college students can learn innovative thinking, creative problem-solving methods and skills, understand the importance of innovation, and thus enhance their entrepreneurial intention. Innovation and entrepreneurship support can make college students feel the support and attention of the society, which can increase their entrepreneurial intention. The empirical findings that innovation and entrepreneurship practice education have not significance. The main reason is that most students have taken online courses since the COVID epidemic and are unable to participate in entrepreneurial practice education. Self-efficacy plays an obvious mediating role in innovation and entrepreneurship education and college students' entrepreneurial intention. If students are confident in their ability and potential in the field of innovation and entrepreneurship, they are more likely to actively engage in learning and practice, and achieve better results. On the contrary, if students lack confidence, they may feel frustrated and disappointed, which will affect their learning effectiveness and their willingness to innovate and start businesses. Individuals with internal control personality are more likely to believe that they can achieve their goals through their own efforts and abilities, so as to have full confidence in their own entrepreneurial ability and obtain a higher sense of self-efficacy. On the contrary, individuals with externally-controlled personality are more likely to attribute success or failure to external factors, and may be more inclined to believe that entrepreneurial success or failure depends on external environmental factors, thus reducing their self-efficacy.

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