

# Influence Mechanism of Entrepreneurial Learning on College Students' Entrepreneurial Decision-making

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## Abstract

The purpose of this study is to investigate the mediating role of creativity and entrepreneurial opportunity identification between entrepreneurial learning and entrepreneurial decision-making, as well as the mediating role of entrepreneurial self-efficacy, and to construct a model. Based on the survey data of 588 college students in Shanxi Province, China, this study constructs a structural equation model, and explores the influence on college students' entrepreneurial decision-making from the perspective of entrepreneurial learning, with creativity and entrepreneurial opportunity identification as the mediating and entrepreneurial self-efficacy as the adjustment. The results show that entrepreneurial learning has a positive influence on entrepreneurial decision-making, entrepreneurial opportunity identification plays a mediating role between entrepreneurial learning and entrepreneurial decision-making, and the relationship between creativity and entrepreneurial decision-making has not been verified. Entrepreneurial self-efficacy positively regulates the influence of entrepreneurial learning on creativity, and entrepreneurial self-efficacy positively regulates entrepreneurial learning, creativity and entrepreneurial opportunity identification.

**Keywords** Entrepreneurial Learning, Creativity, Entrepreneurial Opportunity Recognition, Entrepreneurial Self-efficacy, Entrepreneurial Decision-making

## 1. Introduction

According to the statistics of the Ministry of Education of China, there were 9.09 million college graduates in 2021, an increase of 350,000 compared with 2020. The 2022 National Conference on Employment and Entrepreneurship of College Graduates pointed out that the number of college graduates in 2022 was 10.76 million, an increase of 1.67 million



year-on-year, and the scale and increment of graduates reached a record high. Coupled with the epidemic situation in COVID-19 and the impact of the international economic situation, as well as the adjustment and transformation of the social industrial structure and the change of the national employment policy, it has created a grim reality that the employment of college graduates exceeds demand. Therefore, how to solve the employment problem of college graduates has become an important topic and key problem in the employment work of colleges and education departments.

From the perspective of entrepreneurial learning, this study discusses the influence mechanism of entrepreneurial learning on entrepreneurial decision-making of college students. In view of the current research on entrepreneurial learning and entrepreneurial decision-making, most of them are aimed at new enterprises, small and micro enterprises, etc. As a special entrepreneurial group, college students have always been the focus of research in the field of innovation and entrepreneurship. Therefore, this study attempts to explore the empirical study of entrepreneurial learning on entrepreneurial decision-making by taking college students in Shanxi Province, China as the research object, with a view to providing feasible suggestions for innovation and entrepreneurship education in Shanxi Province and even the whole country as well as employment guidance for graduates.

## 2. Research Objective

The purpose of this study is to explore the influence mechanism of college students' entrepreneurial decision-making from the perspectives of environment, individual and behavior by combining relevant theoretical research and using empirical methods: First, build a theoretical model including the comprehensive effects of entrepreneurial learning, creativity, entrepreneurial opportunity recognition ability, entrepreneurial self-efficacy, entrepreneurial decision-making, and integrate it based on social cognitive theory, decision-making theory, human capital theory and planned behavior theory. Secondly, explore the mediating effect of creativity and entrepreneurial opportunity recognition ability between entrepreneurial learning and entrepreneurial decision variables; Third, identify the moderating effect of entrepreneurial



self-efficacy.

### 3. Literature Review

#### **Entrepreneurial learning and entrepreneurial decision-making**

The teach ability theory of entrepreneurship education (Drucker, 1985) laid a theoretical foundation for the study of the influence of entrepreneurship learning on entrepreneurship decision-making. Drucker (1985), the father of modern management, once said: "Entrepreneurship is not magic, nor is it mysterious. Entrepreneurship is not an innate talent deeply rooted in genes, but can be taught and mastered through learning. " Therefore, once the theory of entrepreneurial learning is put forward, it immediately shows its strong explanatory power to entrepreneurial behavior, and it plays a key role among many variables, and there is room and value for research (Wang Bo, 2019). Entrepreneurial behavior mainly focuses on the macro perspective of entrepreneurship, emphasizing the process of entrepreneurship, and holds that entrepreneurial behavior is the sum of the creation stages of new enterprises, and entrepreneurial decision-making is the actual predictive variable for analyzing whether entrepreneurial behavior occurs (Fang Zhuo, 2017). Nguyen(2020) explored the factors that affect the decision-making of new entrepreneurs, among which entrepreneurship education is one of the important factors. Scholars seldom study the relationship between entrepreneurial learning and college students' entrepreneurial decision. Based on the above analysis, this paper puts forward the following assumptions:

### 4. Hypothesis

H1 : Entrepreneurial learning has a positive and significant relationship with entrepreneurial decision-making.

#### **Mediating Role**

##### 1) Entrepreneurial learning and creativity

Entrepreneurial learning is a process of creatively processing information and acquiring



knowledge, and it is a key link in the application of creative thinking (Qin Lan, 2021). At present, scholars have not reached a consensus on the concept of creativity, but they all agree that creativity is a novel, useful and creative ability that needs to be acquired through continuous learning. Starting from the concept of innovation and entrepreneurship education, many scholars emphasize the value of creativity and put forward feasible suggestions for the reform of innovation and entrepreneurship education (Zhang Maoran, 2020). Wang Jinbin(2022) investigated entrepreneurial teams in colleges and universities, and the results showed that team learning had a positive impact on team creativity. However, there are few studies on the direct impact of entrepreneurial learning on creativity. Based on this, this paper puts forward the following assumptions:

**H2:** Entrepreneurial learning has a positive and significant relationship with creativity.

**2) Creativity and entrepreneurial decision-making**

The essence of entrepreneurship is innovation, and the core of entrepreneurship is innovation. Creativity will affect employees' pre-judgment on the success of their own entrepreneurial decisions (Yu Xuan, 2022). Zhang Xiue(2022) based on the survey data of new ventures, it is concluded that creativity has a positive role in promoting the performance of new ventures. Hossein (2020) confirmed that entrepreneurship education can promote students' creativity. At present, the direct research on college students' creativity and entrepreneurial decision-making is rare at home and abroad, but there is no denying that there is a certain relationship between them. Based on this, this paper puts forward the following assumptions:

**H3:** Creativity has a positive and significant relationship with entrepreneurial decision-making.

**3) the mediating role of creativity**

Creativity is the ability to propose or produce novel and appropriate work results (Sternberg and Lubart, 1991). The development of creativity is the result of continuous entrepreneurial learning, which in turn promotes individuals to make entrepreneurial decisions. Ismail (2019) explored the positive correlation between employees' participation in work



performance through creativity. At present, there are few studies on the relationship among entrepreneurial learning, creativity and entrepreneurial decision-making, taking college students as the research object, but the three are closely related. Based on this, the following assumptions are put forward:

H4: Entrepreneurial learning has a positive and significant relationship with entrepreneurial opportunity identification.

#### 4) Entrepreneurial learning and entrepreneurial opportunity identification.

Singh (2000) believes that entrepreneurial opportunities are the result of the interaction between controllable factors such as knowledge and education and uncontrollable factors such as external environment. Therefore, the identification of entrepreneurial opportunities must consider environmental factors such as entrepreneurial knowledge reserve and entrepreneurial learning behavior, as well as the influence of innovators' characteristics and behaviors. As a process with both cognitive and behavioral attributes, entrepreneurial learning is the core link in the process of opportunity identification, which can not only reflect the evolution of entrepreneurs' "cognitive structure", but also be a behavioral process of integrating key knowledge and information under the attribute of opportunity content (Masango, 2020). Cai Lin (2019) conducted an empirical study on the influence mechanism of entrepreneurial opportunity identification of 821 students from nine universities in Sichuan Province, and found that empirical learning has a significant positive predictive effect on entrepreneurial opportunity identification of college students.

As a special entrepreneurial group with a large number, college students have always been the focus of scholars in the field of entrepreneurship. Therefore, facing the increasing number of college graduates every year, entrepreneurship will inevitably become the career choice of many college students, and it is also one of the important ways for the country to ease employment. Therefore, taking college students as the research object, it is necessary to explore the influence mechanism of entrepreneurial learning on entrepreneurial opportunity identification. Based on this, this paper puts forward the following assumptions:



H5: Entrepreneurial opportunity identification has a positive and significant relationship with entrepreneurial decision-making.

5) Entrepreneurial Opportunity Identification and Entrepreneurial Decision-making: Entrepreneurship is a very complicated process, in which opportunities and challenges coexist. Whether entrepreneurs can identify opportunities and seize them with keen eyes is a very severe test. In his book "The Creation of New Enterprises", Timmons built an entrepreneurial management model, and pointed out that entrepreneurial activities should allocate opportunities, entrepreneurial teams and resources most appropriately. Wei & Hisrich(2016) confirmed the correlation between entrepreneurial opportunity identification and entrepreneurial decision-making. Lassalle(2018) studies the importance of family environment and community to Polish entrepreneurs' opportunity recognition ability and entrepreneurial decision-making behavior. Based on this, this paper puts forward the following assumptions:

H6: Creativity has a mediating role between entrepreneurial learning and entrepreneurial decision-making.

6) The Mediating Role of Entrepreneurial Opportunity Identification between Entrepreneurial Learning and Entrepreneurial Decision-making. As a comprehensive process of many factors, entrepreneurial opportunity identification is an important prerequisite for entrepreneurial activities. Especially for the special and huge group of college entrepreneurs, it is particularly important to identify entrepreneurial opportunities quickly and accurately. According to the research of Zhang Qiangqiang (2022), farmers should pay attention to capital accumulation, improve their entrepreneurial learning ability, and then improve their opportunity recognition ability, and finally improve their entrepreneurial performance. Ma Hongyu's (2020) research results show that the entrepreneurial opportunity identification and entrepreneurial environment perception of the new generation of migrant workers have both promoted entrepreneurial performance and contributed to the improvement of entrepreneurial performance of the new generation of migrant workers, among which the mediating role of entrepreneurial opportunity identification is more prominent. Based on this, this paper puts forward the following assumptions:

H7: Entrepreneurial opportunity identification has a mediating role between entrepreneurial learning and entrepreneurial decision-making.

### **The Moderating Role of Entrepreneurial Self-efficacy**

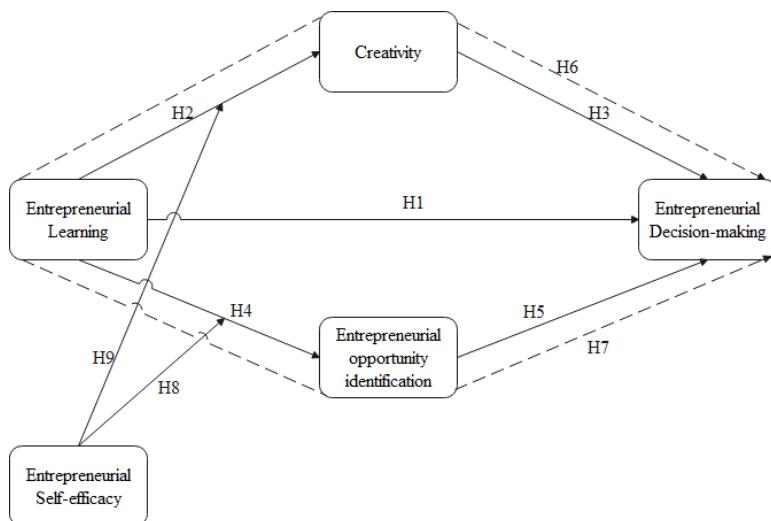
The research of Izabela (2020) proves that simple and clear entrepreneurial learning methods can improve entrepreneurial self-efficacy more effectively. Wang (2021) confirmed that entrepreneurial self-efficacy plays a partial mediating role in the influence of entrepreneurial education, entrepreneurial thinking and creativity on entrepreneurial intention.

For college students, entrepreneurial learning is the main source of entrepreneurial knowledge. The acquisition of more knowledge will enhance the self-confidence of individual entrepreneurship, and then promote the development of individual creativity and the acquisition of entrepreneurial opportunities. On the other hand, individuals with low self-efficacy can't transform their entrepreneurial knowledge into creativity and opportunity recognition. Based on this, this paper puts forward the following assumptions:

H8: Entrepreneurial self-efficacy has moderating role between entrepreneurial learning and entrepreneurial opportunity identification.

H9: Entrepreneurial self-efficacy has moderating role between entrepreneurial learning and creativity.

## **4. Conceptual Framework**



Based on social cognitive theory, decision-making theory and other related theories, the



author thoroughly discusses the influence mechanism of entrepreneurial learning on college students' entrepreneurial decision-making.

## 5. Methodology

This study adopts quantitative research, collects data through questionnaire survey, and uses SPSS and AMOS to measure. The research objects are undergraduates from three universities in Shanxi Province, China. In this study, stratified sampling in probability sampling was used to collect data. A total of 845 data were distributed and 588 valid data were recovered for research. The independent variable of this paper is entrepreneurial learning, and the entrepreneurial learning scale is divided into three dimensions, namely, empirical learning, cognitive learning and practical learning, which contains 12 items and is adapted from the research (Shan Biaoan, 2014); The dependent variable is entrepreneurial decision, which contains three items and is adapted from the research (Simon, 1999; Ma Kunshu; 2009; Wang Yuqin; 2010); The first intermediate variable is creativity, which contains 8 items and is adapted from the research (Ahlin, 2014); The second intermediary variable is entrepreneurial opportunity identification, which is divided into two dimensions, including opportunity feasibility identification and opportunity profitability identification, including six items, adapted from the research (Bhave, 1994; Baron, 2004); The moderating variable is entrepreneurial self-efficacy, which contains six items and is adapted from the research (Linán and Chen, 2009; Qi Hongwei, 2017).

A total of 150 questionnaires were distributed in this study, and 110 valid questionnaires were obtained. Of course, these 150 students are not in the sample group of the final formal test. The pretest uses reliability and validity to ensure that all the questions in the questionnaire are revised.

## 6. Data Analysis

In this study, SPSS and AMOS were used for analysis. Firstly, SPSS was used for descriptive statistical analysis and reliability analysis, and then AMOS was used for validity



and principal effect hypothesis test. Finally, the mediation effect is analyzed by using Model 4 of Process plug-in of SPSS 24.0 software, and the adjustment effect is analyzed by Model 7 of Process plug-in of SPSS software.

The 588 questionnaires formally tested in this study, 222 were males (37.8%) and 366 were females (62.2%). There are 73 freshmen (12.4%), 248 sophomores (42.2%), 86 juniors (14.6%) and 181 seniors (30.8%). The deviation of data characteristics of each variable is within the controllable range, so the data is analyzed in the next step. Through reliability analysis, the Cronbach values of entrepreneurial learning, creativity, entrepreneurial opportunity recognition, entrepreneurial self-efficacy and entrepreneurial decision-making are 0.890, 0.905, 0.936, 0.951 and 0.792, respectively, which shows that each variable has good reliability. Through confirmatory factor analysis of each variable by AMOS, it is concluded that CR, AVE and the square root of AVE of all variables are within the standard range, which shows that the reliability and validity of the scale used in this study are good and can be analyzed in the next step.

In this study, the structural equation model of the path and mediating effect of entrepreneurial learning on entrepreneurial decision-making mechanism is constructed by using AMOS22.0, as shown in Figure 1. In Figure 4.1, the SEM includes four latent variables and 20 observed variables, among which the four latent variables are entrepreneurial learning (X), entrepreneurial decision-making (Y), creativity (M1) and entrepreneurial opportunity identification (M2). In addition, in order to ensure the accuracy of the model, 23 residual terms and three dimensions of entrepreneurial learning are introduced into the model by taking the mean respectively. In this study, the Bootstrap analysis tool in AMOS software is used to test the influence mechanism of X on Y, that is, the intermediary effect of M1 and M2, that is, H1-H7. The fitting test index of structural equation model is shown in Table 1. All indicators are within the acceptable range.

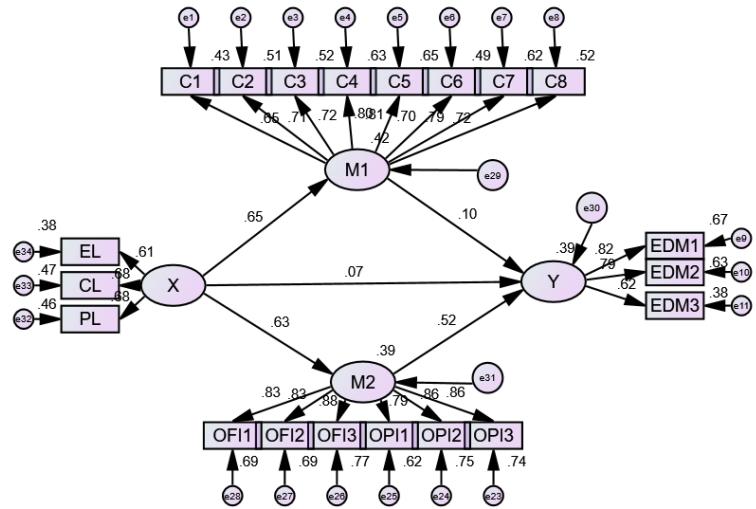


Figure 1 SEM

Table 1

*Model Fitting Index of SEM*

Fit Index	$\chi^2 / df$	RMR	RMSEA	GFI	AGFI	NFI	TLI	CFI
Result	4.625	0.061	0.079	0.916	0.849	0.896	0.904	0.916

In Table 2, some path relationships among variables are not significant at the 95% confidence interval, that is, the impact of entrepreneurial learning on creativity (H2) is significant ( $\beta=0.648, P<0.05$ ), that is, H2 is verified; The influence of creativity on entrepreneurial decision (H3) is not significant ( $\beta=0.101, P=0.115>0.05$ ), that is, H3 has not been verified; The influence of entrepreneurial learning on entrepreneurial opportunity identification (H4) is significant ( $\beta=0.627, P<0.05$ ), that is, H4 is verified; The impact of entrepreneurial opportunity identification on entrepreneurial decision-making (H5) is not significant ( $\beta=0.524, P<0.05$ ), that is, H5 is verified.

Table 2

*Path coefficient*

Path Coefficient	Unstandardized	Standardized	S.E.	C.R.	P
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	coefficient	Coefficient			
M1<---X	0.683	0.648	0.083	8.188	***
M2<---X	0.79	0.627	0.092	8.631	***
Y<---M1	0.12	0.101	0.076	1.578	0.115
Y<---M2	0.524	0.524	0.063	8.298	***
Y<---X	0.091	0.072	0.094	0.97	0.332

Source. Amos Software

Note. \* \* \* means significant at the level of 0.05.

In table 3, the indirect effect of creativity between entrepreneurial learning and entrepreneurial decision-making, the confidence interval includes 0, indicating that there is no intermediary effect, that is, H6 has not been verified. The indirect effect of entrepreneurial opportunity identification between entrepreneurial learning and entrepreneurial decision-making, the confidence interval does not include 0, indicating that there is an intermediary effect, that is, H7 is verified. From the path coefficient in Table 4.4 proves that the effect of entrepreneurial learning on entrepreneurial decision-making is not significant ( $p=0.332>0.05$ ), indicating that H1 has not been approved, and that entrepreneurial opportunity identification has a full mediating effect on the relationship between entrepreneurial learning and entrepreneurial decision-making.

Table 3

*Test Results of Mediating Effect*

Parameter	Estimate	Lower	Upper	P
Entrepreneurial Learning → Creativity → Entrepreneurial Decision-making	0.082	-0.076	0.29	0.198
Entrepreneurial learning → Entrepreneurial opportunity identification → Entrepreneurial decision	0.415	0.256	0.776	0
total	0.588	0.346	1.12	0

Source. Amos Software

This study use Model 7 of Process plug-in of SPSS software for analysis, as shown in figure 2. Entrepreneurial self-efficacy can regulate the relationship between entrepreneurial learning, entrepreneurial opportunity identification and creativity. The effect value of the interaction between entrepreneurial learning and entrepreneurial self-efficacy on creativity is

0.086(SE=0.0413,  $p<0.05$ ), and the effect value of the interaction between entrepreneurial learning and entrepreneurial self-efficacy on entrepreneurial opportunity identification is 0.094(SE=0.0403,  $p<0.01$ ). Therefore, both H8 and H9 are verified.

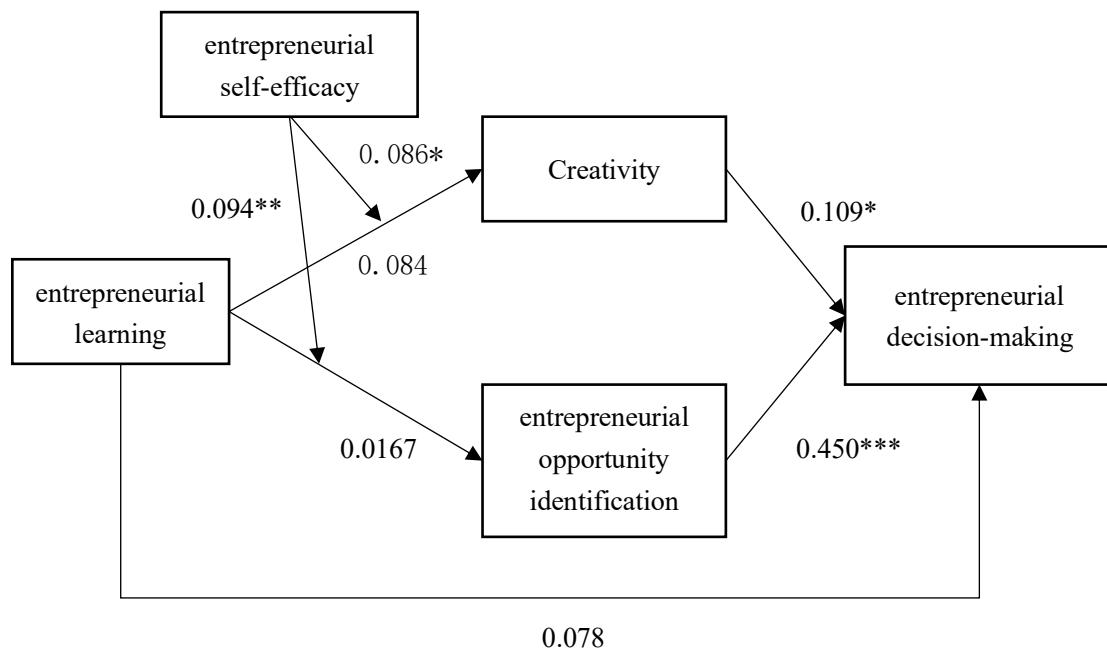


Figure 2 Moderating Effect Results

Note. \* indicates  $p<0.05$ , \*\* indicates  $p<0.01$ , and \*\*\* indicates  $p<0.001$

## 7. Conclusion

In this paper, all the hypotheses are consistent with previous studies except H1, H3 and H6, that is, the mediating effect of creativity. H6 has not been verified. The author thinks that it does not mean that creativity has no effect between entrepreneurial learning and entrepreneurial decision-making. It may be related to factors such as the research object and research time, so we can continue to study.

## 8. Recommendations and limitations

This study provides feasible suggestions for innovation and entrepreneurship education reform in Shanxi Province, so efforts should be made from universities, governments,



individuals and families. From the school's perspective, colleges and universities should make efforts in entrepreneurship courses, teachers and entrepreneurship platforms. As far as the government is concerned, efforts should be made to relax the entrepreneurial policy and simplify the entrepreneurial procedures; Personally, we should work hard from the aspects of career choice concept and our own ability; For families, efforts should be made in terms of family atmosphere, material and spiritual support.

This study has some limitations in time, sample size, variable selection, etc., so further research can be carried out from expanding sample area, adding or replacing variables, etc.

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