

Entrepreneurship Education, Entrepreneurial Alert and Entrepreneurial Tendency

-- Mediating Effect Test Based on Survey Samples of College Students in Anhui Province

Hanhui Chen¹, Duo Xu^{2,*}, Xueqian Zhang², Guoqing Zhao¹

¹ School of Business Administration, Anhui University of Finance & Economics, Bengbu, 233000, China

² School of Accounting, Anhui University of Finance & Economics, Bengbu 233000, China

* Corresponding author: Duo Xu (Email: ahtl2020xd@163.com)

Abstract: From the perspective of college students' perceptions, we firstly construct a model of the influence of entrepreneurship education on entrepreneurial tendency under the mediating role of entrepreneurial alertness based on literature review and design a related questionnaire. Secondly, based on 264 valid questionnaires, SPSS 20.0 and Mplus7.0 software were used to conduct empirical analysis. The findings show that entrepreneurship education has a significant positive effect on entrepreneurial tendency of college students in both college entrepreneurship education and social entrepreneurship education dimensions. The full mediating effect of entrepreneurial alertness was confirmed. The entrepreneurial tendency of college students is influenced by entrepreneurship education in colleges and universities and entrepreneurship education in society, so the government should pay more attention to entrepreneurship education for college students, and college students should acquire relevant entrepreneurial knowledge and improve their entrepreneurial practice ability through receiving entrepreneurship education, so as to promote the formation of entrepreneurial alertness and thus improve the entrepreneurial tendency of college students.

Keywords: Entrepreneurial alertness, Entrepreneurship education, Entrepreneurial disposition, Mediating effects.

1. Introduction

The dual innovation strategy is an important national innovation and entrepreneurship development strategy, and college students, as one of the important force components, should play a leading role in the innovation and entrepreneurship activities. However, the entrepreneurial activities of college students have not been carried out smoothly, and there is even a phenomenon that the entrepreneurial tendency is inversely proportional to the degree of education (Guofeng et al., 2022)[1]. Students with higher education have relatively higher opportunity costs of entrepreneurship, and they have a stronger advantage in employment, so they are more willing to choose a low-risk career. In fact, education and entrepreneurship are not mutually exclusive, and with effective guidance of entrepreneurship education, it helps students to make correct judgment of entrepreneurial intention and guide them appropriately to engage in entrepreneurial activities (Chao Tan et al., 2021)[2]. At the same time, entrepreneurial alertness plays an important role in the process of entrepreneurial disposition formation; entrepreneurial alertness is an internal cognitive element that entrepreneurs achieve through learning about entrepreneurship and is the key to generating entrepreneurial disposition. It has been shown that both entrepreneurship education and entrepreneurial alertness positively contribute to entrepreneurial disposition, but it is inconclusive whether entrepreneurship education influences entrepreneurial disposition through the transfer of entrepreneurial knowledge or the development of individual entrepreneurial alertness. Based on this gap, the article selects entrepreneurial alertness as a mediating variable to explore the mechanism of entrepreneurship education's influence on college students'

entrepreneurial propensity.

2. Literature Review

2.1. Entrepreneurial inclination is the beginning of entrepreneurial activity for entrepreneurs

Many scholars at home and abroad have different but similar definitions of entrepreneurial disposition. Entrepreneurial disposition is a strong desire of people to create an organization or engage in entrepreneurial behavior in the future (Bird, 1988)[3] and the psychological desire and aspiration of entrepreneurs to start a business (Guofeng et al., 2022)[1]. Shinnar (2014) considers entrepreneurial disposition as the mindset of whether an entrepreneur will start a business in the future and is a comprehensive description of the entrepreneurial ability of the entrepreneur[4]; Gao Shijie et al. (2020) argued that entrepreneurial disposition is the tendency of college students to be able to generate new value within the company and promote the company's growth[5]; Dou Xuyu (2021) argued that college students' employment perceptions are influenced by their own entrepreneurial behavior, and entrepreneurial disposition influences college students' entrepreneurial behavior [6].

2.2. Entrepreneurial alertness plays an important role in the formation of entrepreneurial tendencies among college students

Foreign scholar Kirzner (1979) considered entrepreneurial alertness as a sensitivity to information and the ability to actively identify opportunities, and that people with high

alertness are better able to identify opportunities and generate entrepreneurial inspiration[7]. Hills (1997), by refining the entrepreneurial alertness scale, found that business opportunities are often more easily identified by people with high entrepreneurial alertness and engage in entrepreneurial activities[8]. College students with higher entrepreneurial alertness are more likely to identify entrepreneurial information (Yao, Xueke et al., 2020)[9], and are more likely to make entrepreneurial judgment choices based on their cognitive abilities in a complex environment (Hu, R. et al., 2018)[10], and are more likely to develop entrepreneurial tendencies (Zhang, Xiu'e et al., 2019)[11]. Hu R. et al. (2020) suggest that college students with cognitive flexibility can enhance their opportunistic entrepreneurial intentions when moderated by entrepreneurial alertness[12]. Yao, Xueke et al. (2020) suggest that entrepreneurial learning better enhances college students' entrepreneurial intentions mediated by entrepreneurial alertness[9]. Qiang Mei et al. (2022) suggest that entrepreneurial alertness mediates the influence of social networks on entrepreneurial intentions[13].

2.3. Entrepreneurship education is an important factor influencing entrepreneurial activities

On the one hand, entrepreneurship education affects college students' propensity to start a business. Chen (1998) found from a study of American college students that the more students were exposed to management courses, the higher their propensity to start a business[14]. Liu Jixiu et al. (2020) argue that entrepreneurship education can ignite the passion of entrepreneurs and thus increase their entrepreneurial intentions[15]. Slip Hanrui et al. (2020) believe that the role of entrepreneurship education on entrepreneurial tendency of college students is mainly in exercising students' entrepreneurial thinking and improving entrepreneurial ability[16]. Zheng Xiumei et al. (2022) argue that entrepreneurship training for college students with an action-oriented hybrid teaching concept can help to enhance entrepreneurial skills and intentions of college students [17]. On the other hand, entrepreneurship education affects the entrepreneurial alertness of college students. Brown (2000) argues that entrepreneurship education helps to stimulate the potential and increase the entrepreneurial alertness of entrepreneurs[18]. Yang (2021) argues that entrepreneurship education can help students better understand entrepreneurial activities, understand business logic, fill the gaps in entrepreneurial knowledge, and increase students' awareness of entrepreneurial opportunities[19]. Zhang Manna et al. (2022) argue that "dual-innovation competitions" in colleges and universities can help cultivate entrepreneurial alertness among college students[20]. Li Guoyan (2022) believes that

the richer the entrepreneurship education activities in colleges and universities, the more entrepreneurial alertness students will have. [21]

2.4. Brief commentary

Entrepreneurial disposition, as one of the main predictors, influences whether an entrepreneurial behavior occurs in the future, and it can be found from the existing studies that the development of entrepreneurial disposition among college students is largely associated with entrepreneurial education and entrepreneurial alertness. Also many scholars studying the influence of antecedent variables on entrepreneurial disposition have chosen entrepreneurial alertness to assume an intermediate mediator. Not only does entrepreneurship education influence entrepreneurial disposition, but entrepreneurship education also significantly affects entrepreneurial alertness. Then, entrepreneurial alertness is likely to play a mediating role in the process of entrepreneurship education on entrepreneurial disposition, which becomes the focus and innovation point of this paper.

3. Theoretical Model and Assumptions

Firstly, studies in the literature have shown that entrepreneurship education can be divided into two aspects: college entrepreneurship education and social entrepreneurship education (Song Huaming et al., 2021)[22], through which college students receive college and social entrepreneurship education to enrich their theoretical knowledge and entrepreneurial experience and enhance their interest and willingness to start their own business.

Secondly, through the accumulation of entrepreneurial knowledge and experience, college students will increase their sensitivity to entrepreneurial opportunities and markets and improve their entrepreneurial alertness. Entrepreneurship courses in colleges and universities teach college students relevant professional knowledge, which prompt them to pay more attention to entrepreneurial activities and improve their sensitivity to entrepreneurial opportunities. College students attend entrepreneurial lectures by entrepreneurs and learn entrepreneurial experience from their experiences, which helps to enrich their entrepreneurial knowledge, better extract and judge market information, and thus improve entrepreneurial alertness.

Finally, entrepreneurship education in colleges and universities and social entrepreneurship education also promote the formation of entrepreneurial alertness, enhance individual entrepreneurial opportunity recognition, stimulate and strengthen individual entrepreneurial tendencies, and actively engage in entrepreneurial practices.

Based on this, the theoretical model shown in Figure 1 is constructed and the corresponding hypotheses are formulated:

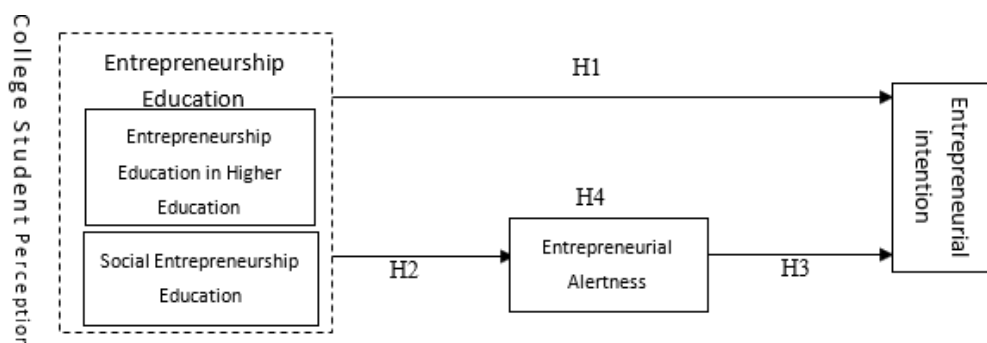


Figure 1. Theoretical model

H1: Entrepreneurship education significantly and positively promotes college students' entrepreneurial propensity,

H1a: Entrepreneurship education in colleges and universities significantly and positively affects college students' propensity to start a business,

H1b: Social entrepreneurship education significantly and positively influences college students' propensity to start a business.

H2: Entrepreneurship education plays a significant positive role in the development of entrepreneurial alertness among college students,

H2a: Entrepreneurship education in higher education significantly and positively influences entrepreneurial alertness among college students,

H2b: Significant social entrepreneurship education positively influences college students' entrepreneurial alertness.

H3: Entrepreneurial alertness significantly and positively contributes to college students' propensity to start a business.

H4: Entrepreneurship education influences college students' entrepreneurial tendencies through entrepreneurial alertness as a mediator.

4. Study Design and Data Analysis

4.1. Variable selection and questionnaire design

The article variables include four components: control variables, independent variables, mediating variables and dependent variables, where the choice of control variables is borrowed from Li, Guoyan et al. (2022)[21], with specific measurement questions on gender, grade level, and region where the family is located; the independent variable is entrepreneurship education (college students' perception perspective), which is measured from entrepreneurship education in college (variable name defined as EEU) and social entrepreneurship education (variable name defined as EES). The two dimensions are measured, and the related questions are borrowed from Huang Ying (2016)[23]; the mediating variable is entrepreneurial alertness (variable name defined as ENAL), and the measurement questions are from Tian Xin (2016)[24]; the dependent variable is entrepreneurial disposition (variable name defined as ENIN), and the measurement questions are referenced from Chen Wei (2010)[25].

Table 1. Variables and measurement question items

Variable Type	Variable Name	Title item	Source
Independent variable	Entrepreneurship Education in Higher Education (EEU)	I attend lectures related to entrepreneurship at school.	Huang, Ying (2016)[23]
		I am participating in a competition related to entrepreneurship at my school.	
		I attend courses related to entrepreneurship at school.	
		I participate in entrepreneurial skills training or simulation exercises at school.	
	Social Entrepreneurship Education (EES)	I participate in entrepreneurship competitions held in the society.	
		I attend business seminars/entrepreneurship training events organized by the society.	
Intermediate variables	Entrepreneurial Alertness (ENAL)	I like to see and think about the same thing from different perspectives.	Tian, X. (2016)[24]
		I can reorganize and unite several seemingly unrelated things.	
		I can always see useful resources.	
		I have a strong sensitivity to things that have entrepreneurial potential.	
		I can make quick and accurate judgments about entrepreneurial opportunities that arise.	
		When multiple opportunities arise at the same time, I always pick the best one for me.	
Dependent variable	Entrepreneurial tendencies (ENIN)	I really want to create my own business.	Chen, Wei (2010)[25]
		I understand the process of creating a new business.	
		I will try very hard to start a business.	
		I believe I can start a successful business.	

Note: Compiled by the author

4.2. Data collection and sample description

With the help of Questionnaire Star platform (www.wjx.cn), the questionnaires were distributed to college students in Anhui Province through the channels of classmates, teachers and friends. 366 questionnaires were collected, and after eliminating invalid questionnaires, 264 valid questionnaires were obtained, with a rate of 72.131%. The following problems were regarded as invalid questionnaires: too short answer time; inconsistent answers; illogical choice of options; too many consistent results. Among the valid questionnaires 32.2% were male and 67.8% were female. In terms of

students' grades, 34.1% were freshmen, 38.6% were sophomores, 17.4% were juniors, 2.7% were seniors, and 7.2% were postgraduates and above. In terms of the region where the family is located, 9.8% are from the eastern region, 82.2% are from the central region, and 8.0% are from the western region.

4.3. Reliability and validity analysis

Exploratory factor analysis, reliability analysis and validation factor analysis were conducted on the four latent variables of college entrepreneurship education, social entrepreneurship education, entrepreneurial alertness and entrepreneurial tendency with the help of SPSS 20.0 and

Mplus 7.0 software, respectively, and the analyzed data are shown in Table 2. The results of exploratory factor analysis showed that the overall KMO value of entrepreneurship education, social entrepreneurship education, entrepreneurial alertness and entrepreneurial tendency in colleges and universities was 0.875, which was greater than 0.700, and the significance coefficient was 0.000, which passed the Bartlett spherical test; the overall Cronbach's alpha coefficient result of the questionnaire items of the four latent variables was 0.869. The overall Cronbach's alpha coefficient of the four latent variables is 0.869, which is greater than 0.700, indicating that the overall reliability of the scale is relatively high, and then analyze the reliability of the four latent variables of college entrepreneurship education, social entrepreneurship education, entrepreneurial alertness and entrepreneurial tendency respectively, the Cronbach's alpha coefficients are 0.919, 0.867, 0.914 and 0.783 in order, all of

which exceed 0.700, indicating that the scale The validation factor analysis was done separately, and the fit indices of the relevant models were $\chi^2 / df = 1.619$ (less than 3.000), RMSEA = 0.048 (less than 0.080), SRMR = 0.035 (less than 0.050), CFI = 0.982 (greater than 0.900), and TLI = 0.976 (greater than 0.900), which can see that the model fit is good. In addition, the standardized factor loading coefficients of entrepreneurship education in colleges and universities, social entrepreneurship education, entrepreneurial alertness and entrepreneurial propensity ranged from 0.522 to 0.948, the combined reliability (CR) ranged from 0.763 to 0.920, and the squared difference extracted (AVE) ranged from 0.521 to 0.775, all of which were greater than 0.500, and good convergent validity could be obtained. The values of correlation coefficients between the four variables were calculated to be less than their AVE square roots, leading to the conclusion that the scale has good discriminant validity.

Table 2. Table of validity test of variables

Variable Name	Entry	Standardized loads	CR	AVE
Entrepreneurship Education in Higher Education (EEU)	1. I attend lectures related to entrepreneurship at school	0.642	0.763	0.521
	2. I participated in a competition related to entrepreneurship at school	0.668		
	3. I participate in entrepreneurial skills training or simulation exercises at school	0.839		
Social Entrepreneurship Education (EES)	4. I participate in entrepreneurship competitions held in the society	0.807	0.873	0.775
	5. I participate in entrepreneurship seminars/entrepreneurship training activities held in the society	0.948		
Entrepreneurial Alertness (ENAL)	6. I like to see and think about the same thing from different perspectives	0.522	0.903	0.614
	7. I can reorganize and unite several seemingly unrelated things	0.686		
	8. I can always see useful resources	0.794		
	9. I have a strong sensitivity to things that have entrepreneurial potential	0.889		
	10. I can make quick and accurate judgments on the emergence of entrepreneurial opportunities	0.894		
Entrepreneurial tendencies (ENIN)	11. When multiple opportunities arise at the same time, I can always pick the best for me	0.849	0.920	0.742
	12. I really want to create my own business	0.871		
	13. I understand the process of creating a new business	0.803		
	14. I will try very hard to start a business	0.917		
	15. I believe I can start a successful business	0.851		

Note: Data in the table are calculated by SPSS20.0 and Mplus7.0 software; CR is the combined reliability; AVE is the average variance extracted

4.4. Correlation analysis

The four latent variables were correlated with the help of SPSS 20.0, and Table 3 shows the results of the variable correlation analysis. At the $p=0.010$ level, both college entrepreneurship education and social entrepreneurship

education were significantly correlated with entrepreneurial tendency, and entrepreneurial alertness was also significantly correlated with entrepreneurial tendency, which provided the basis for the subsequent regression analysis and mediating effect analysis.

Table 3. Data table of correlation analysis of each variable

	Entrepreneurship Education in Higher Education	Social Entrepreneurship Education	Entrepreneurial Alertness	Entrepreneurial tendencies
Entrepreneurship Education in Higher Education	1			
Social Entrepreneurship Education	0.408***	1		
Entrepreneurial Alertness	0.352***	0.419***	1	
Entrepreneurial tendencies	0.317***	0.349***	0.528***	1

Note: ** represents sig less than 0.05, *** represents sig less than 0.01

4.5. Regression analysis

The dependent variable was set as entrepreneurial propensity, and the control variables were gender, grade, and region of the family, and then entrepreneurial education and entrepreneurial alertness were set as independent variables, and regression models M1, M2, and M3 were constructed, and linear regression analysis was done separately, as shown in Table 4.

The Anova test for regression effects showed that $F=7.695$, $Sig=0.000<0.001$ in model 1, $F=11.953$, $Sig=0.000<0.001$ in model 2, and $F=20.329$, $Sig=0.000<0.001$ in model 3. indicates that the regression equation at test level $\alpha=0.05$ check is statistically significant.

Table 4. Regression model of entrepreneurial propensity

Models	M1	M2	M3
Gender	-0.279***	-0.221***	-0.164***
Grade	-0.061	-0.088	-0.112**
Province Area	-0.025	-0.007	0.008
Entrepreneurship Education in Higher Education		0.206***	
Social Entrepreneurship Education		0.283***	
Entrepreneurial Alertness			0.474***
R2	0.130	0.246	0.322
Adjust R2	0.113	0.226	0.306
Dependent variable: propensity to start a business			

Note: ** represents sig less than 0.05, *** represents sig less than 0.01

The data in model M1 show that gender is negatively related to entrepreneurial tendency, indicating that men have a stronger tendency to start a business than women and are more willing to choose entrepreneurship. The effect of grade on entrepreneurial tendency is not significant, indicating that the degree of influence on entrepreneurial tendency as college students learn more knowledge in school is not significant.

The coefficients of entrepreneurship education in colleges and universities and social entrepreneurship education in model M2 are 0.206 and 0.283, respectively, and the Sig is less than 0.010, indicating that both entrepreneurship education in colleges and universities and social entrepreneurship education can have a significant influence on college students' entrepreneurial tendency, and the influence of social entrepreneurship education on college students' entrepreneurial tendency is relatively slightly larger, which may be due to the fact that the degree of college students' receiving entrepreneurship education in school is not very different. In addition, some college students have received social entrepreneurship education, such as entrepreneurship competitions and lectures at the social level, which can deeply influence college students' entrepreneurial tendency.

The data from model M3 shows that the coefficient of entrepreneurial alertness is 0.474 and $Sig = 0.000$, indicating that entrepreneurial alertness plays a significant role in entrepreneurial propensity, and the higher the entrepreneurial alertness the stronger the entrepreneurial propensity.

4.6. Analysis of the role of intermediaries

Drawing on the three-step test for mediating role of Zhonglin Wen (2014)[26], the mediating role of entrepreneurial alertness in the influence of entrepreneurship education on entrepreneurial disposition was examined. A follow-up analysis was conducted based on the centrality of the variables entrepreneurship education in universities (EEU), social entrepreneurship education (EES), entrepreneurial alertness (ENAL), and entrepreneurial disposition (ENIN).

In the first step, the equation $ENIN=a_1 EEU+a_2 EES+e_1$ was tested to investigate whether the regression effects of the independent variables entrepreneurship education in colleges and universities (EEU) and social entrepreneurship education (EES) on the dependent variable entrepreneurial propensity (ENIN) were significant. With the help of SPSS 20.0 for data analysis, the specific regression coefficient results are shown in equation 1 in Table 5. The regression coefficients of college entrepreneurship education and social entrepreneurship education a_1 、 a_2 are 0.206 and 0.283, respectively, and the corresponding sig for both college entrepreneurship education and social entrepreneurship education is 0.000, indicating that the effect of both on entrepreneurial tendency is very significant and can be tested in the second step.

In the second step, the equation $ENAL=b_1 EEU+b_2 EES+e_2$ was tested to investigate whether the regression effects of the independent variables entrepreneurship education in colleges and universities (EEU) and social entrepreneurship education (EES) on the mediating variable entrepreneurial alertness (ENAL) were significant. The regression coefficients of equation 2 in Table 5 show that the standardized coefficients of b_1 and b_2 for entrepreneurship education in colleges and universities and social entrepreneurship education on entrepreneurial alertness are 0.277 and 0.399, respectively, and the sig is 0.000 for both, indicating that the effects of the independent variables entrepreneurship education in colleges and universities and social entrepreneurship education on entrepreneurial alertness are significant and can be tested in the third step.

In the third step, the equation $ENIN = c_1 EEU + c_2 EES + dENAL + e_3$ was tested to investigate whether the regressions of entrepreneurship education in colleges (EEU), social entrepreneurship education (EES) and entrepreneurial alertness (ENAL) on entrepreneurial propensity (ENIN) were significant. Adding the mediating variable entrepreneurial alertness to equation one yields equation three, with regression coefficients $c_1 =0.073$, $c_2 =0.092$, $d=0.480$, and sig values of 0.166 for entrepreneurship education in higher education, 0.101 for social entrepreneurship education, and 0.000 for entrepreneurial alertness, indicating that with the addition of entrepreneurial alertness, the effect of entrepreneurship education in higher education and social entrepreneurship education on the dependent variable entrepreneurial disposition is no longer significant, while the added entrepreneurial vigilance has a very significant effect on entrepreneurial disposition, indicating that entrepreneurial vigilance assumes a fully mediating role in the effect of entrepreneurship education on entrepreneurial disposition.

Table 5. Summary of the regression results of entrepreneurial vigilance mediation test

	Equation I	Equation II	Equation 3
	Entrepreneurial tendencies on the return of entrepreneurship education	Entrepreneurial alertness returns to entrepreneurship education	Entrepreneurial tendencies return to entrepreneurship education and entrepreneurial alertness
Gender	-0.221***	-0.184***	-0.133**
Grade	-0.088	0.075	-0.124**
Province	-0.007	-0.035	0.010
Entrepreneurship Education in Higher Education	0.206***	0.277***	0.073
Social Entrepreneurship Education	0.283***	0.399***	0.092
Entrepreneurial Alertness			0.480***

Note: ** represents sig less than 0.05, *** represents sig less than 0.01

5. Conclusion and Discussion

5.1. Research findings

Through combing the relevant literature on entrepreneurship education, entrepreneurial alertness, and entrepreneurial tendency, we constructed a theoretical model, conducted correlation analysis on four latent variables based on 264 valid questionnaires, and then conducted regression analysis based on the correlation analysis and mediating effect test. The conclusions of the article are as follows.

(1) In studying the effect of control variables on entrepreneurial tendency, it was found that gender has different effects on college students' entrepreneurial tendency, i.e., men's entrepreneurial tendency through entrepreneurship education or related entrepreneurial activities is significantly stronger than that of women. This may be related to the contemporary social environment and men's and women's own personalities and ideas, as men tend to have a stronger spirit of adventure and are more willing to start a business.

(2) Entrepreneurship education in colleges and universities, social entrepreneurship education and entrepreneurial alertness all have a relatively obvious positive effect on college students' entrepreneurial tendencies. Entrepreneurship education can bring more entrepreneurial knowledge to college students, enhance their opportunity and risk recognition ability, and promote their enthusiasm and enthusiasm to participate in entrepreneurial practice. Higher entrepreneurial alertness can promote individuals' discovery of entrepreneurial opportunities and more easily stimulate their willingness to start a business. The practical experience gained by college students in society is far more likely to stimulate entrepreneurial tendencies than the theoretical knowledge gained only through study in school, probably because the entrepreneurial education received by college students in school does not vary much, while the degree of entrepreneurial education received in society varies from person to person, and also college students with strong entrepreneurial tendencies are more willing to take the initiative to find various entrepreneurial resources in society, thus enhancing the possibility of their own entrepreneurial success.

(3) When the entrepreneurial alertness variable is added to the relationship between entrepreneurship education and entrepreneurial tendency, entrepreneurship education no longer has a significant effect on college students' entrepreneurial tendency, while the added entrepreneurial alertness variable shows a strong significant effect on

entrepreneurial tendency, with entrepreneurial alertness playing a fully mediating role. Students continue to enrich their entrepreneurial knowledge through entrepreneurship education in college and society, which makes entrepreneurial alertness increase, and then capture potential business opportunities, thus gaining more chances of entrepreneurial success.

5.2. Recommendations

(1) Before starting a business, college students can take the initiative to participate in various entrepreneurship education and training, including entrepreneurship education in colleges and universities and social entrepreneurship education. In terms of entrepreneurship education in colleges and universities, colleges and universities should conduct more courses and lectures on entrepreneurship, inspire college students' entrepreneurial ideas, hold innovative entrepreneurship competitions and entrepreneurial skills training or simulation exercises, so that more college students can be exposed to a variety of entrepreneurial projects during their studies. In terms of social entrepreneurship education, local governments, relevant departments and enterprises should pay more attention to carrying out entrepreneurial activities, such as business incubation base programs, competitions, entrepreneurial lectures, etc., to provide more assistance to people with entrepreneurial tendencies, which is conducive to improving one's practical ability and perceiving and cultivating a keen sense of entrepreneurial opportunities from practice.

(2) College students should pay enough attention to the cultivation of personal entrepreneurial alertness. In the process of forming entrepreneurial tendencies, entrepreneurial alertness plays an important role, and in the process of receiving entrepreneurial education, emphasis should be placed on cultivating entrepreneurial alertness of individuals. For the cultivation of entrepreneurial alertness among college students, in terms of college education, schools can use some methods to let students better receive and understand the knowledge they have learned and use it for themselves, i.e., through systematic and professional entrepreneurship courses and training, to enhance students' judgment and dispersal ability of entrepreneurial alertness as much as possible; at the social level, relevant departments in society can organize more activities related to entrepreneurship education to provide more opportunities for students to participate in entrepreneurial activities. Provide more resources in education and entrepreneurship for college

students participating in entrepreneurship activities to help them enhance their entrepreneurial alertness.

(3) The formation of entrepreneurial tendency has a certain predictive effect on the subsequent entrepreneurial behavior, which cannot be achieved without the joint efforts of universities, society and individuals. Universities and society can provide entrepreneurship education to college students, while individuals start from consolidating their own knowledge and experience to enhance their entrepreneurial alertness through entrepreneurial knowledge and experience, and then enhance their ability to identify entrepreneurial opportunities and generate entrepreneurial tendencies.

5.3. Research limitations and outlook

There are some shortcomings in the study: first, the survey data come from college students in Anhui Province, and they do not vary much in terms of receiving entrepreneurship education in school; second, there are many factors that affect entrepreneurial tendency, such as a priori knowledge, entrepreneurial thinking, social network, entrepreneurial guidance and support, etc., which can be further explored in the future; third, entrepreneurial tendency does not necessarily lead to entrepreneurial behavior directly. How entrepreneurial tendency leads to entrepreneurial behavior is a direction for further research in the future.

Acknowledgment

1. Anhui Provincial Education Department Provincial Quality Project: Supply Chain Finance(2022xxkc001).

2. Anhui University of Finance and Economics first-class courses: supply chain finance(acylkc2022017).

3. Anhui University of Finance and Economics Graduate Demonstration Course: Data Modeling and Decision Making (cxjhsfkc2209).

References

- [1] Wang GF, Liu SJ, Tang YJ. An integrated study on the factors influencing college students' entrepreneurial tendencies[J]. Shanghai Management Science, 2020, 42(5):111-118.
- [2] Tan Chao, Wang Biao. Research on the influence mechanism of entrepreneurship education and entrepreneurial tendency in applied undergraduate institutions[J]. Journal of Hunan Engineering College (Social Science Edition), 2021, 31(2):105-110.
- [3] Bird B. Implementing Entrepreneurial Ideas: The Case for Intention[J]. Academy of Management Review, 1988, 13(3): 442-453.
- [4] Shinnar R S, Hsu D K, Powell B C. Self-efficacy, Entrepreneurial Intentions, and Gender: Assessing the Impact of Entrepreneurship Education Longitudinally [J]. The International Journal of Management Education, 2014, 12(3): 561-570.
- [5] Gao Shijie, Sun Jingming. An empirical study on the relationship between entrepreneurial traits, entrepreneurial attitudes and entrepreneurial tendencies among college students: a study of college entrepreneurs in Shenyang[J]. Journal of Shenyang University (Social Science Edition), 2020, 22(1):37-41.
- [6] Dou Xiuyu. Research on entrepreneurial tendency of college students in Qinghai-Tibet Plateau and educational strategies[J]. Journal of Qinghai Normal University (Social Science Edition), 2021,43(5):139-145.
- [7] Kirzner I M, 1979, Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship [M], Chicago: The University of Chicago Press, 1979.
- [8] Hills G E, Shrader R C, Lumpkin G T. Opportunity Recognition as a Creative Process [J]. Frontiers of Entrepreneurship Research, 1999, 19(19): 216-227.
- [9] Yao, Xueke, Zhang, Ke-Ying. A study on the relationship between entrepreneurial learning and entrepreneurial intention - based on the mediating role of entrepreneurial alertness[J]. Shandong Textile Economy,2020(11):5-8.
- [10] Hu R, Wang YF, Zhang JW. Mechanisms of the role of entrepreneurship education organization on college students' entrepreneurial intention-a mediated moderating effect[J]. Educational Development Research,2018,38(11):73-79.
- [11] Zhang Xiu'e, Wang Chao. The effect of need for achievement on entrepreneurial intention - the dual mediating role of risk propensity and entrepreneurial alertness[J]. Soft Science, 2019, 33(07): 34-39.
- [12] Hu R, Feng Y, Sun Shan. Mechanisms of cognitive flexibility on college students' entrepreneurial intentions: an empirical study based on chain mediating effects[J]. Educational Development Research,2020,40(09):78-84.
- [13] Mei Qiang, Gu Jiahui, Xu Zhandong. The mediating role of entrepreneurial alertness between social networks and college students' entrepreneurial intentions- Moderated by personality traits[J]. Technology Economics,2020,39(3):169-179.
- [14] Chen C C , Greene P G , Crick A . Does Entrepreneurial Self-efficacy Distinguish Entrepreneurs from Managers? Journal of Business Venturing, 1998, 13(4):0-316.
- [15] Liu Jixiu, Li Jia, Liang Ruohong. The influence of entrepreneurship education on college students' entrepreneurial tendency in Liaoning Province [J]. Innovation and Entrepreneurship Education, 2020, 11(5):99-104.
- [16] Slip Hanrui, Li Kexin, Zhang Nan et al. Research on the effect of entrepreneurship education on college students' willingness to start a business in Beijing, Tianjin and Hebei universities[J]. Cooperative Economy and Technology,2020(1):164-165.
- [17] Zheng Xiumei, Kang Zhinan, Wang Lei. Research on the mechanism of entrepreneurship education affecting entrepreneurial intention in transportation colleges and universities [J]. Comprehensive Transportation, 2022, 44 (3): 85-89.
- [18] Brown C. Entrepreneurial Education Teaching Guide. CEL-CEE Digest 00-7[J]. Business Education, 2000:8.
- [19] Yang Xiao. Research on the path of entrepreneurship education in higher vocational institutions for cultivating students' entrepreneurial alertness [J]. Invention and Innovation (Vocational Education), 2021 (6):97+84.
- [20] Zhang Manna, Wang Jiatong, Queh Mingkun. Does the dual-innovation competition enhance the entrepreneurial intentions of higher education students? --An empirical study based on the perspectives of cognitive flexibility and entrepreneurial alertness[J]. Vocational and Technical Education, 2022, 43(5):7 5-80.
- [21] Li, G. Y.. The influence of college students' social networks on entrepreneurial alertness: the moderating utility of the college entrepreneurial environment[J]. Journal of Nanjing University of Aeronautics and Astronautics (Social Science Edition), 2022, 24(1):108-112.
- [22] Song H. M., Xu M., Guo S. X. Social entrepreneurship education: the evolutionary logic and reform direction of entrepreneurship education in China's universities [J]. China Agricultural Education,2021,22(03):58-66.

- [23] Huang Ying, Zhang Shulin, Gu Jibao. A study on the synergistic effects of entrepreneurship education and social capital on graduate students' intention to start a business[J]. Journal of Educational Scholarship,2016(7):73-80.
- [24] Tian X. Research on the relationship between entrepreneurial motivation, entrepreneurial alertness and entrepreneurial opportunity identification[D]. Southwest Jiaotong University, 2016.
- [25] Chen Wei. The influence of individual entrepreneurial factors on entrepreneurial propensity: the mediating role of perceived environmental permissiveness[D]. Jilin University, 2010.
- [26] Wen Zhonglin, Ye Baojuan. Mediated effects analysis: Methods and model development [J]. Advances in Psychological Science, 2014, 22(5): 731-745.