Mediating Role of Entrepreneurial Self-Efficacy in Entrepreneurial Learning on Higher Vocational College Students' Entrepreneurial Intention

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Abstract

Entrepreneurship is an effective means to promote innovation and economic progress. Under the influence of policy encouragement and economic situation, college students have become the emerging entrepreneurial subjects. From the perspective of Reciprocal Determinism and Planned Behavior proposed by Ajzen (1991), this paper analyzes the effects of college students' entrepreneurial learning and self-efficacy on their entrepreneurial intention. Sample of 428 were conducted in higher vocational college students in China. The hypotheses were tested by using Structural Equation Model. The results was indicated that firstly, higher vocational college students' entrepreneurial studying has a significant positive effect on their entrepreneurial intention. Secondly, higher vocational college students' entrepreneurial self-efficacy has a significant positive effect on the entrepreneurial intention. Thirdly, higher vocational college students' entrepreneurial studying has a significant positive effect on their entrepreneurial self-efficacy. And fourthly, the entrepreneurial self-efficacy plays an intermediary role in the relationship between entrepreneurial learning and entrepreneurial intention.

Keywords: Entrepreneurial Learning; Entrepreneurial Self-efficacy; Entrepreneurial Intention

Introduction

With the development of economic globalization and the intensification of international competition, entrepreneurial activities have become the source of power for economic growth in various countries, and the "entrepreneurial economy" has gradually emerged as a new economic growth structure model (Bird, 1988, 1995; Birch, 1987). Many countries in the world hope to contribute to the national eco*nomy through entrepreneurship. Entrepreneurs were all developed by potential entrepreneurs. More than 30% of entrepreneurs in China were young people aged 25-34, and the 18-34 years-old group accounted for about half of the total number of entrepreneurs (Global Entrepreneurship Observation (GEM) 2017/2018 China Report, 2019)

There were 2,956 colleges and universities, including 1,178 vocational colleges in China (Directory of Chinese Higher Schools of the Ministry of Education, 2019).

As an important part of higher education, higher vocational education has already accounted for half of china's higher education. Therefore, the government and education departments have introduced some entrepreneurial measures to encourage higher vocational college students to start their own businesses, but the effect is not satisfactory. The problems of low entrepreneurial intention and low entrepreneurial quality are more prominent, according to statistics from the American Educational Research Institute, in the United States, the proportion of college students who start their own businesses is as high as 20% to 30%, which is much higher than the average of 2% in developing countries. The entrepreneurial success rate of American college students is about 30%, compared to only 10% in China.

In additions, entrepreneurial intention is the most important predictor for an individual's entrepreneurial behaviour (Lüthje & Franke, 2003) American scholar Bird first proposed Entrepreneurial Intention. He believed that the mental state that entrepreneurs presented when they achieved a certain stage of entrepreneurial goals was entrepreneurial intention, which would be affected by the entrepreneur's behavior, attitude, attention and other factors (Bird, 1988). Most researchers believe that entrepreneurial intention was the most critical and sustainable concept for studying the entrepreneurial behavior of individual potential entrepreneurs (Ning Depeng, 2017) Studies have shown that age, gender, education level, personality characteristics, entrepreneurial knowledge and ability, desire for achievement, risk-taking spirit and value orientation are the key factors (Krueger & Brazeal, 1994). Fayolle, Liñán, and Moriano (2014) proposed that future research on Entrepreneurial intention in academia should be based on the creation of relevant core models and the exploration of methods and theories.

Research Objective

Therefore, this article examines the mediating role of entrepreneurial self-efficacy in entrepreneurial learning and entrepreneurial intention from the perspective of higher vocational colleges.

Hypothesis of research

Hypothesis 1: Entrepreneurial learning (H1a: Cognitive Learning, H1b: Experiential Learning, H1c: Practical Learning) of higher vocational college students has a positive effect on their entrepreneurial intention.

Hypothesis 2: Higher vocational students' entrepreneurial learning (H2a, H2b, H2c: Cognitive Learning, H2d, H2e, H2f: Experiential Learning, H2g, H2h, H2i: Practical Learning) has a positive effect on their entrepreneurial self-efficacy (Opportunity Self-efficacy, Risk-taking Self-efficacy, Management Self-efficacy).

Hypothesis 3: Higher vocational students' entrepreneurial self-efficacy (H3a: Cognitive Learning, H3b: Experiential Learning, H3c: Practical Learning) has a positive effect on their entrepreneurial intention.

Hypothesis 4: The positive relationship between entrepreneurial learning and entrepreneurial intentions is mediated by entrepreneurial self-efficacy.

Research Framework

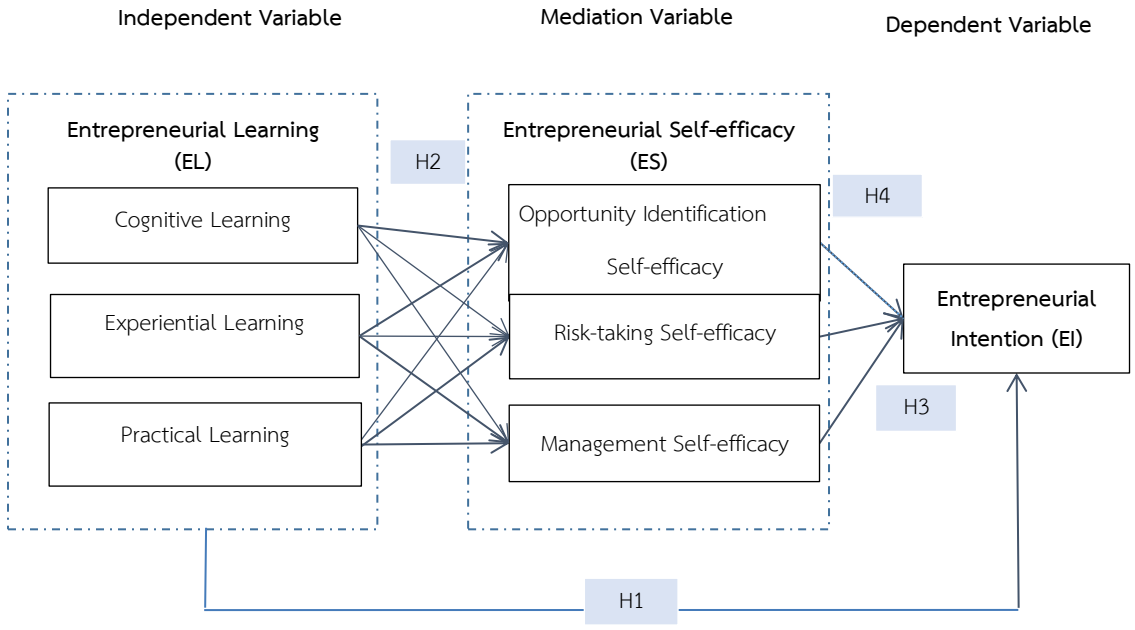

Figure1: Research framework-The Effect of Entrepreneurial Learning and Self-efficacy on Entrepreneurial Intention of China higher Vocational College Students

Research Methodology

The data used in this study was collected through a questionnaire survey. The questionnaire were distributed among the students of universities in 10 vocational colleges in Shaanxi. These schools included both state-level demonstration colleges and common vocational colleges, both technical colleges and finance and economics colleges, both private colleges and public colleges. The data from these colleges had higher typicality and representative. Since freshmen just entered the school, their entrepreneurial studies were relatively small, so sophomore and junior students were selected for this study. At the same time, Shaanxi Province had an entrepreneurial policy for college students that college students had to participate in the entrepreneurial plan that could continue to stay on campus to carry out entrepreneurial activities within 3 years after graduation, so these students were also the population of this study. We conducted the data collecting. 450 questionnaires were distributed, 442 questionnaires were returned, and the questionnaire recovery rate 98.2%, and 428 valid questionnaires, the valid rate of questionnaires is 96.8% (Hair, Black, Babin & Anderson, 2010). Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) were used to analyze the data analysis (Hair et al., 2006).

Results

Structural Equation Model (SEM) Analysis

Although the above uses correlation analysis for validity tests, however, when considering the relationship between the variables, due to the certain interaction between the variables, the conclusion of the correlation of the variables may not be correct. As a newly developed statistical method, the SEM can solve the situation that there are multiple dependent variables that need to be regressed and there is a correlation between the dependent variables. Therefore, this article uses Structural Equation Model to test the hypothesis proposed in this research

STEP1: Test of the Complete Model

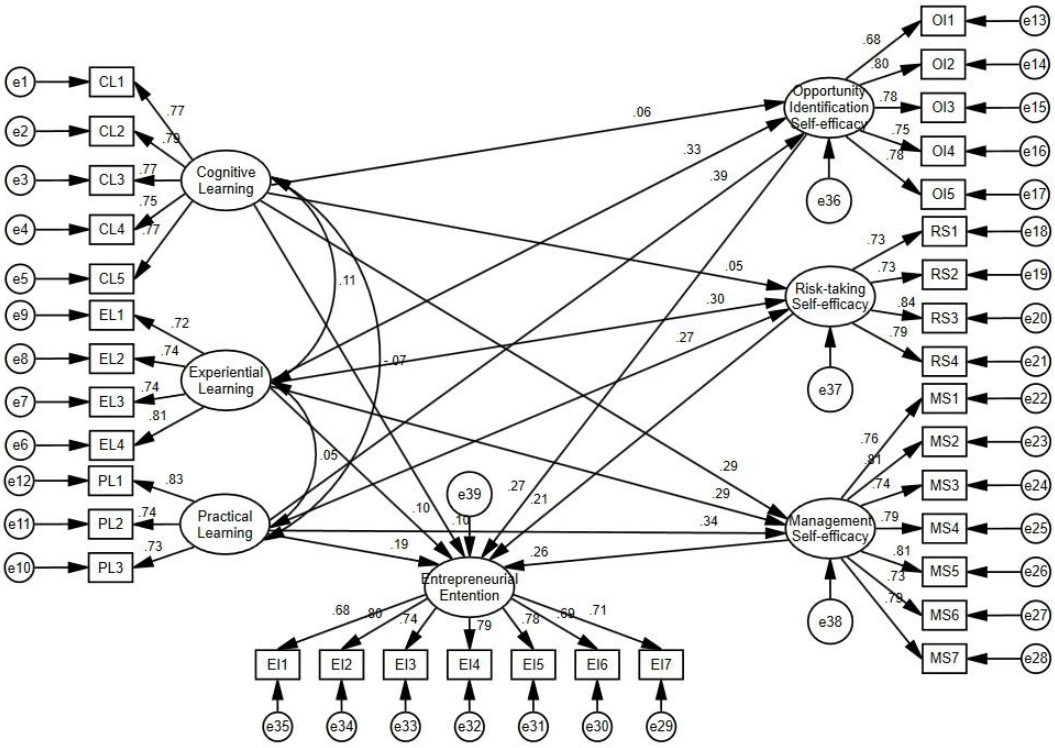

Figure2: The complete structural equation model of entrepreneurial learning, entrepreneurial self-efficacy and entrepreneurial intention

The goodness-of-fit of the Complete model is good, the CMIN/DF is 1.068<3.000, (χ2/df = 1.083<3.000; CFI=0.994; GFI=0.930; TLI=0.993; IFI=0.994; RMSEA=0.014), the model fit was good and the model results were convinced.

Table 2: Complete Model Verification (a, b, c)

Path		Point estimate		Coefficient product		Bootstrapping Bias-Corrected 95%		Percentile 95%		P
Independent variable	Dependent variable	Std.	Unstd.	SE	Z	Lower	Upper	Lower	Upper	
PL		0.336	0.346	0.054	6.407	0.246	0.457	0.246	0.457	***
EL	MS	0.295	0.283	0.051	5.549	0.186	0.387	0.185	0.386	***
CL		0.293	0.327	0.055	5.945	0.218	0.434	0.217	0.433	***
PL	RS	0.270	0.267	0.056	4.768	0.159	0.384	0.155	0.380	***

EL		0.300	0.277	0.052	5.327	0.178	0.384	0.177	0.383	***
CL		0.046	0.049	0.060	0.817	-0.069	0.166	-0.070	0.165	Not support
PL		0.389	0.356	0.052	6.846	0.257	0.465	0.256	0.463	***
EL	OS	0.329	0.281	0.045	6.244	0.192	0.373	0.192	0.373	***
CL		0.062	0.061	0.052	1.173	-0.042	0.162	-0.038	0.167	Not support
PL		0.187	0.181	0.059	3.068	0.069	0.304	0.066	0.301	***
EL		0.101	0.091	0.051	1.784	-0.009	0.188	-0.008	0.191	Not support
CL	EI	0.104	0.109	0.048	2.271	0.021	0.212	0.018	0.209	***
MS		0.263	0.247	0.054	4.574	0.144	0.353	0.143	0.352	***
RS		0.213	0.208	0.050	4.160	0.113	0.307	0.114	0.309	***
OS		0.268	0.283	0.064	4.422	0.170	0.420	0.168	0.416	***

Note.2000 Bootstrapping samples

The above table is the Complete Model Verification (a, b, c) table. From the table, we know that the first row in the table is the independent variable is entrepreneurial practice learning, and the dependent variable is management self-efficacy, and its standardized coefficient is 0.336 >0, the absolute value of the Z value is 6.407>1.96, the lower limit of the interval of Bias-Corrected in Bootstrapping test is 0.246, the upper limit of the interval is 0.457, the interval does not contain 0, the lower limit of the interval of Percentile in Bootstrapping test It is 0.246, the upper limit value of the interval is 0.457, and the interval does not contain 0; comprehensively, the direct influence of entrepreneurial practice learning on the overall model of management self-efficacy is significant, and the influence direction is positive. Hypothesis H2i is tested. For the same reason, H2c, H2d, H2e, H2f, H2g, H2h and H3a, H3b, H3c are true.

But, the sixth row in the table is that the relationship between entrepreneurial cognitive learning risk-taking self-efficacy. Its standardized coefficient is 0.046>0, and the absolute value of the Z value is 0.817<1.96, which is under the Bias-Corrected interval in the Bootstrapping test The limit is -0.069, the upper limit of the interval is 0.166, the interval contains 0, the lower limit of the interval of Percentile in Bootstrapping test is -0.070, the upper limit of the interval is 0.165, and the interval contains 0. In general, entrepreneurial cognitive learning the direct impact on the overall model of risk-taking self-efficacy is not significant. Hypothesis H2a is not support.

For the same reason, H2b is not true.

At same time, from the data in line 11, we find that entrepreneurial experiential learning has no significant effect on entrepreneurial intention in the Complete Model. We will analyze this phenomenon in the mediating effect.

STEP2: Mediating Effect Test

Table 3: The result of Mediating verification (a*b)

Path			Point estimate	Coefficient product		Bootstrapping				P
Independent variable	Dependent variable		Std. Unstd.			Bias-Corrected 95%		Percentile 95%		
				SE	Z	Lower	Upper	Lower	Upper	
	OS		0.017	0.015	1.133	-0.010	0.050	-0.011	0.049	Not support
CL	RS		0.010	0.013	0.769	-0.015	0.038	-0.016	0.037	Not support
	MS		0.081	0.022	3.682	0.044	0.133	0.042	0.127	***
	OS		0.080	0.023	3.478	0.044	0.134	0.040	0.130	***
EL	RS	EI	0.058	0.017	3.412	0.030	0.098	0.029	0.095	***
	MS		0.070	0.020	3.500	0.038	0.118	0.037	0.113	***
	OS		0.101	0.026	3.885	0.057	0.161	0.055	0.157	***
PL	RS		0.056	0.018	3.111	0.027	0.099	0.025	0.094	***
	MS		0.086	0.022	3.909	0.050	0.139	0.047	0.133	***

From the table, we know that the effect of entrepreneurial cognitive learning on entrepreneurial intention through Opportunity Identification self-efficacy and risk-taking self-efficacy is not significant in the complete model. So, the Hypothesis H4a, H4d is not support. The Hypothesis H4b, H4c, H4e, H4f, H4g, H4h, H4i are true.

Conclusions

According to the conclusions, universities can start from two aspects: improving the entrepreneurial learning system, enhancing the entrepreneurial efficacy to strengthen the entrepreneurial intention of college students in the future.

For college students, they mainly get entrepreneurial knowledge through the government, schools

and training institutions. So improve the entrepreneurial learning system is most important. Colleges and educational institutions should provide entrepreneurial learning system which include CL, EL and PL, so as to improve students' entrepreneurial self-efficacy. To understand the entrepreneurial process and get more experience from others through cognitive learning, learning by doing through practical learning, regardless of failure or success, reflect and practice again through experiential learning (Hamilton, 2011). Some scholars believe that entrepreneurship education ignored the cognitive (risk, belief, intention, etc.) aspects of entrepreneurs (Chen et al., 1998). We can be more confident in suggesting teachers (scholars, lecturers and coaches) not only how to impart entrepreneurial knowledge to potential entrepreneurs, but more importantly to change their "mental model" (Souitaris et al., 2007) that is, to improve their entrepreneurial self-efficacy. Entrepreneurship education in universities can develop and strengthen the entrepreneurial self-efficacy of college students through different ways (Wood & Bandura, 1989)

Pay more attention to the entrepreneurial practice process and experience learning. The skills and abilities of college students can only be improved in practice. Therefore, colleges must pay attention to the students' practical process, which can be monitored from the following aspects: firstly, it is necessary to organize practical activities and increase practical courses, enhance their entrepreneurial vigilance. Secondly, based on the college's entrepreneurial space, colleges should provide free support services such as venues, entrepreneurial project guidance and other supportive services for students who intend to start a business, so that college students can experience the entire process of entrepreneurship. Thirdly, colleges should strengthen communication and contact with entrepreneurial enterprises. The fresh experience of entrepreneurial practice can easily gain the resonance of college students, especially those preparing to start a business.

In the process of practicing entrepreneurship training, we should focus on experiential learning. Experiential learning is an important source of enhancing entrepreneurial self-efficacy and entrepreneurial intentions (Bandura, 1977; Lumpkin & Dess, 2001) Experiential learning brings information about customers, competitors, technology, etc. to potential entrepreneurs, and builds professional knowledge and skills in related industries. The more extensive the experience they

have, the stronger the potential entrepreneurs' ability to comprehend new information and apply the new information of new products or services in the future. The environment faced by entrepreneurs is also complex and dynamic. Enhancing practical learning in entrepreneurship and attaching importance to learning and summarizing entrepreneurial experience are important for stimulating entrepreneurship (Photchanachan & Thechatakerng, 2019). Simply acquiring entrepreneurial knowledge through cognitive learning is not enough to deal with these uncertainties. Individuals use their accumulated experience and knowledge into actual entrepreneurial activities and then transformed it into new and more practical knowledge. Therefore, entrepreneurship education is not only "on paper", but increase practical entrepreneurial experience opportunities and strengthens practical entrepreneurial experience learning as well.

Discussions

The result support that three dimensions of EL have a significant effect on EI, among which entrepreneurial practice learning has the most significant effect, followed by entrepreneurial experience learning and entrepreneurial cognitive learning. It is in line with previous research. Gist (1987) indicated that entrepreneurs can not only gain experience through practice to enhance entrepreneurial self-efficacy, but also gain experience through observational learning, which is slightly less effective than the first one .And, this result is in line with the reciprocal determinism (Bandura,1986) When individual learning activities are organized, a good entrepreneurial environment is created, students' entrepreneurial quality is strengthened, and the individual's perception and action ability are enhanced, so the entrepreneurial intention is significantly enhanced. This result brings exciting good news to the Chinese government, vocational colleges and related institutions, which confirms that the current entrepreneurship education is effective. They are different from the research conclusions reached by some scholars. For example, the study of Adcroft, Willis and Dhaliwal, 2004 pointed out that they believe that "entrepreneurs cannot be built, but can only be identified" (Souitaris et al., 2007) empirical research results show that there is no significant relationship between entrepreneurial education curriculum and entrepreneurial behavior.

According to the results of empirical analysis, the EL and PL have significant effects on all dimensions of ES. According to the theory of self-efficacy, it is pointed out that the individual's self-efficacy influenced by life experience, environment and other factors, which fully proves that the experience of learning success and failure and actively taking part in entrepreneurial activities can improve students' self-confidence required in management ability, risk-taking ability, opportunity identification ability, etc. to have a stronger entrepreneurial intention (Chen Hansong, Chen Xuanyu & Lin Chen, 2017) Among them, entrepreneurial practice learning has a more significant effect on improving self-efficacy of opportunity identification. In the process of practical learning, entrepreneurs will increase their confidence in identifying business opportunities; while experiential learning has a more significant effect on self-efficacy of risk-taking. This result indicated whether it is a failure or a success form past entrepreneurial experience, it can help entrepreneurs identify their risk-taking ability. It is in line with some previous research. The research of Starr and Fondas (1992) pointed out that the previous experience of entrepreneurs can help entrepreneurs form specific entrepreneurial attitudes, beliefs, and abilities. However, CL can improve learners' management self-efficacy, it has no significant effect on RS and OS. It is in line with previous research. Observational learning provides a way to enhance self-efficacy, which is slightly less effective than experiential learning (GIST, 1987; Wood & Bandura, 1989) After analysis, the current college entrepreneurship knowledge learning involves more management knowledge such as enterprise creation and human resource management, but lack of opportunity identification and risk analysis. Learning from other people's failure and success experience cannot effectively improve the sense of opportunity and risk-taking efficiency, and even bring fear, so they are more reluctant to try. This provides a basis for us to improve the learning content of entrepreneurial cognition.

The influence of OS and MS on entrepreneurial intention was stronger, while the effect of RS efficiency was weaker. By analyzing the reasons, individuals think that they have a strong risk tolerance, which does not mean that they are willing to take risks. Moreover, due to the lack of entrepreneurial experience of college students, the prediction of entrepreneurial risks is not very accurate. They have entrepreneurial intention because they think they can capture

more business opportunities and prefer to the identity of managers.

According to the results, OS and RS did not mediate the effect of CL on EI, while MS did. Therefore, El can help learners to build management self-confidence. However, this result reflects that classroom teaching pays more attention to the business management process, but ignores the contents of opportunity identification and risk taking. ES plays a mediating role in the influence of EL and PL on EI. EL and PL can effectively enhance entrepreneurial self-efficacy, thus enhancing entrepreneurial willingness (Li Jing, Xie Jingyu & Lin Song, 2017)

Research suggestions

Future studies could apply this model over a larger sample or a longitudinal study. For example, social entrepreneurs and even part-time entrepreneurs should also be studied. In addition, investigations should also be conducted on college students in different regions, taking into account the influence of external conditions such as the regional economy on this research, so that the research results have a higher universality. This article does not involve team-level entrepreneurial attitudes and behaviors, such as team entrepreneurial self-efficacy, team entrepreneurial intention, etc. The further research is mechanism and context of the above result variables.

References

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review,* 84(2), 191.

Bandura, A. (1986). Regulation of cognitive processes through perceived self-efficacy. *Developmental psychology,* 25(5), 729.

Birch, D. G. (1987). *Job creation in America: How our smallest companies put the most people to work*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of management Review, 13(3), 442-453.*

Bird, B. (1995), “Towards a theory of entrepreneurial competency”, Advances in Entrepreneurship. *Firm Emergence and Growth,* Vol. 2,51-72.

Chen Hansong, Chen Xuanyu & Lin Chen. (2017). The relationship between entrepreneurial learning and entrepreneurial intention: The role of social networks and entrepreneurial self-efficacy. *Economics and Management.* Review (05), 28-33.

Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?. *Journal of business venturing,* 13(4), 295-316.

Fayolle, A., Liñán, F., & Moriano, J. A. (2014). Beyond entrepreneurial intentions: Values and motivations in entrepreneurship. *International Entrepreneurship and Management Journal*, *10*(4), 679–689.

Gist M E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of management review*, 12(3), 472-485.

Hair, J. F., et al. (2006) *Multivariate data analysis*, Saddle River, NJ: Pearson Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010) *Multivariate data analysis: A global perspective.* (7th ed). New Jersey: Pearson Education Inc.

Hamilton E. (2011). Entrepreneurial learning in Family Business. *Journal of Small Business and Enterprise Development,* 2011, 18(1),8-26.

Krueger Jr, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship theory and practice,* 18(3), 91-104.

Li Jing, Xie Jingyu & Lin Song. (2017). Do role models trigger individual entrepreneurship? A study of entrepreneurial events based on a sample of farmers. *Management.* Review (03), 27-39.

Lumpkin G T, Dess G G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of business venturing*, 16(5), 429-451.

Lüthje C, & Franke N. (2003). The ‘making’ of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT[J]. *R&D Management,* 2003, 33(2): 135-147.

Ning Depeng. (2017). Research on the impact mechanism of entrepreneurship education on entrepreneurial behavior. *Chinese Higher Education*, (10), 55-57.

Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566–591.

Starr, J. A., & Fondas, N. (1992). A Model of Entrepreneurial Socialization and Organization Formation. *Entrepreneurship Theory and Practice*, 17(1), 67–76.

Wood, R., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology,* 56(3), 407–415.