A Study on the Influence of Entrepreneurship Education on the Entrepreneurship Intention of Chinese University Students

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Abstract In recent years, college students have emerged as the main players in Chinese innovation and start-ups. Based on the TPB theory, this paper introduced the start-up education variables and established the influence model of start-up education for university students in China on the motivation of start-up. In this paper, a questionnaire containing five variables, including behavior attitude, subjective norms, perceived behavior control, entrepreneurship education and entrepreneurial intention, was investigated for students from six universities in Jilin Province, China, and statistical analysis was carried out using SPSS23.0. The study found that the entrepreneurship education of college students had the greatest impact on entrepreneurial intentions compared to the three elements of planned behavioral theory: behavioral attitudes, subjective norms and perceived behavioral control. This paper has a guiding significance in strengthening start-up education in universities. This study was conducted only for students from six universities in Jilin Province, China, and the scope of the study needs to be expanded throughout China in order to generalize the research results.

Key Words : Entrepreneurship education, TPB Theory, Entrepreneurial intention, behavior attitude, perceived behavior control

요약 최근 몇 년 사이 대학생들이 중국 혁신과 창업의 주역으로 부상하고 있다. 본 논문은 TPB 이론을 바탕으로 창업 교육 변수를 도입하고 대학생을 대상으로 한 창업 교육이 창업 의도에 미치는 영향 모델을 구축하였다. 본 논문에서는 행동 태도, 주관적 규범, 인지적 행동조절, 기업가정신 교육 및 기업가적 의도 등 5가지 변수가 포함된 설문을 활용하여 중국 길림성에 소재한 6개 대학의 학생들을 대상으로 조사하였고 SPSS23.0을 사용하여 통계분석을 수행하였다. 연구 결과 계획된 행동 이론의 세 가지 요소인 행동 태도, 주관적 규범, 인지적 행동조절과 비교했을 때 대학생들의 기업가정신 교육이 기업가적 의도에 가장 큰 영향을 미친다는 것을 확인하였다. 본 논문은 대학에서 창업 교육을 강화하는 데 선도적 의의가 있다. 본 연구는 길림성 소재 6개 대학 학생들을 대상으로 한 것으로 연구결과를 일반화하기 위해서는 향후 중국 전역으로 연구범위를 확장할 필요가 있다.

주제어 : 기업가정신 교육, TPB 이론, 기업가적 의도, 행동태도, 인지적 행동조절

*This Paper was supported by project fund from Leading Group Office of Jilin Provincial Educational Science NO.GH18634
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Received May 11, 2020 Revised June 5, 2020
Accepted August 20, 2020 Published August 28, 2020
1. Introduction

In recent years, the research on the influence of entrepreneurship education on entrepreneurial intention has become one of the hot topics in entrepreneurship research. Entrepreneurship education was put forward by UNESCO at the end of 1989. Its basic goal is to cultivate students' entrepreneurial skills and spirit. This goal is the goal of higher education, because it is non-utilitarian, so it is paid attention to by all countries.[1]. In the past 10 years, the research on entrepreneurship education has been heating up rapidly in various parts of China and increasingly become the focus of attention in colleges and universities. Entrepreneurial intention is an individual's inner desire and idea for entrepreneurial behavior, which is the direct element of studying college students' entrepreneurial behavior and the best entry point. Entrepreneurial intention has become the focus of entrepreneurship research all over the world. There are many researches on entrepreneurial intention in South Korea, mainly focusing on empirical research. The study of entrepreneurial intention in China is not long and mainly focuses on theoretical research. TPB theory is popular in Korean academic circles to predict the entrepreneurial intention of individuals. Considering that entrepreneurship education has been popularized in many universities in China, the research on entrepreneurship education in China is still in the preliminary stage. It is of great significance to further strengthen the research on entrepreneurship education for college students, which can enhance the innovation ability of college students and promote the national economic reform. The purpose of this research includes the following three aspects: first, to provide content and systematic guidance for entrepreneurship course education in colleges and universities; Secondly, it provides theoretical basis for the reform of entrepreneurship education. Third, further explore the impact of the introduction of entrepreneurship education on entrepreneurial willingness. This paper introduces entrepreneurship education into the theoretical model of planned behavior and extends the original model, which is also the innovation of this paper.

2. Literature Review

Theory of Planned Behavior (TPB) is mainly applied to the interpretation and prediction of various behaviors Planned behavior theory is an extended model proposed by Ajzen in 1985. The theory holds that an individual's purposeful and planned rational behavior is governed and influenced by his behavioral intention[2]. TPB believes that the strength of individual behavioral intention is influenced by three factors: first, behavioral attitude (BA), second, subjective norm (SN), and third, perceived behavioral control (PBC). From the perspective of ability, scholar Brown believes that the purpose of entrepreneurship education (EE) is to cultivate people's entrepreneurial skills, values and the ability to identify business opportunities. In 2010, scholar Riahi proposed that the content of entrepreneurship education includes the cultivation of conventional entrepreneurship strategies and entrepreneurial thinking, as well as the cultivation of students' entrepreneurship and entrepreneurial attitudes. Scholars Q. Z. Lin think entrepreneurship education from the broad sense is a kind of special education activities, its teaching goal is to cultivate students' comprehensive ability to put ideas into practice, from the narrow sense he think entrepreneurship education is to cultivate students the ability to start a business, this is a very specific ability, curriculum content is also very specific, including market analysis, accounting,
entrepreneurship, business start-up process, enterprise management, product development, etc. After summarizes the research results of scholars, In this paper, entrepreneurship education is a training model. Colleges and universities should create an entrepreneurial atmosphere on campus and design a curriculum system of entrepreneurship knowledge. At the same time, they should carry out a variety of entrepreneurial practice activities to improve students’ entrepreneurial ability and cultivate their entrepreneurial passion through a series of combinations.

3. Research Model and Hypothesis

3.1 Research Model

In this study, based on the theory of planned behavior, variables of entrepreneurship education were introduced to build a relationship model, which reflected the relationship between entrepreneurship education and entrepreneurial intention from the perspective of TPB, as shown in Fig. 1.

Fig. 1. The relationship model of the influence of entrepreneurship education on entrepreneurship intention

3.2 Research Hypothesis

Behavioral attitude (BA) is the first element in the theory of planned behavior. Attitude is the evaluation of whether certain behaviors or things are accepted or not and the degree of liking by the individual through learning and personal experience. Through qualitative empirical analysis of college students, B. B. Li et al. found that challenges, independence and avoidance of workload are the most direct manifestations of their entrepreneurs’ attitudes towards entrepreneurship[3]. L. F. Wu, based on China's traditional cultural background and national conditions, found that Chinese entrepreneurs' attitudes had a direct and significant impact on their entrepreneurial behaviors, and verified relevant empirical analysis abroad[4]. Therefore, this study proposes the following hypothesis:

H1: The more positive the entrepreneurial attitude of college students, the stronger the entrepreneurial intention of college students.

Subjective norm (SN) is the second element in the theory of planned behavior. Ajzen once proposed that subjective norms are the social pressures that people feel when they decide to do something, or not to do something.[5]. Brayfield and Kolvereid created through entrepreneurial intention. The industry event model verifies that the subjective norms of entrepreneurs are closely related to their entrepreneurial intentions[6]. Bulter & Herring empirically found that if the parents in the family also had entrepreneurial experience, it would directly affect the entrepreneurial intention of the entrepreneurs[7]. Y. Q. Li et al. found that the family and friends of middle school students with traditional culture had a significant impact on their entrepreneurship[8]. The empirical study of Q. Xinalso verified the above research[9]. Therefore, this study proposes the following hypothesis:

H2: the greater the subjective standard support of college students’ entrepreneurship, the stronger the entrepreneurial intention of college students.

Perceptual behavior control (PBC) is the
third element in the theory of planned behavior. Perceptual behavioral control is the most important variable that distinguishes TPB from TRA(Theory of Reasoned Action). Perceptual behavioral control refers to the situation in which an individual of a certain behavior understands and recognizes the difficulty of carrying out a certain behavior, evaluates whether the behavior should continue or be restricted, and finally takes a specific action.[5]. Brayfield found that the difficulty of entrepreneurs’ entrepreneurial behaviors would affect their entrepreneurial cognition and risk bearing ability[6]. Q. Xin found that only by improving the perception of entrepreneurial behavior control can entrepreneurs’ entrepreneurial intention be effectively improved[9]. Therefore, this study proposes the following hypothesis:

H3: the stronger the entrepreneurial perceptual behavior control of college students, the stronger the entrepreneurial intention of college students.

Behavioral intention(BI) is the fourth element in the theory of planned behavior. So, people with entrepreneurial ideas can be interpreted as having entrepreneurial intentions. (EI). Ajzen proposed that behavioral intention is an individual’s future behavior or expectation of the future. Is defined as an action that the individual anticipates or plans to take in the future[5]. Thompson believes that entrepreneurial intention is directly related to starting a new business [10]. N. F. J. Krueger believes that the behavioral intention of entrepreneurs is the best and most direct indicator to predict entrepreneurial behavior[11].

Entrepreneurial intention is widely regarded as an important reference index to predict the occurrence of entrepreneurial action. Many research results show that entrepreneurship education(EE) plays an important role in the generation of entrepreneurial intention, and the higher the education level, the higher the probability of choosing entrepreneurship. The research results of T.V. Menzies and J.C. Paradi show that the entrepreneurial intention of students is influenced by the entrepreneurship education courses they attend, and the proportion of students who take a certain entrepreneurship course in the study is significantly higher than that of students who do not take the course [12]. Scholar M. Solesvik et al. also found that the higher the students’ perception of the feasibility of entrepreneurship, the higher their entrepreneurial intention, and entrepreneurship education can promote the entrepreneurial intention of students [13]. B. C. Martin et al. found through statistical analysis of more than 16,600 samples that entrepreneurship education can improve the knowledge and ability of individuals to start businesses and promote the improvement of their relevant human capital [14]. Based on this, in order to reveal the impact of college students’ entrepreneurship education on their entrepreneurial intention, the following hypothesis was proposed.

H4: entrepreneurship education has a significant positive impact on entrepreneurial intention.

4. Research design

According to the research needs, except for basic information such as demographic characteristics, all the scale questions were measured by Likert’s 7-point scale[15]. The questionnaire involves five variables: behavioral attitude, subjective norms, perceived behavioral control, entrepreneurship education, and entrepreneurial intention. The measurement items of these latent variables are selected on the basis of reading relevant literature. Have scientific nature, rationality and stability, in order to make the scale questionnaire on a small scale has carried on the preliminary
investigation, project analysis using SPSS23.0 needle, among them, the KMO value of 0.699, is greater than 0.5 and Bartlett sphere test value of 722.463, degrees of df value is 231, the level of significance p-value is 0.000 (< 0.05), the existence question has carried on the revision and improvement of the 15 last item. Formal questionnaire, through the network in Jilin University, Northeast Normal University, Changchun University of Science and Technology, Jilin Engineering Normal University, Changchun Normal University to investigate 6 colleges, the survey and began in May 2019 to June, 300 questionnaires out, recycling questionnaire 292, eliminate invalid questionnaire, altogether effective questionnaire 281, effective rate was 93.7%.In this study, the number of items in the scale is 15, and the sample size (292) has reached the prescribed standard of 10 times, which can be used to explore the relationship between variables in the model. The basic information of the respondents is shown in Table 1.

5. Empirical analysis

5.1 Exploratory factor analysis

Combined with previous studies, various factors were taken as measurement variables. Then factor analysis and reliability analysis were carried out to verify the scientifcicy and credibility of the extracted variables. The analysis results are shown in Table 2. Exploratory factor analysis to avoid multicollinearity, use of Varimax, analyzed the main factors, the attitude to the first element behavior (BA), exploratory factor analysis, according to the results of the analysis of the KMO is 0.799, higher than the standard value of 0.5, Bartlett ball test (Bartlett’s test of sphericity = 78.356 (p < .001,), and significant results achieved. 000, suitable for factor analysis, exploratory factor analysis results, the attitude is divided into BA1, BA2, BA3 by three dimensions, Among them, factor load value is between.759-.889 (≥.4), the common value is between .825-.985 (≥.4), initial characteristic value is 3.786(≥1.0), total difference is 72.433%, indicating higher force. The attitude is composed of three questions with the reliability of.829(≥.7), indicating that the data has good reliability.

Exploratory factor analysis was conducted on the subjective specification of the second element (SN), and the results showed that KMO was 0.891, higher than the standard value 0.5, Bartlett’s test of sphericity=159.213 (p<.001), and the significance was up to.000, suitable for factor analysis. Exploratory factor analysis results show that subjective normative factors are divided into three scales: SN1, SN2, and SN3. The factor load value was .923-.978 (≥.4), the commonality value was .834-.956 (≥.4), and the characteristic value was 3.468(≥1.0). In addition, the total difference
Table 2. Results of exploratory factor analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Variable</th>
<th>λ</th>
<th>C</th>
<th>EV</th>
<th>VE</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>BA1 I think starting a business is a worthwhile activity</td>
<td>0.889</td>
<td>0.985</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BA2 I think entrepreneurship is a necessary behavior</td>
<td>0.875</td>
<td>0.766</td>
<td>3.786</td>
<td>72.433</td>
<td>0.829</td>
</tr>
<tr>
<td></td>
<td>BA3 I think entrepreneurship is a meaningful activity</td>
<td>0.759</td>
<td>0.825</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>SN1 The people who were important to me were supportive</td>
<td>0.955</td>
<td>0.912</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SN2 The people who matter to me understand my business</td>
<td>0.923</td>
<td>0.834</td>
<td>3.468</td>
<td>85.338</td>
<td>0.911</td>
</tr>
<tr>
<td></td>
<td>SN3 The people who were important to me agreed</td>
<td>0.978</td>
<td>0.956</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>PBC1 I think it’s up to you to start a business</td>
<td>0.871</td>
<td>0.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PBC2 I think I can start a business</td>
<td>0.766</td>
<td>0.605</td>
<td>1.824</td>
<td>62.116</td>
<td>0.739</td>
</tr>
<tr>
<td></td>
<td>PBC3 I think I can start my own business if I want to</td>
<td>0.749</td>
<td>0.554</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>EE1 I think entrepreneurship education in school has inspired me to start</td>
<td>0.833</td>
<td>0.773</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>my own business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EE2 I think learning entrepreneurship education will help me start my own</td>
<td>0.846</td>
<td>0.730</td>
<td>3.234</td>
<td>70.013</td>
<td>0.826</td>
</tr>
<tr>
<td></td>
<td>business if I start my own business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EE3 I think entrepreneurship education in school plays a role in my entrep</td>
<td>0.903</td>
<td>0.835</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>reneurship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI</td>
<td>EI1 I think I will try to start a business in the future</td>
<td>0.952</td>
<td>0.907</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EI2 Given the opportunity, I would choose to start a business</td>
<td>0.937</td>
<td>0.887</td>
<td>2.689</td>
<td>88.965</td>
<td>0.921</td>
</tr>
<tr>
<td></td>
<td>EI3 I’d love to start a business if conditions permit</td>
<td>0.954</td>
<td>0.912</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Results of exploratory factor analysis

was 85.338%, indicating a higher force. The subjective criterion is composed of three questions with the reliability of .911 (≥.7), indicating that the data has good reliability.

Exploratory factor analysis was conducted on the third element perceptual behavior control (PBC), and the results showed that KMO was 0.602, higher than the standard value 0.5, and Bartlett, test of sphericity=20.170(p<.001).

The exploratory factor analysis results showed that perceptual behavioral control was divided into PBC1, PBC2, and PBC3. The factor load value was .749~.871 (≥.4), the common value was.554~.758 (≥.4), the characteristic value was 1.824 (≥1.0), and the total difference was 62.116%, indicating a higher force. Perceptual behavioral control is composed of three items with the reliability of .739 (≥.7), indicating that the data has good reliability.

Exploratory factor analysis was conducted on the fourth element entrepreneurship education (EE), and the results showed that KMO was 0.657, higher than the standard value 0.5, and Bartlett test of sphericity=86.663(p<.001). Entrepreneurship education is divided into EE1, EE2, and EE3. Between the factors of load quantity for, 833 ~ 903 (≥.4), common to.730 ~ 835 (≥.4), between the initial characteristic value of 3.234 (1.0) or higher. In addition, the explanatory force of the total difference was 70.013%, indicating a higher explanatory force. Entrepreneurship education consists of three questions with the reliability of .862 (≥.7), indicating that the data has good reliability.

5.2 Regression analysis test hypothesis

Based on the theory of planned behavior, this paper conducts a regression analysis on the influence of entrepreneurship education on college students’ entrepreneurial intentions. The analysis results are shown in Table 3.

H1 hypothesis: correlation analysis of the
Table 3. Results of regression analysis

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t–value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent variable</td>
<td>Dependent variable</td>
<td>β</td>
<td>Std.error</td>
<td>β</td>
</tr>
<tr>
<td>H1</td>
<td>BA</td>
<td>EI</td>
<td>0.599</td>
<td>0.141</td>
<td>0.599</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F=18.338(p&lt;.001), R²=.356, Adj. R²=.336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>SN</td>
<td>EI</td>
<td>0.607</td>
<td>0.140</td>
<td>0.607</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F=19.143(p&lt;.001), R²=.369, Adj. R²=.355</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>PBC</td>
<td>EI</td>
<td>0.605</td>
<td>0.176</td>
<td>0.615</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F=18.456(p&lt;.001), R²=.367, Adj. R²=.348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4</td>
<td>EE</td>
<td>EI</td>
<td>0.652</td>
<td>0.127</td>
<td>0.652</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F=14.819(p&lt;.001), R²=.479, Adj. R²=.446</td>
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<td></td>
</tr>
</tbody>
</table>

Influence of behavioral attitude (BA) on college students’ entrepreneurial intention (EI) shows that the value of F is 18.338(p<0.001), which is very significant in traditional science, and the value after R is 0.336. Regression analysis was used to verify the correlation between behavioral attitude and entrepreneurial intention (beta BA→EI=.599, t=4.187, p<.001), and the hypothesis was consistent. H1 was verified, so H1 was valid.

H2 hypothesis: correlation analysis of the influence of subjective norm (SN) on college students’ entrepreneurial intention (EI) shows that the value of F is 19.143(p<0.001), which is statistically significant, and the value of adjusted R is 0.355. The correlation between subjective norms and entrepreneurial intention (beta SN→EI=.607, t=4.265, p<.001) is consistent with the hypothesis. H2 has been verified, so H2 hypothesis is valid.

H3 hypothesis: the correlation analysis of the influence of perceived behavioral control (PBC) on college students’ entrepreneurial intention (EI) shows that the value of F is 18.456(p<0.001), which is statistically significant, and the value of R—value adjustment is 0.348. The correlation between perceived behavioral control and entrepreneurial intention (beta PBC→EI=.615, t=4.296, p<.001) is consistent with the hypothesis, and H3 has been verified, so H3 hypothesis is valid.

H4 hypothesis: the correlation analysis of the influence of entrepreneurial education (EE) on entrepreneurial intention (EI) of college students shows that F value is 14.819(p<0.001), which is statistically significant, and R—value after adjustment is 0.446. The correlation between entrepreneurship education and entrepreneurial intention (beta EE→EI=.652, t=5.223, p<.001) is consistent with the hypothesis, and H4 has been verified, so H4 hypothesis is valid. The research model is shown in Fig. 2.

![Fig. 2. Entrepreneurial education influences the results of entrepreneurial intention of college students](image)

* indicates P < 0.05; ** indicates P < 0.01; *** indicates P < 0.001.

6. Conclusions and Prospects

This paper introduces entrepreneurship education into the theoretical model of planned behavior and extends the original model, build the relationship between entrepreneurial...
education affect entrepreneurial intention model, analyzes the behavioral attitude, subjective norm, perceived behavior control and the relationship between entrepreneurship education, which verified the theory of planned behavior in the role of factors affecting entrepreneurial intention. This is the innovation of this study.

Second, entrepreneurship education of college students has a significant positive impact on entrepreneurial intention. Thirdly, compared with the three elements of planned behavior theory, namely behavioral attitude, subjective norms, and perceived behavior control, college students' entrepreneurship education has the greatest impact on entrepreneurial intention, which has once again verified the validity of introducing entrepreneurship education as a variable to the expansion of TPB model. To sum up, this study makes a new and meaningful practice attempt on the role of planned behavior theory in the study of factors influencing entrepreneurial intention.

In view of the above research conclusions, the following Suggestions are proposed:

First, entrepreneurship education of college students should constantly pay more attention to the attitude, subjective norms and perceived behavior control of college students' entrepreneurial behavior, because it is an indispensable and key factor to promote the formation of entrepreneurial intention of college students in the traditional TPB model.

Second, continuous emphasis on entrepreneurship education in universities can not only solve the employment pressure of the country, but also accelerate the transformation of the country into an innovative country.

This research strives to be scientific and rigorous, but due to the limitations of some objective conditions, it has the following shortcomings: First, the research object is limited. The purpose of this study is to use the theory of planned behavior to verify the influencing factors of college students' entrepreneurial intention. For the sake of convenience and feasibility, only six schools in Jilin province have been investigated and studied for college students. The limited selection of research objects makes the research conclusion applicable to a narrow range. Secondly, the rigor of questionnaire design is not enough. The discriminant validity analysis of structural equation model shows that the values between some latent variables are slightly low, which indicates that the scale needs to be further modified or a larger sample size is needed for demonstration. The above problems need to be made up and solved by follow-up studies.

Future research can consider the investigation of colleges and universities in different provinces, cities and levels, we can also study the course setting and course type improvement in entrepreneurship education in universities from this perspective. In addition, starting from entrepreneurship education in colleges and universities, we can also improve the setting of entrepreneurship courses and increase the types of entrepreneurship courses. We can also try to study the influencing factors of the transformation from entrepreneurial intention to entrepreneurial behavior, so as to further demonstrate the predictive function of planned behavior theory.

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