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An Empirical Study on Impact of College Carve-Out Education on Entrepreneur Intention

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Abstract
Carve-out education is becoming increasingly important in current days since the business set up by college students produce a significant effect on the economic growth. Entrepreneur intention, part of carve-out education, is receiving more and more attention. Based on educational systems over the world and the datum of Chinese college students, the article studies the impact of the college carve-out education on students' entrepreneur intention with the structure equation modeling (SEM). The research shows that carve-out education can enhance entrepreneur intention indirectly by updating students' knowledge, cultivating their entrepreneurial abilities and reinforcing their determination. The colleges and other educational organizations should also provide plenty of training projects and encourage students to participate in company operation. In addition, some successful entrepreneurs should be invited to give lectures in colleges.

Key words: Entrepreneurship Education; College Student Entrepreneurship; Entrepreneurship Intention

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INTRODUCTION
As a new idea of education, carve-out education aims to motivate students to start their own businesses. Some points are held that the entrepreneurial intention lies behind the entrepreneurial behaviors (Krueger, 2007) which are not owned by everyone (Thompson, 2009). However, in China, it still remains to be confirmed whether the carve-out education affects the formation entrepreneurial intention because of insufficiency empirical analyses of college students. Further, it remains to be discussed that how the carve-out education affects the formation entrepreneurial intention. Based on the research of Chinese college students, the authors conduct an empirical study on the impact and the mediator variables of college carve-out education on entrepreneur intention.

1. LITERATURE REVIEW AND HYPOTHESES

1.1 Carve-out Education
Scholar Le (1999) viewed that individuals' managerial ability can be improved with the help of carve-out education, and that they are more likely to be successful in startups. Noel (2000) found that the students who major in entrepreneurship have higher aspiration than others. Kuip and Verheul (2003) deemed that individuals will acquire knowledge, abilities and desires for a better life, and that their entrepreneur intention will arouse (Alvarez, 2003). Based on the foreign researches, the article assumes four variables - entrepreneur intention, business knowledge, entrepreneurial ability and psychological quality - and studies the impact of college carve-out education on entrepreneur intention.

Accordingly, the study proposes several hypotheses as follows,

H1a: A positive correlation exists between college

carve-out education and business knowledge;

H1b: A positive correlation exists between college carve-out education and entrepreneurial ability;

H1c: A positive correlation exists between college carve-out education and psychological quality;

H1d: A positive correlation exists between college carve-out education and entrepreneur intention.

1.2 Business Knowledge

Zahra S. A., Kuratko D. F. and Jennings D. F. found that entrepreneurs are better educated than the working class (Hisrich, 1990). According to a survey to MBA students in American, Chen (1998) threw light upon that the students who had attended in some management courses have higher aspiration to run businesses. Knowledge is never equivalent to ability, but ability derives from massive knowledge, which means the increasing amount of knowledge and the accumulated experiences can be transformed into real ability.

Likewise, the study proposes two hypotheses as follows,

H2a: A positive correlation exists between business knowledge and entrepreneurial ability.

H2b: A positive correlation exists between business knowledge and entrepreneur intention.

1.3 Entrepreneurial Ability

Confronted with many difficulties on the path to success, college student should be equipped with good entrepreneurial abilities, which consist of two parts—comprehensive quality and professional accomplishment. The former part includes social experiences, relations, passion, creativity, teamwork spirit, resilience, psychological quality and knowledge structure; while the latter one comprises ability to seek opportunity, ability in resource integration, market insight, and marketing and management skills. Liu Yu and Zhu Xiumei (2008) pointed out that individual choice to run a business is greatly influenced by their abilities. In this article, the test on the entrepreneurial ability was assumed by the self-assessment and the hypothesis was proposed by trial that the quality of self-assessment can affect the intention.

H3: A positive correlation exists between entrepreneurial ability and entrepreneur intention.

1.4 Psychological Quality

Boyd and Vozikis (1994) issued that psychological quality (namely the sense of self-efficacy) can act as an intermediary to affect individual short-term behavior of running businesses. Zhao with other scholars (2005) proposed a model to predict one's entrepreneur intention, in which the sense of self -efficacy plays a regulating role. Taking South Africa with multiple races for example, Urban (2006) discussed the impact of cultural values and psychological quality on entrepreneur intention, and came to a conclusion that that latter one affects more significantly.

Equally, the study proposes the hypotheses as follows,

H4: A positive correlation exists between psychological quality and entrepreneur intention.

1.5 Entrepreneur Intention

Entrepreneurial intention refers to a psychological condition that an entrepreneur focuses on a specific goal with all his mind, energy and behaviors. It is the precondition for a person to start a business and reflects the reliability of a new business. The differences in everyone's intention are more likely to be effected by social environment, such as family, education background, relation and values. Some Spanish researches revealed the fact that intention is positively related to college support, that is to say, the development of colleges greatly influences individuals' intention.

Based on the theories reviewed, a theoretical model comes to being in Chart 1.

2. RESEARCH APPROACH

2.1 Samples

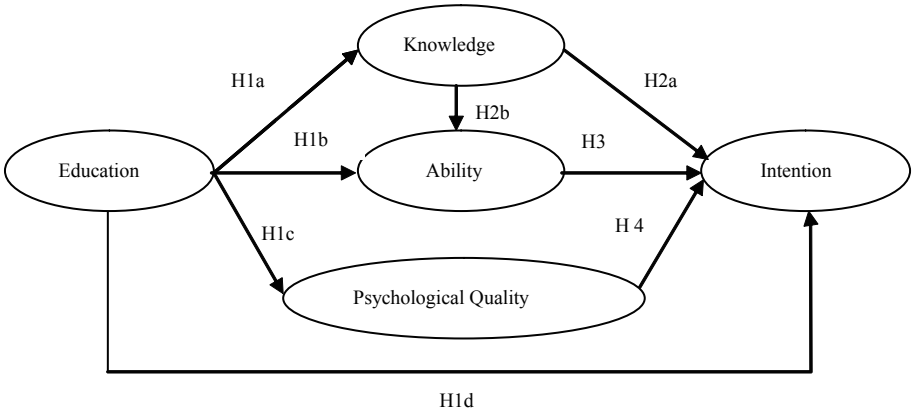

Chart 1 The Theoretical Model

The survey was designed for undergraduates in the universities and colleges all over China, and samples the article studies were collected by random sampling. The preliminary research got 52 samples to examine the design and the expression of the scale and the reliability and validity of the questionnaire. During the survey, 300 questionnaires were given out while 214 were taken back, 200 of which were valid (with the recovery rate of 93.46%). According to Tinsley & Tinsley (1987) and Comrey (1988), on condition that the questions of the questionnaire are less than 40, secondary samples and premium samples should be about 150 and 200 respectively.Therefore, the samples collected in the survey meet the demand of subsequent research.

The descriptive statistics of the samples is shown in Table 1.

Table1
Descriptive Statistics

	Item	Frequency	Percentage (%)
Gender	Male	100	50.0
	Female	100	50.0
Grade	Freshman	27	13.5
	Sophomore	72	36.0
	Junior	88	44.0
	Senior	13	6.5
If your family run a business	Yes	56	28.0
	No	144	72.0

2.2 Variables

The article studies five variables, including carve-out education, business knowledge, entrepreneurial abilities, psychological quality and entrepreneur intention. All the variables are designed to measure psychological perception of undergraduates in scales.

On the basis of international researches, referenced scales were reshaped with Chinese undergraduate characteristics and the new scale in this research was brought forth. Six items from the literatures by Kuip and Verheul (2003) are used to test carve-out education; three items from the researches by Zahra S. A., Kuratko D. F. and Jennings D.F. (2003) are to test business knowledge; five items from researches by Le(1999), Liu Yu and Zhu Xiumei (2008) in entrepreneur abilities; two items are from the research by Boyd and Vozikis (1994), Zhao(2005), Urban(2006), in psychological quality; three items from scholars Bird, B.(1988), Krueger, N F, A L Carsrud (1993), Joreskog, K. G. and Sorbom, D. (1999) in entrepreneur intention. The seven-level LIKERT scale is adopted, in which 1 means least consent and 4 is a neutral level and 7 means most consent. The scale is shown in Table 2.

2.3 The Modeling

The structure equation model (SEM) is applied to study the complex relations among the five variables mentioned. The SEM consists of two models, one is the equation model, which is used to verify the linear relation between potential independent variables (education, business knowledge, ability, pcychology quality) and potential dependent variables (business knowledge, ability, pcychology quality and intention); the other one is the measurement model, which is also used to verify the linear relation between potential variables and real variables (Phan & Wong *et al.*, 2001). The model is proposed as follows:

Structure Equation: $\eta=\gamma\xi+\beta\eta+\zeta$ ①

Independent Variable Equation: $Y=\lambda\eta+\varepsilon$ ②

Dependent Variable Equation:$X=\lambda\xi+R\delta$ ③

In the equation ①, η and ξ are the vector types, γ and β are the regression types.

In the equation ② and ③, λ is the regression type, ε and δ are the variance/covariance types.

3. EMPIRICAL ANALYSES

3.1 Reliability and Validity Test

As mentioned above, the scale in this article is reshaped from old ones used many times and it is rather reliable and valid. 52 samples in the preliminary research were used to test the reliability and validity, and the results are shown in Table 2. The factor loadings of each item and the eigenvalues are all over 0.5 and 1 respectively. Likewise, the Cronbach's Alpha coefficients of each item are all above 0.7, and that of Item 4 is 0.694 which is near to 0.7 (Stevens, 1992), the figures show a fair reliability and validity of the scale.

3.2 SEM MODEL TEST

Table2
Factor Analysis(N=52)

Factor	1	2	3	4	5	Item	Cron-bach's α
I am good at leadership	.830	.092	.274	.032	.035		.871
I can do anything better than anyone else	.819	-.048	-.050	-.050	.266		
I can make what I pursue for successful	.775	.337	.116	-.139	.107	Ability	
I can seek opportunity to make some cash	.733	.335	.264	.058	.195		
I feel my ability much improved in training	.586	.160	.479	.324	.047		
I am willing to learn some business knowledge	.278	.816	.023	.027	.024		.827
I am going to run my business	.065	.805	.082	.221	.278	Intention	
Starting a business is the best way to meet my value	.128	.672	.091	.111	.393		
I am interested in any activity about the entrepreneurship	.082	-.029	.787	-.116	-.080		.819
I a master in how to start a business	.142	.518	.619	-.017	.079		
I like reading books about business	.081	.446	.615	.253	.246	Education	
I know the process of startups very well	.224	.373	.603	.474	.043		
I like to participate the entrepreneurial contests	.435	-.180	.595	-.020	.311		
I feel inspired and confident in business project	.278	.007	.578	.512	-.068		
My aspiration to startups comes from college education	-.106	-.340	-.148	.799	.110		.694
I now have a clear plan and direct to go	-.050	.315	.059	.752	-.044	Business Knowledge	
I am confident in startups with my knowledge	.022	.439	.173	.698	.081		
I always to break through myself	.141	.366	.062	.024	.853	Psychological Quality	.841
New challenges are important to me	.299	.135	.027	.039	.823		

After the reliability and validity test, AMOS17.0 and SPSS16.0 are adopted to verify the degree of fitting of the SEM model. The SEM model was built in AMOS17.0 and figures came from SPSS16.0.The result is shown in Table 3, and the adjusted model in Charter 2.

Further, there are two figures $x2/df$ =2.654andGFI=0.858, which satisfy the demand of SEM to the general goodness of fitting, and the figure $PGFI$=0.622 shows a fair parsimony goodness of fitting, and the last figure $NFI = 0.701$, an ordinary normed fitting degree. All in all, the degree of fitting of the model is pretty good.

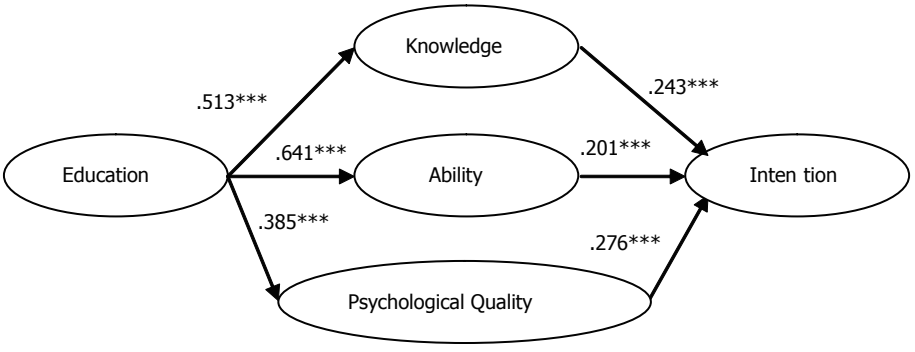

Chart 2 SEM Model

Table 3
SEM Route Test

			Estimate	S.E.	C.R.	P
Knowledge	<---	Education	.513	.124	3.967	***
Ability	<---	Education	.641	.153	3.783	***
Psychological Quality	<---	Education	.385	.099	3.812	***
Intention	<---	Education	.077	1.71	0.364	.792
Ability	<---	Knowledge	.006	.132	0.136	.854
Intention	<---	Knowledge	.243	.087	3.416	***
Intention	<---	Ability	.201	.096	2.385	***
Intention	<---	Psychological Quality	.276	1.12	2.937	***

CONCLUSION AND SUGGESTIONS

Conclusions

In the analyses above, H1a, H1b, H1c, H1d, H2a, H2b and H3 are logically verified. It illustrates that carve-out education improves students' business knowledge, abilities and psychological quality, and thus inspires entrepreneur intention. Still, H1d and H2b haven't been verified yet, which means that the intention never comes directly from carve-out education and that the business knowledge fails to directly affect real ability.

The article also discusses the impact of carve-out education on the intention. Most college students are risk-takers and they are prone to search chances to start business. This kind of startups pays more attention on emerging opportunities, higher techniques and easy loans so that it will create larger profits. Hence，stronger compound qualities are immensely necessary for those students. The education won't simply stimulate students' ambitions; it can enlarge the knowledge, promote ability and strengthen psychological quality as well, so that the intention will be aroused.

Suggestions

Based on the conclusions above, the universities and colleges can inspire their students in the following ways: firstly, to set up training projects, provide students assess to real business operation, cover a wide range of human resource, financial management and product operation *etc*.. Secondly, to launch entrepreneurial contests and fund feasible programs. Thirdly, to invite successful entrepreneurs to give lectures and hand down their experiences to students; fourthly, to organize some survival activities and cultivate survival skills and teamwork spirit in difficult situations. In results, college students will get a clear sketch of how to start business, head on in the right direction and grow in the competition. The future entrepreneurs will come from those young and energetic students.

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