

# Impacts of Educational Factors on Entrepreneurship Intention of University Students

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**Abstract:** Drawing on the theory of planned behavior in entrepreneurship, the research proposes a model linking educational determinants, perceived entrepreneurial behavior control and entrepreneurial intentions. The model was tested with a sample of 163 students at the National Economics University. The result shows that university education factors including “entrepreneurship inspiration”, “work integrated learning” and “extra curricular activities” have impact on “students’ entrepreneurial behavior control” and then “entrepreneurial behavior control” as a platform through which the educational factors have impact on “overall entrepreneurial intention”. The findings provide support to Ajzen’s theory of planned behavior and have wider implications for the practice of teaching in higher educational institutions.

**Keywords:** Education, entrepreneurship, university students, teaching methods, entrepreneurial intention.

## 1. Introduction

Developing entrepreneurship is an important engine for economic development in many countries. Recent actions of many countries also highlight the growing attention to fostering entrepreneurship through university education and training. Many countries such as Malaysia, China, and India have national programs and policy supports for setting up small businesses, especially for encouraging entrepreneurship in university students. The reason why there is a special interest in encouraging university students’ entrepreneurship activities is that researchers believe well-educated entrepreneurs can build

high value businesses more quickly than lower educated people [1]. In order to encourage potential student entrepreneurs for setting up businesses after graduation, students should be well prepared and influenced when they are in higher education institutions [2].

However, there are still endless controversial and opposing opinions among researchers about the impact of university education on students’ entrepreneurship intention [3]. In addition, although several previous studies maintain that entrepreneurs are cultivated during their lifetime, and education is very important to build entrepreneurship in people’s minds, the necessity of including the promotion of entrepreneurship in education programs becomes evident; but how to teach and organize educational programs effectively still “requires further research” [4]. Finding teaching methods and educational determinants

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that can help students deal with business complexity and development of attitudes, behaviors and capacities that can be applied during an individual's career as an entrepreneur becomes particularly important for classes of young, undergraduate students who have either no or very limited business experience. Moreover, although educational background has been a key demographic variable and is often included in the analysis by researchers [5], there is still a lack of quantitative works to test the relationship between educational background, entrepreneurial intentions and university students' entrepreneurial perceptions.

Drawing on the theory of planned behavior and theories of entrepreneurship intention, these study objectives model and hypothesis test the relationship between four proposed educational determinants: entrepreneurship learning, inspiration, extra-curricular activities and work integrated learning for perceived entrepreneurial behavior control. In addition, we test the mediating role of perceived entrepreneurial behavior control in the relationship between proposed educational factors and entrepreneurial intention, which has never been quantitatively tested in previous researches. This is in order to confirm a proposition that entrepreneurship education increases the intention to start a business.

The study results confirm the positive impacts of educational determinants on students' entrepreneurship behavior control and intention, and entrepreneurial behavior control as a platform through which the educational factors have impact on overall entrepreneurial intention. The findings contribute to the theories of planned behavior and have wider implications for higher institutions and also for the practice of teaching entrepreneurship in universities.

## 2. Theoretical foundations

### 2.1. Concept

Recently, entrepreneurial intentions of university students have received considerable interests among researchers [6]. Since entrepreneurship represents planned, intentional behavior, and based on the fact that intention is said to precede action, entrepreneurial intention is said to be a reliable predictor or measure of entrepreneurial behavior and entrepreneurial activity [7]. Entrepreneurship is a process, an entrepreneur before enacting entrepreneurship activities must have an entrepreneurship intention, and entrepreneurship intention will be the best predictor of actual entrepreneurship behaviors. Encouraging entrepreneurship activities should proceed from encouraging entrepreneurship intention.

"Entrepreneurial intentions are a state of mind, which directs and guides the actions of the individual toward the development and the implementation of new business concepts" [6].

In the Theory of Planned Behavior of Ajzen (1991), three variables precede the formation of intention, which itself predicts behavior. One of the determinants is the subject's perception of his or her control over the behavior.

Perceived behavioral control refers to someone's perception of the ease or difficulty of performing the behavior, a construct which is more important than the actual control over the behavior of interest [7].

Behavioral control indicates if an individual feels she/he can easily engage in an entrepreneurial venture. Perceived behavioral control is based on the evaluation of one's controllability and self-efficacy during the process of new venture development. *Perceived behavioral control* has also been referred to as a *perceived feasibility* and *self-efficacy* concept as it reflects an individual's personal judgement of their ability to perform a prospective behavior [6].

### 2.2. Literature reviews on the relationship between educational factors, perception of behavioral control and entrepreneurship intention

#### 2.2.1. Relationship between educational factors and perception of behavioral control

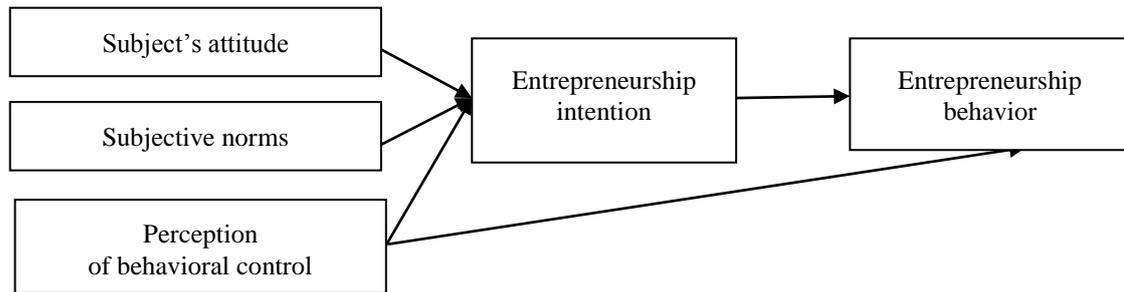


Figure 1. Ajzen's Theory of Planned Behavior  
Source: Ajzen (1991).

Recently most management research assumes business-behaviors are learned and that the human mind is a blank slate that can be shaped by parents, schools, and culture. There is a growing acceptance that many aspects of entrepreneurship can be taught and learned [8]. Based on works by previous researchers engaged with these topics, this study proposes several educational characteristics that have impact on the perception of entrepreneurship behavioral control and entrepreneurship intention.

#### *Inspiration and perception of behavioral control*

Souitaris et al. (2007) defined "entrepreneurial inspiration" as "a change of hearts (emotion) and minds (motivation) evoked by revelation (trigger) events or inputs of an entrepreneurship program and directed towards considering becoming an entrepreneur" [9]. They argue that a trigger that makes one consider becoming an entrepreneur could be the first step to a change of perception and intentions towards entrepreneurship. Another work of Jens Uwe Martens focusing on changing behaviors and attitudes, also claims that changes in these two areas can be accomplished by addressing emotions in a targeted way. Martens acknowledges that perception of something is not only governed through intellect; rather, thinking, feeling and doing influence each other mutually. Therefore, educating knowledge should accompany educating cognition. The research of Fiet (2000) and Nguyen and Nguyen (2014) identified the impact of transferring emotion to

the perception of entrepreneurship feasibility [3, 2].

Therefore, we suggest that universities' entrepreneurial inspiration would raise the participants' entrepreneurial perception of behavioral control.

*H1: Entrepreneurship inspiration is positively related to perceived entrepreneurship behavior control*

#### *Work integrated learning and perception of behavioral control*

Work integrated learning: A learning method that students' knowledge will be acquired by application of academic theory in real works [10].

The theory of experiential learning of David Kolb points out that people do learn from their experiences. Experience is a valuable source for learning and development [11]. Experiential learning links education, work, and personal development. Fiet (2000) also shows that changes in efficacy beliefs do not result from the performance per se but from the cognitive processing of the information that performances convey capabilities [3].

The qualitative entrepreneurship researches of El-Khasawneh (2008) and Vesa (2010) have recommended that universities should educate potential entrepreneurs with high application teaching methods such as experimental learning, action learning, learning by doing methods, rather than a lecture based learning method [12] [11]. Luthje and Franke (2004) suggested that the educational formats which more emphasize the application of theory in

reality and enable the creation of knowledge through the transformation of experience, will increase students' 'entrepreneurship self-efficacy' [13]. Nguyen and Nguyen's (2014) quantitative research also confirmed the effect of a work integrated learning method on perceived entrepreneurship feasibility [2]. We propose the hypothesis:

*H2: A work integrated learning method is positively related to perceived entrepreneurship behavior control*

*Entrepreneurship extra-curricular activities and perception of behavioral control*

Entrepreneurship extra-curricular activities: the frequency of students' participation in entrepreneurship related activities, which may be organized in or outside universities and fall outside the realm of the official higher education curriculum.

Many studies - Luthje and Franke (2004), Florin et al., (2007), El-Khasawneh (2008) have set out to examine how participation in such activities is beneficial for students [13, 14, 12]. They found that extra-curricular activities participation was for many a means of being included in social groups and is linked to improved academic outcomes, knowledge gain, and social relationships. Group membership through participation in activities is seen as providing access to the business relationships and entrepreneurship networks that influence and support positive outcomes for students, as well as improving the opportunities to access information, knowledge and skills which support perceived capability.

*H3: Participation in entrepreneurship extra-curricular activities is positively related to perceived entrepreneurship behavior control*

*Entrepreneurship courses and perception of behavioral control*

Several previous studies found a positive impact of entrepreneurship education courses or programs on perceived attractiveness and feasibility of new venture initiation or even on actual startup activity [14]. Peterman & Kennedy's (2003) research showed that students with a major in entrepreneurship have

a higher intention to become entrepreneurs and are more likely to found companies [15]. This observation was confirmed by Florin et al. (2007), who pointed out those students who graduated with an entrepreneurship major reached higher scores in entrepreneurial intention and entrepreneurial self-efficacy than students who graduated in other disciplines [14]. Also, they observed that the intention of students to become self-employed could be increased through attending entrepreneurship classes. These results were confirmed by Fayolle who showed that perception and intentions towards becoming an entrepreneur are influenced through entrepreneurship classes [12]. However, other studies found evidence that the above effects do not exist in the case of entrepreneurship courses with limited knowledge, or when unsuitable teaching methodology is applied [4]. Following Nguyen and Nguyen's (2014) research, we propose [2]:

*H4: Taking an entrepreneurship course is positively related to perceived entrepreneurship behavior control*

2.2.2. Relationship between perception of behavioral control, educational factors and entrepreneurship intention

Intentions reflect an individual's willingness or plans to engage in a particular behavior. The Theory of Planned Behavior is based on the expectancy theory model whereby individuals learn to favor behaviors where they expect favorable outcomes, and to form unfavorable attitudes towards behaviors associated with undesirable outcomes [7]. The TBP model has received strong empirical support and was utilized as the theoretical framework for the prediction of entrepreneurial intentions in many researches [6]. The TBP assume that attitudes, social norms and perceived control are the most proximal predictor of behavior intentions.

*H5: Perceived entrepreneurship behavior control is positively related to entrepreneurship intention*

In the TBP theoretical model (Figure 1), intentions are determined by perceived

entrepreneurial behavior control, and perceived entrepreneurial behavior control in turn is affected by “exogenous influences” such as traits and situational variables [6, 7]. Entrepreneurship education is such an “exogenous influence”. Souitaris et al. (2007) suggest higher education differentially prepares people’s humanistic and technical capabilities [9]. Then individuals grasp different knowledge, which may act as a mediating role for entrepreneurship intention.

Since education enhances the ability to acquire and use codified information about specific aspects of working and non-working life, appropriately explored data on educational attainment should reveal the cognitive abilities possessed by individuals. A high level of perceived behavioral control then should strengthen a person’s intention to perform the behavior, and increase his/her effort and perseverance [7]. Accordingly, the next four hypotheses to be tested in the present circumstance are:

*H5a: Perception of behavioral control mediates the relationship entrepreneurship inspiration and entrepreneurship intention*

*H5b: Perception of behavioral control mediates the relationship between work integrated learning method and entrepreneurship intention*

*H5c: Perception of behavioral control mediates the relationship between entrepreneurship extra-curricular activities and entrepreneurship intention*

*H5d: Perception of behavioral control mediates the relationship between taking entrepreneurship courses and entrepreneurship intention*

Control variables include gender (men or women), parents’ occupations (self-employed or other), role model (entrepreneurs whose behavior, example or success is or can be emulated by others) and previous entrepreneurial exposure (has ever started a business or not).

### 3. Research methodology

This study is mainly a quantitative research targeting the testing of the thesis hypotheses and model. However, before conducting the quantitative research, the author implemented an additional exploratory study. The research process contains 2 steps including a pretest study and an official quantitative study.

The Exploratory study - Qualitative study - was to revise, double check and confirm the relationship between variables in the theoretical model and to make necessary adjustments to the research measures, which were borrowed from previous research, to ensure that the questionnaire complied with Vietnamese context before using this survey instrument for the official quantitative study. Five in-depth interviews were conducted with final year students in the National Economics University during August 2014.

After the exploratory study had confirmed that the research model was appropriate and all the measures had been assessed and could be properly used for the study, the official study was conducted from August to December 2014 by using a questionnaire.

The questionnaire included 25 items and was in Vietnamese. The research questionnaire was designed by borrowing measures from previous researches with adaptation for the Vietnamese context (Table 2).

Data collection was conducted in two ways: First, soft electronic copies of the survey questionnaire were sent online via Google docs. I got the addressees’ information from administrative officers or directly from students when teaching their classes. I asked/reminded students to answer the questionnaire before and after sending emails (sent 345, received 61, response rate of 17%). Second, hard paper copies of the survey questionnaire were sent directly to students in class, at their graduation ceremony, and at the time they were starting to go into internships for self-administered answering (sent 156, received 110, response rate of 70%). After collecting the

questionnaires, I checked the data to ensure that the sample consisted of the research designed subjects, eliminated questionnaires with missing important information or biased answers (8 questionnaires). Thus, 163 final year students were included in the final dataset.

I analyzed the data via SPSS software version 20 to examine the validity and reliability of measures to test the research model and hypotheses.

#### 4. Research findings

##### 4.1. Sample statistic descriptions

The total responses consisting of 163 questionnaires were used for analyses including

106 paper responses and 57 electronic responses (Table 1).

*Gender:* Out of 163 respondents, 91 (55.8%) were men, 72 (44.2%) were women.

*Role model:* 77.9% respondents knew entrepreneurs and 22 (1%) did not know a successful entrepreneur.

*Self-employed experiences:* 15.3% of the sample respondents had created a business or been involved in joint capital raising to create a business and 84.7% of the respondents had never been involved in entrepreneurship activities.

*Family business experiences:* 57 (1%) of the respondents' parents were not business owners or involved in business activities and 42.9% of the respondents' parents were doing business related jobs.

Table 1. Overview of the data set

No.	Sample	Frequency (persons)	Percentage (%)
1	<b>Gender</b>		
	Male	91	55.8
	Female	72	44.2
2	<b>Role model</b>	127	77.9
	Not have role model	36	22.1
3	<b>Parents' occupation</b>		
	Self employed	70	42.9
	Other occupation	93	57.1
4	<b>Prior entrepreneurship activities</b>		
	Entrepreneurship experience	25	15.3
	No entrepreneurship experience	138	84.7
5	<b>Entrepreneurship course</b>		
	No	92	56.4
	Yes	71	43.6
6	<b>Course</b>		
	IDB	34	
	Regular program	98	
	EMBA	12	
	POHE, advance program	19	

Source: Author's research

#### 4.2. Measures' assessment

EFA analysis was conducted at the same time for 5 variables with 25 items with varimax rotation loaded in 5 factors. Almost all items were loaded in original factors with factor loading in all cases above 0.5 (except BC4 and BC5 were loaded in wrong factors). After considering the variable content and Cronbach's Alpha analysis, two items, BC4 and BC5 of the "behavior control" measure, were eliminated step by step. After the reduction of these two variables, the exploratory factor analysis was conducted again and the variables were then loaded on the factors appropriate to the variables. The analysis provided evidence to support the validity of the measurement instrument.

Cronbach's Alpha analysis for this research's independent and dependent variables shows that all variables' Cronbach's Alpha are at minimum 0.676, all the research variables have "Cronbach's Alpha if item deleted" are lower than its Cronbach's Alpha; and all the value of "Corrected item total correlation" are bigger than 0.3. Therefore, we can assume all variables are internally consistent scales and are reliable.

Table 2. Variables' measurements

Variables	No of items	Research	Cronbach's Alpha
Entrepreneurship extracurricular activities	6 items	Nguyen and Nguyen (2014)	0.807
Work integrated learning	5 items	Balan and Metcalfe (2012)	0.777
Entrepreneurship Inspiration	4 items	Souitaris et al. (2007)	0.676
Perceived entrepreneurship behavioral control	3 items	Linan and Chen (2009)	0.700
Entrepreneurship intention	5 items	Linan and Chen (2009)	0.818

Source: Author's research.

#### 4.3. Result of hypothesis testing

Before using regression to test the research hypothesis, the indexes for all variables were tested for normal distribution; the correlation matrix was used to examine the bivariate

correlation between factors and the regression assumptions were checked.

To test our hypothesis, we followed steps suggested by Baron and Kenny (1986) for testing the mediation relationship (cited in Nguyen, 2011).

- Step 1: Regress the mediator on the independent variable.

- Step 2: Regress the dependent variable on the independent variable. In other words, confirm that the independent variable is a significant predictor of the dependent variable.

- Step 3: Regress the dependent variable on both the mediator and independent variable.

##### Testing Hypotheses 1 to 4

We tested the relationship between educational factors with perceived entrepreneurship behavioral control by using hierarchical regression analysis.

In the first regression model, the dependent variable is perceived entrepreneurship behavioral control (Table 2). Model 1 - control model with 4 control variables, the model is significant (Adjusted R<sup>2</sup> = 0.047, F = 3.010, p < .05). Prior entrepreneurship activities have a significant and positive relation with perceived entrepreneurship behavioral control ( $\beta = .402$ , p < .01) but it is not the case for gender, role model and parents' business occupations.

In model 2, with four control variables and four educational independent variables, the model is significant (Adjusted R<sup>2</sup> = 0.204, F = 6.179, p < .001). Three control variables (gender, role model and prior entrepreneurship activities) have not got a significant relationship with perceived entrepreneurship behavioral control except for parents' occupations. Only 3/4 independent variables have significant and positive relations with perceived entrepreneurship behavioral control. Taking part in an entrepreneurship course has not got a significant relation with perceived entrepreneurship behavioral control (P > .1). Three other factors' impact in descending level are: (1) Work integrated learning: standardized  $\beta = .402$ , p < 0.001, (2) level of attending entrepreneurship extracurricular activities:

Table 3. Regression model with perceived entrepreneurship behavioral control as the dependent variable

Model	Coefficients <sup>a</sup>						
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.769	.145		19.059	.000		
1 Gender	.022	.109	.016	.205	.838	.974	1.027
Parents' occupations	.190	.109	.135	1.746	.083	.982	1.019
Prior entrepreneurship activities	.402	.150	.208	2.689	.008	.979	1.021
Role model	.211	.130	.126	1.625	.106	.977	1.023
(Constant)	1.142	.298		3.832	.000		
2 Gender	.030	.101	.021	.291	.771	.914	1.094
Parents' occupations	.226	.100	.161	2.265	.025	.953	1.049
Prior entrepreneurship activities	.243	.144	.126	1.688	.093	.862	1.160
Role model	.208	.118	.124	1.764	.080	.971	1.030
Entrepreneurship Inspiration	.089	.041	.156	2.166	.032	.930	1.076
Level of attending entrepreneurship extracurricular activities	.152	.064	.184	2.377	.019	.802	1.247
Attending entrepreneurship course	.131	.098	.093	1.334	<b>.184</b>	.979	1.021
Work integrated learning	.329	.080	.297	4.084	.000	.906	1.103

a. Dependent Variable: BC

Source: Author's research.

Standardized  $\beta = .184$ ,  $p < .05$  (3) entrepreneurship inspiration: Standardized  $\beta = .156$ ,  $p < .05$ .

The tolerance and VIF statistics were calculated and indicated high tolerance values of  $> 0.802$  and low  $VIF < 1.3$  and therefore (multi-) collinearity was not evident.

Hypothesis H1, H2, H3, are supported and H4 is not supported by the research data.

*Testing Hypotheses 5 to 8*

The results of testing the mediating impact of perceived entrepreneurship behavioral control are shown in models 4 and 6 (Table 4).

Model 4 is obtained by regressing perceived entrepreneurship intention on 4 educational factors. Model 6 regresses perceived entrepreneurship intention on the same set of variables together with the perceived entrepreneurship behavioral control variable. Both of the linear regression models are significant. In Model 4 the R<sup>2</sup> change is significant and the independent variables are able to explain 29.2% of the change in the dependent variable of perceived entrepreneurship intention (adjusted R<sup>2</sup> = .292; F of model = 9.371, p < 001; all the independent variables have significant and positive correlation with the dependent variable. In Model 6 the R<sup>2</sup> change is significant and the independent variables are able to explain 36.4% of the change in the dependent variable of perceived entrepreneurship intention (adjusted R<sup>2</sup> = .364; F of model = 11.296, p < .001) and all the independent variables have significant and positive correlation with the dependent variable.

Model 6 shows that when the perceived entrepreneurship behavioral control variable is added to the list of independent variables, the unstandardized β of the work integrated learning variable decreased from .295 to .179; the unstandardized β of level of the attending entrepreneurship extracurricular activities variable decreased from .229 to .175; the unstandardized β of the entrepreneurship inspiration variable decreased from .175 to .144. Perceived entrepreneurship behavioral control has a significant and positive correlation with the entrepreneurship intention variable (β = .351, sig. < .001).

The tolerance and VIF statistics of the entrepreneurship intention models were calculated and indicated high tolerance values of > 1.019 and < 1.354, therefore (multi-) collinearity was not evident.

Hypothesis H5, H6a, H6b, and H6c are supported by the research data.

Table 4. Regression model with perceived entrepreneurship intention as dependent variable Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		t	Sig.	Collinearity Statistics		Unstandardized Coefficients		t	Sig.	Collinearity Statistics			
		B	Std. Error			Beta	Tolerance	VIF	B			Std. Error	Beta	Tolerance	VIF
3,5	(Constant)	3.138	.164	19.083	.000			3.138	.164	19.083	.000				
	Gender	.113	.123	.071	.914	.362	.974	1.027	.113	.123	.071	.914	.362	.974	1.027
	Parents' occupations	-.174	.123	-.110	-1.410	.160	.982	1.019	-.174	.123	-.110	-1.410	.160	.982	1.019
	Prior entrepreneurship activities	.276	.169	.127	1.628	.105	.979	1.021	.276	.169	.127	1.628	.105	.979	1.021
	Role model	.330	.147	.175	2.243	.026	.977	1.023	.330	.147	.175	2.243	.026	.977	1.023
4,6	(Constant)	1.188	.320	3.707	.000			.787	.318	2.474	.014				
	Gender	.109	.109	.069	1.000	.319	.914	1.094	.099	.103	.063	.953	.342	.914	1.095
	Parents' occupations	-.126	.107	-.080	-1.179	.240	.953	1.049	-.206	.103	-.130	-1.991	.048	.923	1.084
	Prior entrepreneurship activities	.041	.155	.019	.267	.790	.862	1.160	-.044	.148	-.020	-.298	.766	.847	1.181
	Role model	.322	.127	.171	2.544	.012	.971	1.030	.249	.121	.132	2.054	.042	.952	1.051
	TCH	.175	.044	.273	3.982	.000	.930	1.076	.144	.042	.224	3.402	.001	.902	1.109
	EA	.229	.069	.245	3.321	.001	.802	1.247	.175	.067	.188	2.636	.009	.774	1.292
	Etre course	.273	.106	.172	2.582	.011	.979	1.021	.227	.101	.143	2.250	.026	.968	1.033
	WE	.295	.087	.236	3.404	.001	.906	1.103	.179	.086	.144	2.073	.040	.818	1.223
	BC								.351	.082	.312	4.276	.000	.738	1.354

The unstandardized  $\beta$  of attending entrepreneurship course variable decreased from .273 to .227 but in model 2, the taking part in an entrepreneurship course variable has not got a significant relation with perceived entrepreneurship behavioral control ( $P > .1$ ). Therefore, perceived entrepreneurship behavioral control failed to mediate the relationship between taking part in an entrepreneurship course and entrepreneurship intention. Hypothesis H6d is not supported by the research data.

## 5. Discussion

In line with the previous studies of Souitaris et al. (2007), Nguyen and Nguyen (2014), we found that educational factors including extra-curricular activities, work integrated learning and entrepreneurship inspiration was significantly associated with entrepreneurial perceived behavioral control [9, 2].

However, from the data we gathered, taking part in an entrepreneurship course in the National Economics University did not have a significant impact on students' perceived behavioral control. This is not similar to the result of Peterman and Kennedy (2003), Fayolle et al. (2006), Nguyen and Nguyen (2014), but consistent with the results of Zhao et al. (2005) and Wu and Wu (2008). Possible explanations for this result are: (a) Entrepreneurship education at the National Economics University is still at an initial stage and needs to be improved in terms of motivating students, course time and skill training; Wu and Wu (2008) had mentioned in their study that entrepreneurship education should come from a wide variety of different disciplines, courses and academic experiences, which can help students perceive that they had learnt about the four critical skills needed by entrepreneurs - which are: recognizing opportunities for new business, evaluating opportunities, starting a business and organizational entrepreneurship. Entrepreneurship courses which are limited in

transferring skills and experiences would not raise the feasibility of students. (b) This study is different from the study of Nguyen and Nguyen (2014) which was based on a sample of engineering and business students and that of Souitaris et al. (2007), which was based on a sample of engineering students. This study was based on the sample of business and economics students only. Differences in academics' majors may result in differences in the relationship between educational factors and entrepreneurial perceived behavioral control. This opens a new dimension for future research.

Consistent with the theoretical establishment of the theory of planned behavior by Ajzen (1991), we found that perceived behavioral control was a critical factor in predicting entrepreneurship intention. This result is in line with existing researches of Krueger (2000), Linan and Chen (2006). Students who are more convinced that start-up is not a difficult task for them are more inclined to create a new venture. Ajzen's theory of a planned behavior model can also be used to predict Vietnamese university students' entrepreneurial intentions.

Previous studies showed that entrepreneurial intention can be influenced by education, but the role of the course content and the role of teaching methods remained unclear; now we better understand why this is the case. Teaching methods might be as important as the course content if we want to influence entrepreneurial intention. This knowledge is important for entrepreneurship educators, who can design their courses in a more targeted and effective manner.

Also, two new options to influence student entrepreneurial intention were discovered, namely, role models and students' parents' occupations. An interesting result discovered from this research is that students' parents' occupations have a positive relationship with perceptions of behavioral control but have a negative relationship with student entrepreneurial intention. This is inconsistent with findings from previous researches

conducted in other countries. This can be explained by the fact that in Eastern cultures like that of Vietnam, businesses are often transferred by generation, from grandfather to father, from father to son. So if a student's family owns a business, they will not have a high intention to set up a new firm because they know that they will receive their family business from their parents.

The results of this study suggest that it is possible to promote entrepreneurial intentions through effectively designed entrepreneurship training. In the following sections, the most salient implications of the study are presented.

## **6. Implications for developing entrepreneurship intention in university students**

The results of this study suggest that it is possible to promote entrepreneurial intentions in general and entrepreneurship intention in particular through effectively designed entrepreneurship training and teaching. In order to develop entrepreneurship intention in university students, the side of entrepreneurship should be emphasized. In the following sections, the most salient implications from the study for developing entrepreneurship in universities are presented.

### *6.1. For universities*

Universities should recognize their important role in developing students' entrepreneurship intention. As educators, we have multiple possibilities to influence entrepreneurial intention, especially by means of increasing perceived behavioral control. The study reveals that perceived behavioral control could be impacted by various course characteristics such as practical experience, extra-curricular activities, or inspiration processes. In order to increase entrepreneurship intention and then behavior, educators should provide entrepreneurship courses that have the above characteristics. Since entrepreneurial intention is mainly influenced by attitudes and

perceptions, teaching methods that comprise emotions and experiential learning should come to the fore. Lecture-based teaching can be used when cognitive knowledge needs to be conveyed, but is not sufficient to change intentions.

Entrepreneurship inspiration activities should be promoted in universities. The implication for program developers is that whereas knowledge and resources might increase the likelihood of success for those who are going to start a new venture, the inspiration can also raise perceived entrepreneurship behavior control (self-efficacy) and intention of students and then may increase the chances that students will actually attempt an entrepreneurial career at some point in their lives. Therefore, if the target is to increase the number of entrepreneurs in the student population, then the inspirational part of the programs has to be designed purposefully and instructors should be trained not only to teach the entrepreneurship curriculum, skills and knowledge, but also to change "hearts and minds". Since the results showed that inspiration was driven by the views of professors and external guest speakers, universities should focus on their instructors. Instructors (academics and practitioners) should receive training not only on how to teach entrepreneurship, but also on how to change "hearts and minds". Instructors should know how to inspire and encourage emotions of the observer (the student). Universities should encourage instructors to communicate their enthusiasm for entrepreneurship through non-verbal expressiveness or by telling stories of successful entrepreneurs, expressing the respect for the entrepreneurship role model in society. We propose that universities should invite entrepreneur guest speakers and charity or non-profit managers for inspiring students with their spirit. Successful business role models should be introduced widespread in universities' entrepreneurship related activities.

Work integrated learning or experiential learning should be promoted in higher education. If we want to change students' entrepreneurial

intention, work integrated learning and teaching methods should be core elements of entrepreneurship education. Teaching methods that allow students to explore the subject matter and gain their own experience seem to be imperative if we want to substantially increase students' self-efficacy beliefs. Educators should provide a learning environment in which students can apply knowledge in reality.

Universities should establish programs linking classroom experience with market experience, student networks with entrepreneur networks, current students with alumni in business, and student entrepreneurs with experienced entrepreneurs who serve as mentors. There is a need for a concerted effort by university authorities to enhance the entrepreneurial intention of students via different mediums such as seminars, entrepreneurship workshops, training courses or similar hands-on experience. Universities should provide more extracurricular options like business plan competitions, idea development competitions, and entrepreneurship student clubs for students. There is also a need to set up business incubators in universities.

### 6.2. For policy makers

Encouraging entrepreneurship intention in university students should be done in society as a whole since students' perception and activities are impacted by the environment. From the research results, several implications for policy makers have been drawn:

*First*, we should have more promotion activities to introduce successful business role models in order to convey entrepreneurship desire and motivation for students to imitate successful entrepreneurs.

*Second*, more national entrepreneurship programs should be set up and the government should give more support to universities in order to help them organize extra-curricular entrepreneurship activities for students: for example, organize national competitions of

business planning writing and entrepreneurship ideas development.

The government should help universities to set up business incubators. This is the place where students can apply their theories and academic knowledge to real business issues.

## 7. Conclusion

The study results reconfirm the educational determinants of students' entrepreneurship behavior control and intention. Factors impacting positively perceived entrepreneurship behavior control are entrepreneurship inspiration, work integrated learning and extra curricular activities, in which work integrated learning has the strongest impact on perceived entrepreneurship behavior control. The results show the impact of university education on students' entrepreneurial behavior control and then entrepreneurial behavior control as a platform through which the educational factors have impact on overall entrepreneurial intention. The findings have several implications for higher institutions and also for the practice of teaching entrepreneurship in university.

This research also opens new future research directions. Future research should discover the relationship between entrepreneurship potential, entrepreneurship intention and entrepreneurship decisions - the actions can occur after a long time lag in the process. In addition, there should be more research on students' entrepreneurship, on the impact of higher education on students' entrepreneurship intention and decisions such as research on different specific academic majors, different ages and different academic levels. Finally, more entrepreneurship research should be implemented in different contexts for technical students.

## References

- [1] Becchard Béchard, J. P., and Grégoire, D., "Entrepreneurship Education Research Revisited: The Case of Higher Education", *Academy of Management Learning & Education*, 4 (2005) 1, 22-38.

- [2] Nguyen Thu Thuy and Nguyen Ngoc Huyen, "Determinants of university students' entrepreneurship", *Journal of Economics and Development*, 7/2014.
- [3] Fiet, J.O., "The theoretical side of teaching entrepreneurship", *Journal of Business Venturing*, 16 (2000) 1, 1-24.
- [4] Wu, S., Wu, L., "The impact of higher education on entrepreneurial intention of university students in China", *Journal of Small Business and Enterprise Development*, 15 (2008), 752- 774.
- [5] Liñán, F., Chen, Y.W., "Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial intentions", *Entrepreneurship Theory and Practice*, 33 (2009) 3, 593-617.
- [6] Krueger, N.F., Reilly, M.D., Carsrud, A.L., "Competing models of entrepreneurial intentions", *Journal of Business Venturing* 15 (2000) 5/6, 411-432.
- [7] Ajzen, I., "The theory of planned behavior", *Organizational Behavior and Human Decision Processes* 50 (1991) 2, 179-211.
- [8] Verzat, C., and Bachelet, R., "Developing and Entrepreneurial Spirit among engineering college students: What are the educational factors?", *Entrepreneurship Education*, Fayolle, A., and Klandt, H., Elgar, E., (eds) chapter 11, 2006.
- [9] Souitaris, V., Zerbinati, S. & Al-Laham, A., "Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources", *Journal of Business Venturing*, 22 (2007) 4, 566-591.
- [10] Balan, P., Metcalfe, M., "Identifying teaching methods that engage entrepreneurship students", *Education & Training*, 54 (2012) 5, 368-384.
- [11] Vesa P. T., "Learning entrepreneurship in higher education", *Education and Training*, 52 (2010) 1, 48-61.
- [12] El-Khasawneh, B., "Entrepreneurship Promotion at Educational Institutions: A Model Suitable for Emerging Economies", *WSEAS transactions on business and economics*, 5 (2008) 2, 27-35.
- [13] Lüthje, C., and Franke, N., "Entrepreneurial Intentions of Business Students: A Benchmarking Study", *International Journal of Innovation and Technology Management*, 1 (2004) 3, 269-288.
- [14] Florin, J., Karri, R., and Rossiter, N., "Fostering entrepreneurial drive in business education: An attitudinal approach", *Journal of Management Education*, 31 (2007) 1, pp. 17-42.
- [15] Peterman, N.E. & Kennedy, J., "Enterprise Education: Influencing Students' Perceptions of Entrepreneurship", *Entrepreneurship Theory and Practice*, 28 (2003) 9 2, 129-144.