

## Factors affecting entrepreneurial intentions among youths in Vietnam

Nguyen Anh Tuan<sup>a,\*</sup>, Do Thi Hai Ha<sup>b</sup>, Vu Thi Bich Thao<sup>c</sup>, Dang Kim Anh<sup>d</sup>, Nguyen Hoang Long<sup>e</sup>

<sup>a</sup> Central Committee of the Ho Chi Minh Communist Youth Union, Hanoi, Viet Nam

<sup>b</sup> Faculty of Management Science, National Economics University, Hanoi, Viet Nam

<sup>c</sup> Youth Research Institute, Ho Chi Minh Communist Youth Union, Hanoi, Viet Nam

<sup>d</sup> Institute for Global Health Innovations, Duy Tan University, Da Nang, Viet Nam

<sup>e</sup> Center of Excellence in Behavioral Medicine, Nguyen Tat Thanh University, Ho Chi Minh city, Viet Nam

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### ABSTRACT

**Background:** Promoting entrepreneurship among youths is critical to achieve of the goal of the Vietnamese Government as having one million businesses operating effectively until 2020. This requires an understand of entrepreneurial intentions in this population, as well as related potential barriers and facilitators. However, evidence about entrepreneurial intentions in Vietnamese youths is limited. This study aims to clarify the factors influencing the entrepreneurial intentions among youths in Vietnam.

**Materials and methods:** An online survey was conducted in 1600 youths from ten provinces including Hai Duong, Nghe An, Da Nang, Ben Tre, Dong Thap, Binh Dinh, Ho Chi Minh city, Bac Ninh, Ha Noi and Bac Giang. The Theory of Planned Behaviors was applied to build a conceptual framework. Instruments included socio-demographic characteristics, scales to measure entrepreneurial intentions, social norms, attitude toward entrepreneurship, perceived behavioral control, attitudes toward money, desire for success, education about entrepreneurship, experiences with entrepreneurship, business environment, and creativity. Multivariate linear regression was used to identify the connections between entrepreneurial intentions and potential antecedents.

**Results:** The level of entrepreneurial intentions was medium (Mean = 3.400; SD = 0.870). The mean score of “Desire for success and challenge” was the highest at 3.784 (SD = 0.695), following by “Entrepreneurship education” at 3.637 (SD = 0.801). The lowest score was 3.071 (SD = 0.799) in “Perceived Behavioral Control”. Results show that Desire for success and challenge, Attitude toward Entrepreneurship, Perceived Behavioral Control, Experiences with Entrepreneurship, and Creativity were positively correlated with the entrepreneurial intentions among Vietnamese youths. In which, Attitude toward Entrepreneurship had the highest influence (Adjusted Coefficient = 0.293;  $p < .01$ ), following by Desire for Success and Challenge (Adjusted Coefficient = 0.248;  $p < .01$ ) and Perceived Behavioral Control (Adjusted Coefficient = 0.231;  $p < .01$ ).

**Conclusion:** This study highlighted the medium level of entrepreneurial intentions among Vietnamese youths. Our study highlighted the medium levels of entrepreneurial intentions among Vietnamese youths. Providing innovative educational support and organizing business contests in school, as well as developing youth entrepreneurship-oriented policies that help them to access sufficient resources for starting a business are vital to encourage youths' interest in entrepreneurship.

### 1. Introduction

Globally, the promotion of entrepreneurship has a vital role in the development of modern economies and society (Holmgren & From, 2005; Ozaralli & Rivenburgh, 2016). Entrepreneurship fosters the innovation and technology progress as well as employment generation, and contributes to the establishment of new market opportunities, which stimulate the growth of economies and national wealth (Holmgren & From, 2005). In recent years, many governments in both

developed and developing countries have focused policies to facilitate the entrepreneurship in general population, particularly among youths (Dioneo-Adetayo, 2006; Holmgren & From, 2005; Koe, Sa'ari, Majid, & Ismail, 2012; Ozaralli & Rivenburgh, 2016; Sharma & Madan, 2014). Youth entrepreneurship has been a major concern because it is an important strategy to address the graduate's employability in each country. Previous literature indicated that entrepreneurship was concerned as a common career choice in students worldwide (Schwarz, Wdowiak, Almer-Jarz, & Breitenacker, 2009).

\* Corresponding author.

E-mail address: [nguyenanhtuan.twd@gmail.com](mailto:nguyenanhtuan.twd@gmail.com) (A.T. Nguyen).

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Facilitating intentions of young people toward entrepreneurship is important to encourage them to become entrepreneurs. Entrepreneurs frequently begin with an intention before starting their business (Krueger, Reilly, & Carsrud, 2000). Prior evidence found a linkage between personal intentions and business start decision (Ozaralli & Rivenburgh, 2016). Moreover, entrepreneurial intentions could be cultivated via appropriate and regular training sessions as well as exposing support policies (Boulton & Turner, 2005). However, factors that can influence entrepreneurial intentions vary in different settings due to the differences in individual, social, culture and environmental perspectives (Dioneo-Adetayo, 2006; Holmgren & From, 2005; Koe et al., 2012; Ozaralli & Rivenburgh, 2016; Sharma & Madan, 2014). Therefore, it is critical to get insights into the antecedents to the entrepreneurial intentions that are specific for each country.

In literature, the Theory of Planned Behaviors (TPB) is commonly used to explain individuals' entrepreneurial intentions with three factors: attitude toward behaviors, social norm and perceived behavioral control (Dioneo-Adetayo, 2006; Holmgren & From, 2005; Koe et al., 2012; Ozaralli & Rivenburgh, 2016; Sharma & Madan, 2014). First, attitude toward behaviors is defined as “the extent to which a person has a favorable opinion of entrepreneurship”, or in other words, the perception about the advantages and disadvantages of entrepreneurship (A. M. F. do Paço, Ferreira, Raposo, Rodrigues, & Dinis, 2011; Krueger et al., 2000; Tkachev & Kolvereid, 1999). Second, the social norm refers to the “social pressure to perform or not”, which is affected by both business culture as well as attitudes of other people such as family, friends, colleges, etc. (Kolvereid & Isaksen, 2006; Yordanova & Tarrazon, 2010). TPB also underlines that behaviors could have more attraction if they have more expectations and pressures. The third is perceived behavioral control, involving the degree to which individuals feel that they have capacities to perform behavior. It is based on whether individuals know how to perform the behavior and their experiences or their conception of obstacles that can occur when performing behavior (Dioneo-Adetayo, 2006; Holmgren & From, 2005; Koe et al., 2012; Ozaralli & Rivenburgh, 2016; Sharma & Madan, 2014). In addition, other studies highlight other factors that can be associated with the entrepreneurship intentions including attitudes toward money (Schwarz et al., 2009), desire for success (Hansemark, 2003; Mohd, Maat, & Che Mat, 2014), education about entrepreneurship (Gasse, 1985; Johansen & Schanke, 2013; Paço, Ferreira, Raposo, Rodrigues, & Dinis, 2011), experiences with entrepreneurship (Basu & Virick, 2008), business environment, and creativity (Porter, 1998; Wennberg, Yar Hamidi, & Berglund, 2008).

In Vietnam, the Government has set a target that by 2020, there will be about one million businesses operating effectively; and starting a youth business is one of the most important activities to accomplish that goal. Many supportive programs, policies and funds have been implemented to promote the business among youths in Vietnam. According to the Global Entrepreneurship Report (GEM), the proportion of adults who were aware of the opportunity to start a new business in Vietnam increased from 39.4% in 2014 to 56.8% in 2015, higher than that in the entire Southeast Asia (Report, 2017). However, GEM also reported that the percentage of people intending to start a business in Vietnam was only 22.3%, which was much lower compared to other countries with similar economical development level (Report, 2017). Nonetheless, little evidence about entrepreneurial intentions among young people in Vietnam is available. Therefore, it is necessary to investigate the barriers that affect youths' entrepreneurial intentions, which could contribute to the development of policies to improve the youth entrepreneurship in Vietnam. Our research question is “What are factors that influence or associated with Vietnamese youths' entrepreneurial intentions?”. This study aims to clarify the factors influencing the entrepreneurial intentions among youths in Vietnam.

## 2. Materials and method

### 2.1. Study settings

An online survey was conducted in ten provinces including Bac Ninh, Ha Noi, Bac Giang, Hai Duong (for Northern regions), Nghe An, Da Nang, Binh Dinh (for Middle regions), Ben Tre, Dong Thap, and Ho Chi Minh city (for Southern regions). These provinces were selected according to following step: 1) We listed all provinces in Vietnam and divided into three regions: Northern (25 provinces), Middle (19 provinces) and Southern (17 provinces); 2) We selected randomly four provinces in the Northern region, three provinces in the Middle region and three provinces in the Southern region, which was proportional to the total number of provinces in each region.

### 2.2. Participants

A convenience sampling method was utilized to recruit youths into the study. In the current study, “youths” referred to individuals aged from 18 to 24 years old according to the definition of the World Health Organization. Via the network of the Youth Union in each province, we approached and invited youths to participate in the study if they 1) resided in selected provinces; 2) were from 18 to 24 years old; 3) accepted to enrol in the study. The essential sample size was calculated using the formula for estimating the population mean. With an expected population mean = 2.58/5 (regarding a prior study among Vietnamese students (Ngoc Khuong & An, 2016), expected standard deviation = 0.793, absolute precision = 0.04, the sample size was 1510 youths. However, in order to prevent the high non-response rate of online survey, a total of 2000 youths were sent the online survey, and 1600 youths returned their responses to the research team (response rate = 80%).

The majority of participants were from Ho Chi Minh city (30.6%) and Hanoi (24.5%). There were 53.5% being males and 61.4% being employed. Most (60.1%) of respondents had undergraduate education level. There were 41.8% having less than one year of working experience. Most of participants having fathers and mothers who did not involve in business (69.4% and 71.8%, respectively). (Table 1).

### 2.3. Conceptual framework

This study used the TPB to explore the factors associated with entrepreneurial intentions among Vietnamese youths. We adapted three factors (attitudes toward business development, social norm, perceived behavioral control) from TPB theory. We also used other factors including attitudes toward money (Schwarz et al., 2009), desire for success (Hansemark, 2003; Mohd et al., 2014), education about entrepreneurship (Gasse, 1985; Johansen & Schanke, 2013; Paço et al., 2011), experiences with entrepreneurship (Basu & Virick, 2008), business environment, and creativity (Porter, 1998; Wennberg et al., 2008)). The model proposed is as follows (Fig. 1).

### 2.4. Survey instruments

A self-administered structured questionnaire was used to collect the data of Vietnamese youths. First, we reviewed available questions in literature for each variable of concern in the conceptual framework. For example, the questions for entrepreneurial intentions were collected from a study of Linan et al. (Liñán & Chen, 2009); or questions for attitude toward money were identified according to the 2-item scale of Schwarz et al. (Schwarz et al., 2009). Then, we listed all possible and appropriate items, and worked with an expert panel including business, social sciences and statistics researchers to shorten the list. After that, translation experts were consulted for translating the scales from English to Vietnamese. In this study, we applied the five-level Likert scale for each question with the values ranging from 1 “Completely disagree”

**Table 1**  
Demographic characteristics.

	n	%
Gender		
Male	856	53.5
Female	744	46.5
Occupation		
Student	617	38.6
Employed	983	61.4
Education level		
Vocational training	202	12.7
Colleague	388	24.4
Undergraduate	955	60.1
Postgraduate	45	2.8
Years of working		
< 1 year	668	41.8
1– < 3 years	458	28.6
3– < 5 years	247	15.4
≥ 5 years	227	14.2
Father's occupation		
Self-employed	360	22.5
Staff in business	77	4.8
Manager in business	52	3.3
Other	1111	69.4
Mother's occupation		
Self-employed	353	22.1
Staff in business	52	3.3
Manager in business	45	2.8
Other	1150	71.8
Provinces		
Hai Duong	87	5.4
Nghe An	98	6.1
Da Nang	71	4.4
Ben Tre	99	6.2
Dong Thap	126	7.9
Binh Dinh	61	3.8
Ho Chi Minh city	489	30.6
Bac Ninh	94	5.9
Hanoi	392	24.5
Bac Giang	83	5.2

to 5 “Completely agree”. Table 2 summarizes the items for measuring each variable and the corresponding sources and codes. A pilot study with 50 youths was performed to test the structure of the questionnaire and then modification of questionnaire was conducted. Only minor issues related to terminology and design were detected and corrected.

There were three parts in the questionnaire including: 1) Introduction of the study; 2) Key questions about factors associated with the entrepreneurial intentions; 3) Socio-demographic characteristics.

2.5. Statistical analysis

SPSS 20.0 software was used for analyzing the data. The Cronbach's alpha was measured to identify the internal consistency reliability of scales. After evaluating the Cronbach's alpha, items CSC4 (“Regulations and laws in Vietnam make it difficult to impede the formation of new businesses”), DDK4 (“I decided to set up a company in the future”) and DDK6 (“I do not think seriously about starting a private company”) were excluded because the Corrected Item – Total Correlation of these items were < 0.3.

In our study, items included in the measurement were extracted from previous studies in worldwide, as well as modified for contextualizing our settings. In this case, the exploratory factor analysis (EFA) was argued that should be used (A. S. M. M. Hoque & Awang, 2016; Abu Shams Mohammad Mahmudul Hoque, Awang, Jusoff, Salleh, & Muda, 2017; Mahmudul Hoque, Siddiqui, Awang, & Tuan Baharu, 2018). This can be explained by the fact that the items might be distinguished from prior researches after modification, or study populations might be different significantly compared to prior studies. As a result, several items might not be appropriate for our study, requiring a new procedure for exploring the structure of these items.

The final list of items was included in the EFA, using the principle component analysis with an eigen value = 0.95 and factor loading = 0.4. Table 3 shows the factor loading of EFA. The results show that item KSH 5 (“It will be difficult for me to develop a business idea”) was excluded because the factor loading was < 0.4. Meanwhile, items NLS1, NLS2, NLS3, NLS7 (in “Creativity” scale) were merged with NTT items (in “Desire for success” scale) to become one factor entitled “Desire for success and challenges” (code: NCT). The cumulative variance of nine factors was 61.18%. A value of Kaiser-Meyer-Olkin test (KMO) was 0.941 and the Bartlett's test of Sphericity had *p*-value = .000, showing the suitability of data after the EFA. The Cronbach's alpha of nine factors range from 0.649 to 0.870, indicating moderate and high internal consistency reliability.

Univariate and multivariate linear regression were employed. The outcome variable was the score of entrepreneurial intentions among Vietnamese youths (ranging from 1 to 5) and the independent variables

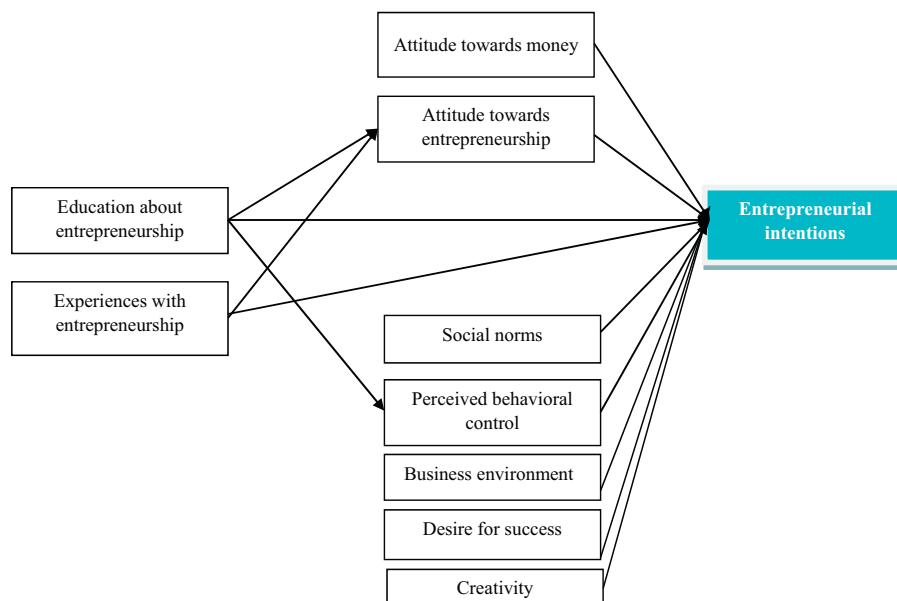


Fig. 1. TPB model to explore the entrepreneurial intentions among youths.

**Table 2**  
Summary of items.

Code	Item	Score	Sources
TDK	<b>Attitude toward entrepreneurship</b>	1–5	(Liñán & Chen, 2009)
TDK1	I have many advantages/possibilities to become an entrepreneur/owner of a business	1–5	
TDK2	Becoming a businessman is attractive for me	1–5	
TDK3	If there are opportunities and resources, I will set up my own business	1–5	
TDK4	Becoming a business owner will make me very happy	1–5	
TDK5	Being a businessman/business owner is always my passion and my career orientation	1–5	
TDT	<b>Attitude toward money</b>	1–5	(Schwarz et al., 2009)
TDT1	To me, high income is an important criterion in assessing the level of personal success.	1–5	
TDT2	It is important for me to make a lot of money	1–5	
TDT3	Money is an important measure of personal ability	1–5	
CCQ	<b>Social norms</b>	1–5	(Liñán & Chen, 2009)
CCQ1	My friends will support my decision to start a business	1–5	
CCQ2	My family will support my decision to start a business	1–5	
CCQ3	The people around me will support my decision to start a business	1–5	
KSH	<b>Perceived behavioral control</b>	1–5	(Liñán & Chen, 2009)
KSH1	Opening and operating a company are easy/not difficult for me	1–5	
KSH2	I believe that I cannot/it is difficult to start my own business	1–5	
KSH3	I can control the process of setting up a new business	1–5	
KSH4	If I set up my own company, there is more likely that I would be successful	1–5	
KSH5	It will be difficult for me to develop a business idea	1–5	
KSH6	I know what to do to grow a business	1–5	
GDK	<b>Entrepreneurship education</b>	1–5	
GDK1	Entrepreneurship should be taught in high school/college	1–5	(Liñán, 2004)
GDK2	If there is a chance I will study the field of Entrepreneurship	1–5	(Gurbuz & Aykol, 2008)
GDK3	Entrepreneurship should be a compulsory course to encourage entrepreneurship in the school.	1–5	(Yeng Keat & Ahmad, 2012)
GDK4	Schools should have more entrepreneurship programs that will help students to get better start.	1–5	
GDK5	University courses are well prepared for our entrepreneurship	1–5	
KNK	<b>Experiences in entrepreneurship</b>	1–5	(Orouch, 2006)
KNK1	The failures (difficulties) have helped me create a successful business	1–5	
KNK2	My previous business activities have prepared me to think about starting a business	1–5	
KNK3	A successful business friend gave me reason to think about starting my own business	1–5	
CSC	<b>Government's supportive policies</b>	1–5	(Sonmez Selcuk & Turker, 2009)
CSC1	In Vietnam, the government encourages entrepreneurship	1–5	
CSC2	The Vietnamese economy provides many opportunities for entrepreneurs	1–5	
CSC3	It is not easy to get loan from a bank when starting a business in Vietnam	1–5	
CSC4	Regulations and laws in Vietnam make it difficult to impede the formation of new businesses	1–5	
NTT	<b>Desire for success</b>	1–5	(Mhango, 2006)
NTT1	I am the one who always wants to achieve high achievement in work and career success	1–5	
NTT2	To me, failure is the norm in business	1–5	
NTT3	I think success or failure is due to myself, not others and circumstances	1–5	
NTT4	I like to accomplish my goals (or tasks assigned)	1–5	
NTT5	When I have time, I will return to the unfinished work and finish them	1–5	
NTT6	I often spend a lot of time on learning new things in my life	1–5	
NSL	<b>Creativity</b>	1–5	(Mueller & Thomas, 2001)
NLS1	I prefer a job that requires skill and experience/practice rather than creative work	1–5	
NLS2	I like the job that requires the performer to think when starting	1–5	
NLS3	People often ask me to help/participate in creative activities	1–5	
NLS4	I'm not a very innovative person	1–5	
NLS5	I am often satisfied when I get the job skills/expertise when I come up with a new idea	1–5	
NLS6	People are often surprised by the new ideas/ideas that I give	1–5	
NLS7	For a job, I like experimenting with different ways of doing things than just doing it in a single way	1–5	
NLS8	I usually do the work according to the process that I am taught	1–5	
DDK	<b>Entrepreneurial intentions</b>	1–5	(Liñán & Chen, 2009)
DDK1	I am willing to do anything to become an entrepreneur	1–5	
DDK2	I will try my best to start and run my business	1–5	
DDK3	I'm not really confident about starting my own business	1–5	
DDK4	I decided to set up a company in the future	1–5	
DDK5	My career goal is to become an entrepreneur	1–5	
DDK6	I do not think seriously about starting a private company	1–5	

included Desire for success and challenge, Attitude toward entrepreneurship, Attitude toward money, Social norms, Perceived Behavioral Control, Entrepreneurship education, Experiences in Entrepreneurship and Government's supportive policies. For multivariate regression, we adjusted the effects of these factors with socio-demographic characteristics including gender, occupation, education level, years of working experience, father's occupation and mother's occupation. P-value < .05 was considered a statistical significance.

### 3. Results

Table 4 reveals that the level of entrepreneurial intentions was above medium level (Mean = 3.400; SD = 0.870). The mean score of "Desire for success and challenge" was the highest at 3.784 (SD = 0.695), following by Entrepreneurship education at 3.637 (SD = 0.801). The lowest score was 3.071 (SD = 0.799) in perceived Behavioral Control.

Table 5 shows the consistence between univariate and multivariate linear regression models in identifying the relationships between the entrepreneurial intentions and other potential factors. Results show

**Table 3**  
Factor loading of measurements.

		Component								
		NCT	TDK	KSH	GDK	CCQ	KNK	NLS	TDT	CSC
NLS1	I prefer a job that requires skill and experience/practice rather than creative work	0.405								
NLS2	I like the job that requires the performer to think when starting	0.619								
NLS3	People often ask me to help/participate in creative activities	0.428								
NLS7	For a job, I like experimenting with different ways of doing things than just doing it in a single way	0.535								
NTT1	I am the one who always wants to achieve high achievement in work and career success	0.654								
NTT2	To me, failure is the norm in business	0.598								
NTT3	I think success or failure is due to myself, not others and circumstances	0.603								
NTT4	I like to accomplish my goals (or tasks assigned)	0.731								
NTT5	When I have time, I will return to the unfinished work and finish them	0.686								
NTT6	I often spend a lot of time on learning new things in my life	0.723								
TDK1	I have many advantages/possibilities to become an entrepreneur/owner of a business	0.574								
TDK2	Becoming a businessman is attractive for me	0.758								
TDK3	If there are opportunities and resources, I will set up my own business	0.740								
TDK4	Becoming a business owner will make me very happy	0.715								
TDK5	Being a businessman/business owner is always my passion and my career orientation	0.684								
KSH1	Opening and operating a company are easy/not difficult for me			0.785						
KSH2	I believe that I cannot/it is difficult to start my own business			0.600						
KSH3	I can control the process of setting up a new business			0.754						
KSH4	If I set up my own company, there is more likely that I would be successful			0.697						
KSH6	I know what to do to grow a business			0.454						
GDK1	Entrepreneurship should be taught in high school/college				0.652					
GDK2	If there is a chance I will study the field of Entrepreneurship				0.644					
GDK3	Entrepreneurship should be a compulsory course to encourage entrepreneurship in the school.				0.733					
GDK4	Schools should have more entrepreneurship programs that will help students to get better start.				0.676					
GDK5	University courses are well prepared for our entrepreneurship				0.541					
CCQ1	My friends will support my decision to start a business					0.724				
CCQ2	My family will support my decision to start a business					0.735				
CCQ3	The people around me will support my decision to start a business					0.724				
KNK1	The failures (difficulties) have helped me create a successful business						0.626			
KNK2	My previous business activities have prepared me to think about starting a business						0.818			
KNK3	A successful business friend gave me reason to think about starting my own business						0.786			
NLS4	I'm not a very innovative person							0.547		
NLS5	I am often satisfied when I get the job skills/expertise when I come up with a new idea							0.627		
NLS6	People are often surprised by the new ideas/ideas that I give							0.578		
NLS8	I usually do the work according to the process that I am taught							0.669		
TDT1	To me, high income is an important criterion in assessing the level of personal success.								0.648	
TDT2	It is important for me to make a lot of money								0.727	
TDT3	Money is an important measure of personal ability								0.523	
CSC1	In Vietnam, the government encourages entrepreneurship									0.584
CSC2	The Vietnamese economy provides many opportunities for entrepreneurs									0.668
CSC3	It is not easy to get loan from a bank when starting a business in Vietnam									0.523
Cronbach's alpha		0.870	0.856	0.783	0.797	0.856	0.831	0.649	0.721	0.649

Note: NCT: Desire for success and challenge; TDK: Attitude toward entrepreneurship; TDT: Attitude toward money; CCQ: Social norms; KSH: Perceived Behavioral Control; GDK: Entrepreneurship education; KNK: Experiences in Entrepreneurship; CSC: Government's supportive policies; NSL: Creativity; DDK: Entrepreneurial intentions.

**Table 4**  
Description of measures.

Code	Note	Mean	SD
NCT	Desire for success and challenge	3.784	0.695
TDK	Attitude toward entrepreneurship	3.590	0.864
TDT	Attitude toward money	3.581	0.880
CCQ	Social norms	3.585	0.932
KSH	Perceived Behavioral Control	3.071	0.799
GDK	Entrepreneurship education	3.637	0.801
KNK	Experiences in Entrepreneurship	3.576	0.903
CSC	Government's supportive policies	3.563	0.790
NSL	Creativity	3.410	0.705
DDK	Entrepreneurial intentions	3.400	0.870

that Desire for success and challenge, Attitude toward Entrepreneurship, Perceived Behavioral Control, Experiences with Entrepreneurship, and Creativity were positively correlated with the entrepreneurial intentions among Vietnamese youths. Specifically, in the multivariate regression, Attitude toward Entrepreneurship had the highest influence (Adjusted Coefficient = 0.293;  $p < .01$ ), following by Desire for success and challenge (Adjusted Coefficient = 0.248;  $p < .01$ ) and

Perceived Behavioral Control (Adjusted Coefficient = 0.231;  $p < .01$ ).

#### 4. Discussion

Our study supplements the general understanding of the connections between entrepreneurial intentions and different individual, family and environmental factors. Overall, our participants showed the medium levels of entrepreneurial intentions to start the business among Vietnamese youths. The current study also supported the existing literatures that higher entrepreneurial intentions were associated with higher desire for success and challenge, attitude toward entrepreneurship, perceived behavioral control, experiences with entrepreneurship and creativity. These findings are critical and imply several suggestions to increase the entrepreneurial intentions among youths in Vietnam, which perhaps lead to the growth of youths starting their own business in the future.

In this study, we found a medium level of intentions to become the entrepreneurs among Vietnamese youths. In comparison with the attitude toward entrepreneurship, the levels were somewhat similar, showing the consistency between the attitude and intentions. This finding was even higher than that among youths in the study in other



**Table 5**  
Linear regression models.

	Model 1 <sup>a</sup>			Model 2 <sup>b</sup>		
	Coefficient	SE	p-value	Coefficient	SE	p-value
<b>Constant</b>	0.133	0.110	0.223	0.196	0.160	0.221
Desire for success and challenge	0.249	0.036	0.000	0.248	0.036	0.000
Attitude toward entrepreneurship	0.300	0.027	0.000	0.293	0.027	0.000
Attitude toward money	−0.014	0.023	0.536	−0.016	0.023	0.476
Social norms	−0.027	0.024	0.263	−0.019	0.024	0.419
Perceived Behavioral Control	0.221	0.025	0.000	0.231	0.026	0.000
Entrepreneurship education	−0.005	0.028	0.859	0.005	0.028	0.857
Experiences in Entrepreneurship	0.127	0.024	0.000	0.123	0.024	0.000
Government's supportive policies	0.007	0.027	0.796	0.003	0.027	0.924
Creativity	0.075	0.029	0.010	0.071	0.029	0.015
Gender				−0.077	0.035	0.029
Occupation				−0.015	0.045	0.744
Education level				0.054	0.023	0.021
Years of working experience				−0.030	0.020	0.135
Father's occupation				0.011	0.019	0.575
Mother's occupation				−0.016	0.019	0.411

<sup>a</sup> Unadjusted model.

<sup>b</sup> Adjusted model.

settings such as the United States and Turkey, which found that the intention was weak but the attitude toward entrepreneurship was in high levels (Ozaralli & Rivenburgh, 2016). This can be explained by the social and cultural differences. Wennekers et al. suggested that youths in developed countries were more likely to be attracted by career options in private or public organizations and companies, which reduced their risk related to new venture creation (Ozaralli & Rivenburgh, 2016; Wennekers, van Wennekers, Thurik, & Reynolds, 2005). Moreover, data from GEM project depicted that people in less developed countries had more entrepreneurship activities than in the wealthy nations (Report, 2017). Other previous studies confirmed that those living in developing nations had higher level of entrepreneurial intentions than others in developed countries (Davey, Plewa, & Struwig, 2011; Iakovleva, Kolvereid, & Stephan, 2011).

Regarding TPB, in line with other prior studies, perceived behavioral control and attitude toward entrepreneurship were positively associated with the entrepreneurial intentions (A. M. F. do Paço et al., 2011; Ozaralli & Rivenburgh, 2016; Schwarz et al., 2009). Akmaliah et al. found that youths having higher level of entrepreneurial intentions had higher perceived behavioral control scores (Akmaliah & Iope pihie, 2018). Another study showed that higher education should provide self-development experience to the youths because education about entrepreneurship might improve understanding and experience of youths, leading to the increase of their self-efficacy, and, eventually, increase the likelihood of entrepreneurship among youths (Wood & Bandura, 1989). Basu and Virick (2008) also found that early access to entrepreneurship education could increase perceived behavioral control (Basu & Virick, 2008). In addition, youths with previous entrepreneurship experience would be more confident with their abilities, leading to higher entrepreneurial intentions. Regarding attitude toward entrepreneurship, many previous studies confirmed the positive effects of attitudes toward entrepreneurship and entrepreneurial intentions (A. M. F. do Paço et al., 2011; Krueger et al., 2000; Tkachev & Kolvereid, 1999). do Paço, Ferreira, Dinis, Raposo, & Gouveia Rodrigues, 2012 suggested the impacts of high achievement, self-confidence, and individual attitudes on the business intentions among high school youths (do Paço et al. (2012)).

Surprisingly, we did not find the linkage between social norms and the intentions. Ozaralli et al. found in Turkey that social norms had the weakest relationship with the entrepreneurial intentions (Ozaralli & Rivenburgh, 2016). Kolvereid et al. studied social norms from Norwegian business founders and found that social norms were significantly related to the entrepreneurial intentions (Kolvereid & Isaksen, 2006).

Similarly, Reynolds et al. concluded that people who received social support had a higher likelihood of starting a business (Reynolds, 2005). Yordanova and Tarrazon (2010) also found that more social norms that encouraged entrepreneurial behavior increased more entrepreneurial intentions (Yordanova & Tarrazon, 2010). On the other hand, other studies did not find significant linkages between social norms and entrepreneurial intentions (Krueger et al., 2000; Liñán & Chen, 2009). In our study, there might be other social and cultural factors influencing their entrepreneurial intentions instead of opinions of their families, relatives or friends. Indeed, we found a relatively high score in the attitude toward entrepreneurship among our respondents, and this factor had the highest contribution to the entrepreneurial intentions as shown in the regression model. We assumed that Vietnamese youths have been more independent in deciding their career path compared to the past, when career opportunities were limited. Indeed, youths in Vietnam can now ease to find supports to run their own business due to a number of activities implemented by the Government and Entrepreneurship organizations.

In this study, we also identified the importance of personality in the entrepreneurial intentions, in which desire for success and challenge, creativity and experience with entrepreneurship were significantly related to the intentions. Especially, we found a relatively high score in the desire for success and challenge, implying youths' willingness to take risk for starting their business (Ozaralli & Rivenburgh, 2016). This factor, along with the attitude toward entrepreneurship, has the largest contribution to the entrepreneurial intentions. Notably, creativity and experience with entrepreneurship seemed to have a limited impact on the intentions. Although some innovative teaching methods have been introduced in Vietnam in recent years, most of universities applied the traditional teaching method for teaching students. This limitation was supposed to not facilitate students and youths to have critical thinking and creative approaches while only showed them how to solve the problems with the traditional ways. Thus, youths might not evaluate their creativity in high levels and therefore it might contribute a minor effect on the change of intention.

Our study has several implications. First, for school-level, innovative teaching methods that promote the creativity and critical thinking among students should be developed and performed. Moreover, entrepreneurship activities should also be encouraged in the universities and schools, for example via school business contests to encourage youths' desire for success and challenge, which can motivate them to engage in the entrepreneurship after graduation. Supporting to find information about starting business, organizing seminars or

workshops with experienced entrepreneurs should also be warranted. Second, for country-level, the Government should develop more policies and national contests related to youth entrepreneurship to support youths in finding proper and timely advices as well as funding to raise their business.

Our strengths included a large sample size in different provinces of Vietnam. In addition, by using EFA, our scales to measure the entrepreneurial intentions and associated factors have shown high reliability and discriminate validity. These advantages imply that our measures can be applied in other settings with similar population. However, there are several limitations that should be addressed in further studies. First, the cross-sectional design limited our capacity to draw the causal relations between entrepreneurship intention and associated factors found in this study. Second, we evaluated the youths' perceptions in according to their future entrepreneurial intentions, but not actual behaviors. Because intentions might not lead to the actions, further longitudinal studies about the factors associated with intentions and whether the participants actually start their business should be warranted. Third, because our samples were recruited via the network of the Youth Union in each province, the samples might not represent the entire youth population in Vietnam. Finally, our data were collected from the online survey; thus, it is difficult to control the quality of answers among respondents. However, we attempted to reduce this bias by introducing the aims of this study clearly and the importance of their contribution before sending them the survey, which might facilitate them to do the survey with their true perceptions and attitudes.

## 5. Conclusion

With the goal of the Vietnam government to acquire one million businesses til 2020, improving the entrepreneurial intentions and business activities among youths is crucial. Our study highlighted the medium levels of entrepreneurial intentions among Vietnamese youths. Providing innovative educational support and organizing business contests in school, as well as developing youth entrepreneurship-oriented policies that help them to access sufficient resources for starting a business are vital to encourage youths' interest in entrepreneurship.

## Author declaration

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

We further confirm that any aspect of the work covered in this manuscript that has involved either experimental animals or human patients has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript.

We understand that the Corresponding Author is the sole contact for the Editorial process (including Editorial Manager and direct communications with the office). He/she is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs. We confirm that we have provided a current, correct email address which is accessible by the Corresponding Author and which has been configured to accept email from [nguyenanhtuan.twd@gmail.com](mailto:nguyenanhtuan.twd@gmail.com)

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