

# Examining the Moderating Role of Perceived Education Support in Shaping Entrepreneurial intentions among Higher Education Students: A TPB and VBN Perspective

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## ABSTRACT

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This study aims at developing a comprehensive model based on theory of planned behavior (TPB) and value-belief-norm (VBN) to examine the impact of personal competencies in strategic and management aspects on improved perceived behavioral control. Also, perceived behavioral control, personal attitude, and subjective norms can enhance entrepreneurial intention of students of higher education institutions in starting their own businesses before or upon graduation. The model was tested with quantitative approach using a partial least square-structural equation modeling (PLS-SEM). Our results of 446 respondents showed that most of the hypotheses were significant, except the impact of strategic competencies on perceived behavioral control, and the impact of subjective norm on entrepreneurial intention. A moderator – perceived education support from institution was introduced and found to be significant between the relationships of strategic competencies and perceived behavioral control. Overall, this research highlights the need to develop students' competencies to facilitate their need to be future entrepreneurs.

**Keywords:** Entrepreneurial intention, perceived behavioral control, personal competencies, perceived desirability, perceived education support, theory of planned behavior, value-belief-norm.

## INTRODUCTION

The COVID-19 outbreak on a global scale has sparked fears of an economic crisis and recession [1]. The devastating effects from this pandemic has led to an unprecedented collapse in the World's economy. The Hong Kong economy has been slowly revived, growing by 4.1% annually while due to the unfavorable external environment, there are still potential negative effects on the unemployment rate when looking ahead [2]. Entrepreneurship is a novel force for every industry to stay competitive amidst the global pandemic [3]. There has been a growing trend for students in higher education institutions to start their own business during or after their graduation, in the form of an online shop on social media platforms. For some of them, the lack of entrepreneurial knowledge, or unfavorable perception of business success may deter them from having entrepreneurial intention or willingness to start a business.

To equip youngsters with necessary entrepreneurial skills so they can become entrepreneurs, relevant training is crucial. These skills may include the ability to identify market opportunities, generate innovative ideas and create new businesses, which are valuable assets in dealing with the challenging and dynamic environment in the post-pandemic era. Entrepreneurship training on one hand enhances self-confidence of students, and on the other hand reduces youth unemployment. To cater to these employability needs, this paper aims to examine students' willingness

to start a new business on their own if they have gained relevant business knowledge, improved their competencies, and attitude perception towards entrepreneurship. Theory of planned behavior (TPB) [4] is hence used to explain the development of entrepreneurial intention in conjunction with value-belief-norm (VBN) theory. Indeed, only a few researchers used value-belief-norm [5] in conjunction with TPB as a lens to understand entrepreneurial intentions [6]. To our knowledge, the empirical investigation of decision-making processes in pursuing entrepreneurship as a career choice using the VBN has yet to be fully adopted. Therefore, this research aims at investigating the impact of personal competencies in strategic and management aspects on perceived behavioral control. Since students do not have sufficient working experience, a moderator – perceived education support is introduced to maximize the impact of strategic competencies on perceived behavioral control. Next, the positive effects of perceived behavioral control, personal attitude, and subjective norm on entrepreneurial intentions are examined.

The remainder of the paper is organised as follows, theories and constructs are first introduced, along with hypotheses and conceptual model. Then, the methodology section includes sampling, data collection method, development of measurement items, and results. Based on the findings, valuable insights are provided to help institutions develop more effective educational programs on entrepreneurship for students who want to pursue their own business.

## **LITERATURE REVIEW**

### **Value-belief-norm (VBN) Model**

The predictive power of using one model is not large enough. This research combines two theories into a single conceptual model to better predict desirable behaviors: VBN theory [5] and TPB [4].

VBN was developed by Stern et al. (1999) [5] to predict human behavior, especially on pro-environmental behaviour via values, beliefs, and norms while empirical studies based on VBN on entrepreneurial intention is scarce in existing literature. Personal values are implicit or explicit concerns, that are distinctive to an individual [7]. Values also comprise a person's self-identity and affect how a person might behave in different scenarios [8]. With this understanding, the specific way students feel about the capacity of entrepreneurship depends on their individual values and perception toward the education support received from institutions, which reflect the goals of their individual life. Students' entrepreneurial intention can then be entirely derived from their values in terms of self-direction and social affiliation [9].

VBN theory suggests that students' values guide their beliefs, so values in terms of perceived education support can shape individuals' beliefs about their strategic and management competencies on perceived behavioral control. Extensive research has been done to explore personal entrepreneurial competencies that students are capable of developing [10, 11]. This involves preparing an individual to engage in entrepreneurial activity in a classroom setting, strengthening a positive mindset in becoming potential entrepreneurs and cultivating an enterprise culture in higher education institutions [11]. More specifically, strategic competencies involve developing, executing, and evaluating strategies for a firm [12]. This area of competency can be operationalized through behaviors such as acquiring and developing resources, having a clear understanding of the impact of expected directions on firm performance, prioritizing work that aligns with business goals, and developing strategic actions through evaluation of cost and benefit. Managing change is also considered as strategic competencies and can contribute to success, particularly for firms operating in an intense competitive environment [13]. The next personal competency is management competencies, refers to familiarity with the market and involves business planning and operational skills, administration, financial skills, marketing and technical skills, and monitoring and control skills [13]. Education and training in entrepreneurship can enhance individuals to develop functional management skills and abilities and train them to start and manage a business [14]. Hence, good education support from an institution is an efficient way to equip students with necessary skills, knowledge, confidence and resources to enhance entrepreneurial capacity to prepare them for self-employment [15], and it can serve as a moderator between strategic competencies and perceived behavioral control. Hence, the following hypotheses are developed:

H1: Strategic competencies have a positive impact on perceived behavioral control.

H2: Perceived education support moderates the relationship between strategic competencies and perceived behavioral control.

H3: Management competencies have a positive impact on perceived behavioral control.

### Theory of Planned Behavior (TPB)

To continue the discussion from the previous section, this study also aims at contributing to the theories of planned behavior [4], adding to the literature of entrepreneurship education and intention. TPB consists of three elements. The first is perceived behavioral control, defined as self-efficacy and entrepreneurial capacity [16, 17]. It is an important construct in TPB, suggesting that students' perception of difficulty or ease in completing a given behavior depends on whether or not they have the control to perform the behavior [18]. Perceived behavioral control in entrepreneurship is therefore defined as the confidence of individuals who have the capabilities to successfully perform various entrepreneurial tasks in various developmental stages of starting a business, [19] and with this belief, individuals have a greater intention to show entrepreneurial intentions [19, 20, 21]. From the above, we hypothesize that:

H4: Perceived behavioural control has a positive impact on entrepreneurial intention.

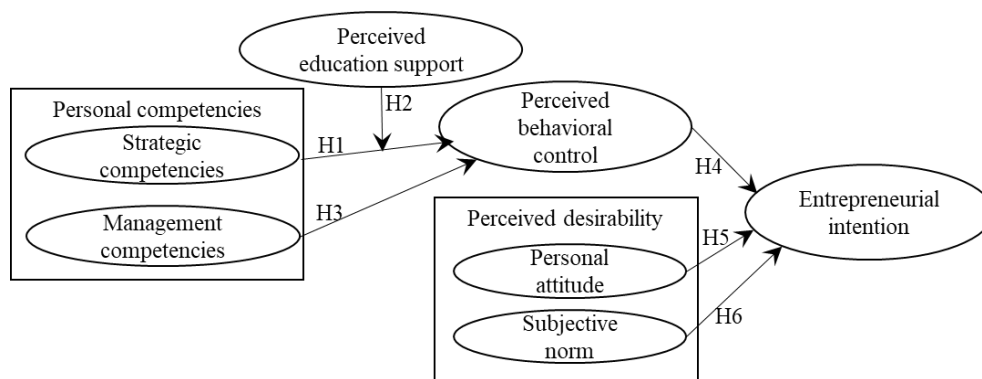
Personal attitude and subjective norm are the second and third elements in TPB, which constitute perceived desirability [22]. Perceived desirability can be defined as the individual's perception of the attractiveness to start a business [23] and this in turn affects intention towards entrepreneurship [21,24]. Particularly, attitude is defined as an individual's overall evaluation of the behavior [4]. Upon personal attitude, students are motivated and engaged only if they perceive that having a startup is better than the alternatives [25]. Traditionally, entrepreneurial intention can be used to determine whether a person performs entrepreneurial behaviors [26] and that such intention is dependent on the person's attitudes toward such behavior [4]. Based on the above discussion, the following hypothesis is considered:

H5: Personal attitude has a positive impact on entrepreneurial intention.

Subjective norm refers to individual's perceived expectations of others or perception of social pressure to perform or not on a specific behavior [4] and this can predict and shape entrepreneurial intention [27]. It is assumed that individuals make decisions depending on the norms from their surroundings and assistance provided to them that can help them achieve success in starting up a new firm. Thus, students who have the intention to start up a firm because they want to gain social approval from their peers and groups they belong to, and the last hypothesis is:

H6: Subjective norms have a positive impact on entrepreneurial intention.

To conclude, VBN and TPB both have unique theoretical core and assumptions, allowing for the development of the conceptual model of this study (as shown in Fig.1) and the proposed six hypotheses



**Figure 1.** Conceptual model of the study

## METHODOLOGY

## Sample and Data Collection

446 respondents who had received entrepreneurial education or training were recruited to participate in this survey. They came from three major cities, with 183 from Beijing, the capital of China; 166 from Shanghai, a global financial hub; and 97 from Hong Kong, a Special Administrative Region known for being the 3<sup>rd</sup> international financial center with high economic freedom. The respondents were asked to complete an online survey. The gender, age, education level, monthly income, job status was shown on Table I, in which most of them were having full-time study without a job (392, 87.9%).

Table 1: espondent Profile

| Attributes      | Category                                | N   | %    |
|-----------------|---|-----|------|
| Gender          | Male                                    | 165 | 37   |
|                 | Female                                  | 281 | 63   |
| Age             | 17-22                                   | 314 | 70.4 |
|                 | 23-27                                   | 119 | 26.6 |
|                 | 28 or above                             | 10  | 3    |
| Education level | Secondary school                        | 5   | 1.1  |
|                 | Diploma/Associate degree/Higher diploma | 131 | 29.4 |
|                 | Bachelor's degree                       | 299 | 67   |
|                 | Master's degree                         | 10  | 2.2  |
|                 | Doctorate degree                        | 1   | 0.2  |
| Monthly income  | Below RMB\$8,000                        | 385 | 86.9 |
|                 | RMB\$8,000-\$15,999                     | 36  | 8.1  |
|                 | RMB\$16,000-\$23,999                    | 16  | 3.6  |
|                 | RMB\$24,000 or above                    | 6   | 1.4  |
| Job status      | Having a part-time job                  | 39  | 8.7  |
|                 | Having a full-time job                  | 14  | 3.4  |
|                 | Full time studying without a job        | 392 | 87.9 |
| Location        | Beijing                                 | 183 | 41   |
|                 | Shanghai                                | 166 | 37.2 |
|                 | Hong Kong                               | 97  | 21.7 |

## Measurement Items

Seven constructs that formed the conceptual model were measured using scales modified from the literature (Table II). Using a 7-point Likert scale, the ratings of each questionnaire item ranged from 1 = strongly disagree to 7 = strongly agree. Items of strategic and management competencies were adopted from Silveyra et al. [13], perceived education support and subjective norm were adopted from Ezeh et al. [15], perceived behavioral control, personal attitude, and entrepreneurial intention were adopted from Liñán et al. [22]. Reverse translation method was used to display all questionnaire items in Chinese. Partial least square-structural modelling with Smart-PLS 4 was used to evaluate the conceptual model.

## Data Analysis

Measurement Model. The reliability and validity of the conceptual model had been assessed using (1) composite reliability, (2) convergent validity, based on constructs' average variance extracted [AVE], and (3) discriminant

validity, based on the ratio of Fornell-Larcker criterion. The outer loadings of measurement items are required to exceed 0.70 to be claimed reliable [28]. The composite reliability has to exceed 0.70, the AVE of each construct was higher than the recommended threshold of 0.50 [29], showing that the model is convergent. All the above statistics were shown in Table II. The Fornell-Larcker criterion values of all constructs showed greater values than any correlations in the relevant rows and columns, displaying discriminant validity of the model (Table III).

**Table 2:** Questionnaire Items of the Study

| Constructs and measurement items   | Loadings  | Composite reliability | AVE   |
|--|---|-----------------------|-------|
| <b>Strategic competencies (SC) [13]</b><br>I am able to develop and establish longer-term directions for the firm, e.g. on the business scale, objectives, goals or projects.<br>I am capable of monitoring progress toward strategic goals.<br>I am capable of evaluating results against strategic goals.<br>I am able to determine strategic actions by balancing costs and benefits.   | 0.800<br>0.721<br>0.778<br>0.749                            | 0.847                 | 0.581 |
| <b>Management competencies (MC) [13]</b><br>I am able to manage marketing and sales.<br>I am able to develop operational systems.<br>I am able to manage the business.<br>I am able to acquire appropriate resources.  | 0.784<br>0.787<br>0.806<br>0.763                            | 0.865                 | 0.616 |
| <b>Perceived behavioral control (PBC) [22]</b><br>Starting a firm and keep it working would be easy for me.<br>I'm prepared to start a viable firm.<br>I can handle the process of a new business creation.<br>I know the necessary practical details to start a business.<br>I have the skills and abilities required to start a business.<br>I know how to develop an entrepreneurial project.<br>If I tried to start a firm, I would have a high probability of succeeding. | 0.874<br>0.886<br>0.880<br>0.858<br>0.863<br>0.882<br>0.853 | 0.956                 | 0.758 |
| <b>Perceived education support (PES) [15]</b><br>The business/entrepreneurship class(es) encourages me to develop creative ideas for being an entrepreneur.<br>The business/entrepreneurship class(es) develops my entrepreneurial skills and abilities.<br>I can start a new business because I have attended the business/entrepreneurship class(es).  | 0.781<br>0.744<br>0.861                                     | 0.839                 | 0.635 |
| <b>Personal attitude (PA) [22]</b><br>Being an entrepreneur implies more advantages than disadvantages to me.<br>A career as entrepreneur is attractive for me.<br>If I had the opportunity and resources, I'd like to start a firm.<br>Being an entrepreneur would entail great satisfactions for me.<br>Among various options, I'd rather be an entrepreneur.  | 0.766<br>0.789<br>0.712<br>0.747<br>0.796                   | 0.874                 | 0.582 |
| <b>Subjective norm (SN) [15]</b><br>People who are important to me think that I should become an entrepreneur and start my own firm.<br>People who are familiar with me think that I should become an entrepreneur and start my own firm.<br>People who influence my behavior think that I should become an entrepreneur and start my own firm.  | 0.888<br>0.891<br>0.885                                     | 0.918                 | 0.789 |

|   |       |       |
|---|-------|-------|
| <b>Entrepreneurial intention (EI) [22]</b>                      |       |       |
| I'm ready to make anything to be an entrepreneur.               | 0.842 |       |
| My career goal is becoming an entrepreneur.                     | 0.891 |       |
| I will make every effort to start and run my own firm.          | 0.776 |       |
| I'm determined to create a firm in the future.                  | 0.896 |       |
| I have very seriously thought about starting a firm.            | 0.900 |       |
| I've got a firm intention to start my own business in some day. | 0.886 |       |
|   | 0.947 | 0.751 |

**Table 3:** Discriminant Validity

| Construct                       | 1     | 2     | 3     | 4     | 5     | 6     | 7     |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|
| 1. Strategic competencies       | 0.762 |       |       |       |       |       |       |
| 2. Management competencies      | 0.736 | 0.785 |       |       |       |       |       |
| 3. Perceived behavioral control | 0.610 | 0.763 | 0.871 |       |       |       |       |
| 4. Perceived education support  | 0.572 | 0.537 | 0.558 | 0.797 |       |       |       |
| 5. Personal attitude            | 0.606 | 0.603 | 0.498 | 0.515 | 0.763 |       |       |
| 6. Subjective norm              | 0.571 | 0.708 | 0.782 | 0.602 | 0.651 | 0.888 |       |
| 7. Entrepreneurial intention    | 0.577 | 0.656 | 0.732 | 0.531 | 0.719 | 0.713 | 0.866 |

**Structural Path Model for Hypothesized Relationships.** Based on the established measurement model, the statistical significance of the hypothesized model was examined by bootstrapping with 5000 re-samples. The test is considered valid if the t-values are above 1.96 (i.e.,  $t=1.96$ ,  $p \leq 0.05$ ). Hypotheses of this study were examined using PLS-SEM path analysis (as shown in Table IV and Fig. 2). Results showed that strategic competencies had no impact on perceived behavioral control ( $\beta = 0.072$ , *n.s.*), rejecting Hypothesis 1, while perceived education support was a significant moderator between them ( $\beta = 0.104$ ,  $p < 0.01$ ), supporting Hypothesis 2. Management competencies had a positive impact on perceived behavioral control ( $\beta = 0.632$ ,  $p < 0.001$ ), supporting Hypothesis 3. Perceived behavioral control had a positive impact on entrepreneurial intention ( $\beta = 0.463$ ,  $p < 0.001$ ), supporting Hypothesis 4. Personal attitude had a positive impact on entrepreneurial intention ( $\beta = 0.451$ ,  $p < 0.001$ ), while subjective norm had no impact on entrepreneurial intention ( $\beta = 0.057$ , *n.s.*), showing that Hypothesis 5 was supported and Hypothesis 6 was rejected.

**Table 4:** Summary of PLS-SEM Path Analysis

| Path                       | Hypothesis | Path coefficients | t-statistics | p-values |
|----------------------------|------------|-------------------|--------------|----------|
| SC $\rightarrow$ PBC       | H1         | 0.072             | 1.424        | 0.154    |
| PES x SC $\rightarrow$ PBC | H2         | 0.104             | 3.033        | 0.002**  |
| MC $\rightarrow$ PBC       | H3         | 0.632             | 14.415       | 0.000*** |
| PBC $\rightarrow$ EI       | H4         | 0.463             | 8.566        | 0.000*** |
| PA $\rightarrow$ EI        | H5         | 0.451             | 8.695        | 0.000*** |
| SN $\rightarrow$ EI        | H6         | 0.057             | 0.790        | 0.430    |

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$



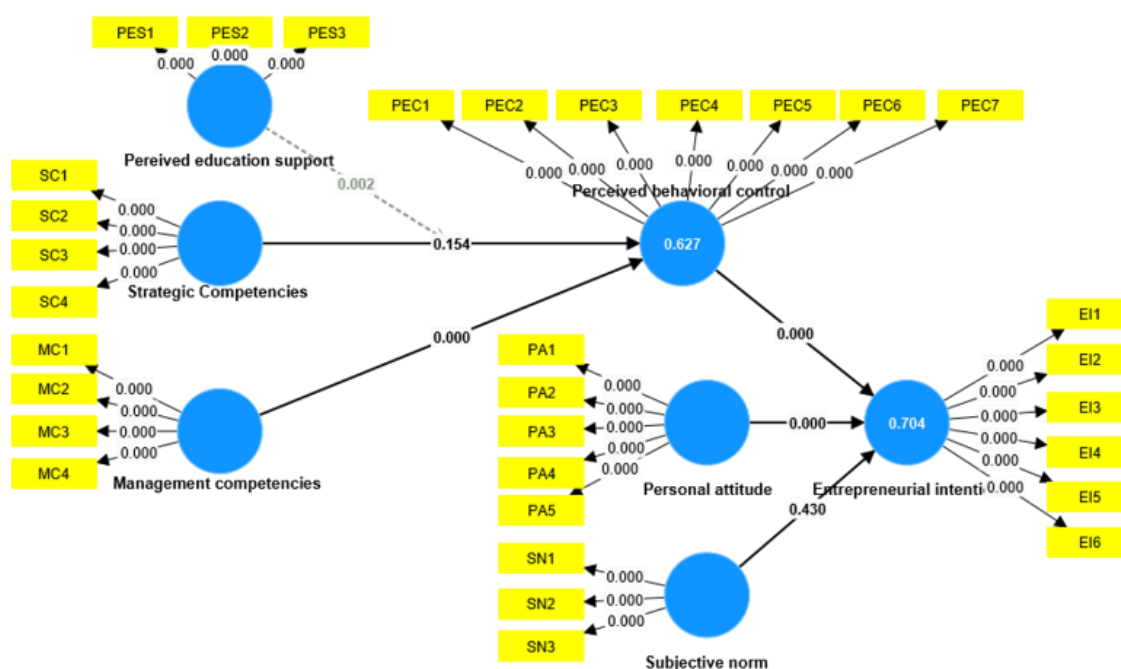


Figure 2. Structural path model

## CONCLUSION AND DISCUSSION

Numerous challenges arise in the labor market, leading to many young graduates remaining unemployed in the short-term. Entrepreneurship presents a way to overcome employment and economic problems. Education also plays an essential role in building up confidence in students, empowering them to start their own ventures. Through providing entrepreneurial education to students, the benefits extend beyond the creation of new businesses. By equipping them with the necessary knowledge and skills, entrepreneurial training and education not only nurture economic growth, but also enhance students' competences to become contributors to the job market. The current study used the TPB and VBN theories to examine the relationship of strategic competencies and management competencies on perceived behavioral control, moderating effects of perceived education support on relationship between strategic competencies and perceived behavioral control, investigate the impact of perceived behavioral control, personal attitude, and subjective norm on entrepreneurial intention.

Despite Hypothesis 1 not being supported, which means strategic competencies of students did not have positive relations on perceived behavioural control, adding a construct of perceived education support could moderate the relationship between them. The result may be due to the reasons that although students in higher education may obtain some working experience through practicum or internship work experience, they still lack strategic competencies. They do not have sufficient skills and knowledge in making long-term goals, and identifying opportunities and challenges at a strategic level, therefore not having positive mindset towards achieving personal goals, which is consistent with findings of Peterman and Kennedy [30]. While giving appropriate learning and education support on entrepreneurship can enhance knowledge, which improves their perceived self-efficacy and confidence to engage more successfully [25] and thus supporting Hypothesis 2. Therefore, proper institutional curriculum development of entrepreneurial education and training is essential to building up the competences and intention for students to attempt entrepreneurship during or after they have completed their higher education.

Next, the impact of subjective norm on entrepreneurial intention was not significant in Hypothesis 6, which was consistent with the findings from Roy et al. [31], with a weak positive relationship found between subjective norm and entrepreneurial intention. Subjective norms can be influenced by societal norms that may have a stronger emphasis on traditional career paths, and risk aversion can also discourage students from becoming an entrepreneur. Subjective norms are also shaped by a perception of how others expect and support them. The presence of mentors,

role models, or partners would be a critical factor in establishing students' entrepreneurial feasibility level [22]. Therefore, institutions may encourage entrepreneurship through introducing successful entrepreneurial mentors and role models in their social community to work with them and give them insights into the development of business ventures. Positive and successful examples from graduates can serve as supporting circles or buddies, so that students will have more confidence to start their own businesses after graduation, paving the way to a more self-reliant economy. It is believed that thoughtful motivation and support is needed to help potential entrepreneurs through the challenging initiation period.

The sample size of this research is relatively small & the age range is rather narrow. A larger sample size will make the research more representative. Also, the research results can only be generalized to entrepreneurship intention in the Chinese context. The result is affected by its unique sociocultural background and attitudes and beliefs towards entrepreneurship, which may not be generalizable to other cultures, or countries at different stage of economic development. Comparison across different countries (e.g. other Asian or European countries) or across different demographic groups (e.g. age groups and education levels) can be considered for future research.

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