

A Multidimensional Model of Planned Behavior Theory and Its Prediction on Entrepreneurial Intention

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ABSTRACT

It is widely believed that entrepreneurial intention is a central concept within entrepreneurial education. Students who have entrepreneurial intentions tend to be self-employed and were not likely to be job seekers. Therefore, in the domain of entrepreneurial research, entrepreneurial intention is a critical issue in studying entrepreneurship. Objectives: The study examines the multidimensional model of theory of planned behavior and its prediction on entrepreneurial intention among university students. The premise of this theory is that individual attitude and behavior are complex processes in which multiple factors determine effectiveness. This study investigates whether this theory will be best described with a multidimensional construct or a single construct and how the relationship path of each dimension.

Methodology: *The study used a cross-sectional design. Data was distributed to 583 university students in the vocational program at Brawijaya University Indonesia. Data was analyzed using multi-group structural equation modeling in two steps: measurement model test and structural model test. The measurement model was used to test and validated the instrument at the latent variable level while Confirmatory Factor Analysis (CFA) was used to test the model.*

Finding: *The study found entrepreneurial intention was established by a continuum construct: choice intention, commitment to entrepreneurship, and nascent entrepreneurship. Attitude toward entrepreneurship consists of two dimensions, affective and instrumental attitude. Perceived behavioral control comprises of self-efficacy and perceived controllability. Every dimension of entrepreneurial intention has a different relationship with the dimensions of attitude and perceived behavioral control with self-efficacy and affective attitude as the stronger predictor of entrepreneurial intention than instrumental attitude and perceived controllability. The association of choice intention on commitment and the effect of commitment on nascent entrepreneurship is larger among males rather than females.*

Conclusion: *The study answered the necessity to conduct and test an empirical model of the multidimensional construct of planned behavior theory and entrepreneurship intention. By treating the model as multiple models, we proposed a new perspective of the best model that describes entrepreneurial behavior. Using structural equation modeling, this study reveals the different relationship paths of each dimension.*

Keywords: Theory of planned behavior; entrepreneurship intention; multidimensional model; university student.

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INTRODUCTION

It is a wide belief that entrepreneurial intention is a central concept within entrepreneurial education. Students who have entrepreneurial intentions tend to be self-employed and were not likely to be job seekers. Therefore, in the domain of entrepreneurial research, entrepreneurial intention is a critical issue in studying entrepreneurship. Ajzen proposes that entrepreneurship is a built-in and planned behavior (Ajzen, 2019; Lortie & Castogiovanni, 2015; Ajzen 1991). It was a controlled behavior, not instinctive (Autio *et al.*, 2001; Krueger Jr & Brazeal, 1994). In other words, entrepreneurship is created by nurture, not by nature. Before an individual decides to create their own company, they must, first, have an intention to become an entrepreneur (Autio *et al.*, 2001; Gorgievski *et al.*, 2018). Entrepreneurship is an intentional or designed behavior hence entrepreneurial intention was the strongest predictor of understanding entrepreneurial behavior (Nguyen, 2017).

To develop entrepreneurial intention, several attempts have been made to discover the antecedents of entrepreneurial intention. Studies discovered the effect of personality traits on entrepreneurial intention. For example, the effects of internal locus of control, need for achievement, risk tolerance, entrepreneurial alertness, big five personalities, creativity, innovativeness, and self-efficacy on entrepreneurial intention (Dayaram *et al.*, 2020; Karabulut, 2016; Moraes *et al.*, 2018; Tomy & Pardede, 2020; Zampetakis *et al.*, 2011). Some focus on demographic effects such as gender, institutional environment, entrepreneurial education, and role model (Camelo-Ordaz *et al.*, 2016; Miranda *et al.*, 2017; Moraes *et al.*, 2018; Nowiński & Haddoud, 2019). Among the proposed variables above, planned behavior theory is the model that was believed to be a superior variable predicted entrepreneurial intention (Ajzen, 2012; Krueger & Brazeal, 1994).

This theory of planned behavior assumes that the predictors of entrepreneurial intention have an attitude towards entrepreneurship, subjective norms, and perceived behavioral control. The latest research also shows that those three variables are the predictors of entrepreneurial intention (Ojiaku *et al.*, 2018; Pejic Bach *et al.*, 2018; Zhang *et al.*, 2015). Based on the review of 123 empirical studies, the top five factors that predict entrepreneurial intention are: attitude and perceived desirability, subjective norm, perceived behavioral control, self-efficacy, and gender (Alferaih, 2017).

However, although extensive research has been carried out on the planned behavior theory, we identified some remaining gaps. Firstly, the study commonly treats entrepreneurial behavior variables as a single construct. Similarly, the previous finding only discovered that attitude toward entrepreneurship and perceived behavioral control are unidimensional constructs. Compared to Vamvaka (2020), Botsaris & Vamvaka (2016), Gracia, Morales-Gualdrón & Roig-Dobón (2018), and Valliere (2017) argue that these three variables are based on latent-model and possibly have different relationship patterns in each of its components. However, there has little evidence that measuring the planned behavior theory using the multidimensional model. The development of the prior research which could not explain the multidimensional model of planned behavior theory may cause a research bias. Hence, our study tries to fill the gap by testing the various models of planned behavior theory. In this study, we explore the best model for explaining entrepreneurial intention, whether unidimensional with a single construct model or a multidimensional model. Secondly, Vamvaka (2020) argues that the proposed multidimensional model still lacks evidence in various disciplines. Hence, our study aims to explore the multidimensional model of planned behavior theory by testing for each dimension

of attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention and analyzing the interrelation among each dimension.

This study thus used a theory of planned behavior proposed firstly by Ajzen (1991, 2019) as the theoretical background. To date, planned behavior theory, a derivative of the theory of reasoned action, has been believed as the main predictor of individual behavior (Ajzen & Kruglanski, 2019). We then develop these theories as 'multidimensional planned behavior theory' based on the previous study by Vamvaka (2020), Botsaris & Vamvaka (2016), Gracia, Morales-Gualdron & Roig-Dobón (2018), Asih et al., (2020) and Valliere (2017) which proposed that each variable of planned behavior theory consisting of three variables; attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention are multidimensional. The first variable of planned behavior theory is the attitude toward entrepreneurship which consists of two dimensions: instrumental and affective attitude (Botsaris and Vamvaka, 2016). The second variable is perceived behavior control which consists of two dimensions: self-efficacy and perceived controllability (Chien-Chi et al., 2020, Kraft et al., 2015, Vamvaka, 2020). The third variable is the entrepreneurial intention which consists of three dimensions: choice intention, commitment to entrepreneurship to nascent entrepreneurship (Thompson, 2009). Therefore, we will develop this model and test for the interrelation between each dimension.

LITERATURE REVIEW

Thompson (2009) suggests that entrepreneurial intention is a continuum, starting from choice intention, commitment to become entrepreneurs, and start-up effort (nascent entrepreneurship). The first step, choice intention, means individual preference to become an entrepreneur rather than paid employees (Verheul et al., 2012). Preference for entrepreneurship refers to "latent entrepreneurship" (Liñán & Chen, 2009). Those who prefer entrepreneurship still have not yet become an entrepreneur and have not yet taken concrete action to become entrepreneurs. The second step is a commitment to entrepreneurship. Collectiveness Entrepreneurship proves in creating innovation and communication become more effective and harmonious. Ultimately will create sustainability innovation and business and also will develops networking and supply chain (Asih et al., 2020; Harefan., & Saratian, 2018). Commitment to entrepreneurship refers to Ajzen (1991), who argues that intention is a choice that is supported by individual commitment. It is reflected by the individual mindset that focuses on creating a new venture. The last step of entrepreneurial intention is nascent entrepreneurship, which was defined as activities associated with start-up efforts. It refers to the activities of collecting new knowledge associated with entrepreneurship, building financial and social capital, planning for infrastructure, and shaping or refining new ideas for their entrepreneurial career (van der Zwan et al., 2010). Based on this literature, we put forward and tested the following hypothesis regarding a continuum definition of entrepreneurial intention among university students:

H₁= entrepreneurial intention among university students is based on a continuum of multidimensional variables, starting from choice intention, and commitment to entrepreneurship to nascent entrepreneurship.

Attitude toward entrepreneurship

The term 'attitude' has been used to refer to situations in which a person evaluates specific behavior positively or negatively (Ajzen, 1991). In the entrepreneurial context, attitude toward

entrepreneurship was defined as the positive or negative evaluation of entrepreneurial behavior (Agolla *et al.*, 2019). Similarly, Lee-Ross (2017) suggests that entrepreneurial attitude is a general evaluation of entrepreneurship attractiveness. Furthermore, Niljinda *et al.* (2019) define attitude toward entrepreneurship as "personal desirability to engage in self-employment or organizational-employment".

There is no perfect definition of attitude toward entrepreneurship. According to the theory of planned behavior, attitude toward entrepreneurship was conceived as a single construct variable, which was defined as a person's positive or negative assessment of executing a particular behavior (Liñán & Chen, 2009). Botsaris and Vamvaka (2016) argue that attitude toward entrepreneurship is a multidimensional variable that consists of three dimensions: instrumental attitude, affective attitude, and opportunity costs. However, opportunity cost, which is defined as a personal and financial sacrifice for the sake of an entrepreneurial venture, cannot be distinguished from the entrepreneurial intention concept. Vamvaka *et al.*, (2016) proposed a more accepted definition. They propose that attitude toward entrepreneurship consists of two-dimensional variables: instrumental/rational attitude and experiential/affective attitude. This concept is based on an argument that an individual attitude was reflected through two ways: instrumental or rational attitude, which refers to the individual belief, idea, or rational reason, experimental or affective attitude, that is individual affection or emotion (e.g., happy, satisfy, and hate). Based on this argument, the following hypothesis for the relationship between rational and affective attitudes toward entrepreneurship among university students was proposed:

H₂: Attitude toward entrepreneurship among university students consists of two dimensions, that is, rational attitude and affective attitude.

Perceived behavioral control

Ajzen (1991), the former of the planned behavior theory, defines perceived behavioral control as a "person's perception about the capability of performing intended behavior". This concept was similar to self-efficacy proposed by Bandura (1982). Self-efficacy was also defined as the individual ability to execute an action required to deal with a certain situation. Hence, previous literature associated perceived behavioral control with self-efficacy and sometimes replace it with self-efficacy (Cahyono & Hartijasti, 2012; Chien-Chi *et al.*, 2020; Liñán & Chen, 2009). In 2001, Armitage & Conner (2001) and Kraft *et al.* (2005) explain perceived behavioral control in two dimensions: self-efficacy and perceived controllability. They argue that perceived behavioral control contains internal and external control factors. Internal control factors are self-efficacy, which was defined as the ability, knowledge, skill, and self-confidence to deal with specific situations. External control factors refer to perceived controllability, which was described as the ability to control entirely external factors such as resources, opportunities, and challenges. Similarly, Vamvaka (2016) provides evidence that perceived behavioral control was established by the two dimensions, which consist of self-efficacy and perceived controllability. Based on this these literatures, we put forward and tested the following hypothesis regarding perceived behavioral control:

H₃: Perceived behavioral control among university students consisted of two components, that is self-efficacy and perceived controllability.

The relationship between entrepreneurial intention, attitude toward entrepreneurship, and perceived behavioral control

The intention to become an entrepreneur is determined by individual attitude towards entrepreneurship and perceived behavioral control. Engle et al. (2010), Iakovleva et al.(2018), Ozaralli & Rivenburgh (2016) provide evidence that attitude towards entrepreneurship and perceived behavioral control were the strongest predictors of entrepreneurial intention. Perceived controllability contributes to entrepreneurial intention by giving self-confidence and perceived self-feasibility to become an entrepreneur (Bandura, 1982; Krueger Jr & Brazeal, 1994). Attitudes toward entrepreneurship which are reflected in rational and affective attitudes will provide a personal desire to become entrepreneurs (Krueger Jr & Brazeal, 1994; Sabah, 2016).

Within attitude toward entrepreneurship, Botsaris and Vamvaka (2016) found that affective attitude has a stronger effect on entrepreneurial intention rather than Instrumental attitude (Botsaris and Vamvaka, 2016; Vamvaka et al., 2020). Rigoni et al. (2015) argue that an affective attitude comes from experiencing a certain situation or doing a certain behavior, which could produce strong affection. Consequently, compared with rational attitudes, affective attitude implies stronger entrepreneurial intention (Rigoni et al., 2015).

Whereas, in the domain of perceived behavioral control, Tognazzo et al. (2018) and Brandle et al. (2018) suggest that self-efficacy was the stronger predictor of entrepreneurial intention than perceived-controllability (Brändle et al., 2018; Tognazzo et al., 2017). That is reasonable because people will intend to do activities that they believe they can succeed in and have the competence or self-confidence to do the activities (Bandura, 1982). Based on this logic and evidence, the following hypotheses for the relations of affective attitude, self-efficacy, and entrepreneurial intention were proposed:

H₄: Affective attitude of university students will substantially associate with entrepreneurial intention rather than instrumental attitude.

H₅: Self-efficacy of university students will substantially associate with entrepreneurial intention rather than perceived controllability.

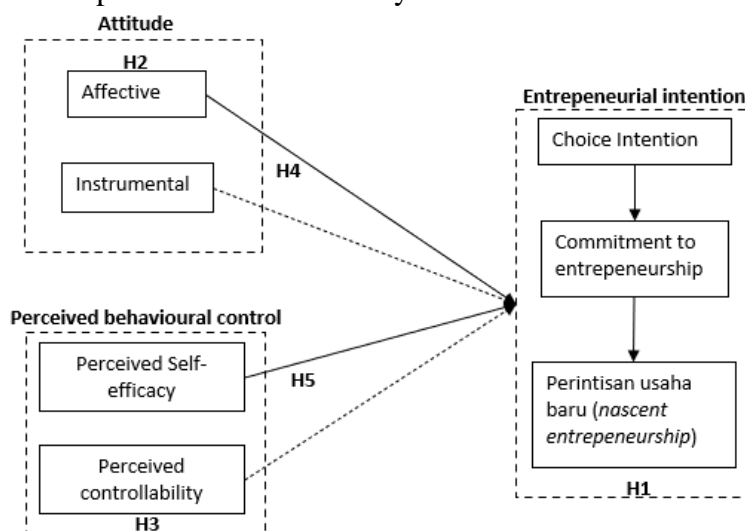


Figure 1. Conceptual framework

METHOD

The hypothesis of this cross-sectional study was tested using a convenience sample of 583 Brawijaya University vocational education students. This study used students as the population of this study due to the importance of the development of entrepreneurship and entrepreneurial behavior among students. Indonesia's ministry of education has mandated vocational program studies to create student entrepreneurs by including a curriculum of entrepreneurship education in order to reduce unemployment. Moreover, a previous study by Setyanti (2021) reported that although fresh graduates have more increasing intention, students with higher education and training, have more declining intention to become an entrepreneur. Hence, exploring entrepreneurship in Indonesian students will provide an interesting context by examining the antecedents of entrepreneurial intention through a multidimensional perspective of planned behavior.

The survey was distributed via online message (WhatsApp group). The academic staff members, who were appointed indirectly in the study by administering the online questionnaire during their regular online classes, were informed of the purpose and potential benefits of the research. All online questionnaires were distributed and administered during class lectures and were completed anonymously in the online classroom to ensure confidentiality. Participation in the study was voluntary. Before the analysis was performed, data were checked and cleaned for missing data and out-of-range values or non-permitted values in the instrument. A total of 13 questionnaires were discarded as a result of this validation process, leaving 583 (191 males, 392 females) to be included in further analysis. The mean age and standard deviation of the students was 20.9 (SD = 1.9) years. The age range was 18–29 years old.

We used variables and measures, which were validated by Vamvaka. (2020) Entrepreneurial intention consisted of three components: choice intention, commitment to entrepreneurship, and nascent entrepreneurship. Choice intention consists of 4 components that asked whether students have an entrepreneurship preference (e.g., "I would rather own my own business than pursue another promising career"). Commitment to entrepreneurship consists of 6 components that measured students' commitment to an entrepreneurial career (e.g., "I have very seriously thought of starting a firm"). Nascent entrepreneurship consists of 4 components that asked about students' activities associated with start-up efforts to pursue the entrepreneurial career (e.g., "I read books on how to set up a firm").

Attitude towards entrepreneurship measures instrumental and affective attitudes. Instrumental attitude consists of 2 components that asked about a student's rational evaluation of entrepreneurship (e.g., "Being an entrepreneur implies more advantages than disadvantages to me"). Affective attitude asked about students' affection for entrepreneurship (e.g., "A career as an entrepreneur is (totally) attractive for me"). Perceived behavioral control was measured by 2 components: Perceived-self efficacy and perceived controllability. Perceived self-efficacy measures to what extent the student perceived the difficulty and the self-confidence in entrepreneurship (e.g., "Starting a firm and keeping it viable would be easy for me, "I am confident that I would succeed if I started my own firm"). Finally, Perceived controllability measures the students' perceived ability to control external situations associated with entrepreneurial effort (e.g., "As an entrepreneur, I would have complete control over the situation").

Hypothesis testing was conducted using structural equation modeling. SEM used AMOS 24 with maximum likelihood estimation based on covariance matrix and raw data (Arbuckle,

2015). We used this method because this provides a competing model test to choose the best-fitted model using confirmatory or exploratory factor analysis. A fundamental and classical assumption of the maximum likelihood estimation of SEM is that the data should achieve a normal distribution. Thus, our first step before conducting SEM is testing the univariate normality with skewness and kurtosis value within ± 1.5 , and multivariate normality < 5 (Bentler, 2005, (Kaplan, 2000)). The skewness and kurtosis value of some of the items are out of ± 1.5 , and the multivariate normality is 69.02. The results deviate from the threshold. Since the univariate and multivariate are violated, we analyzed for multivariate outliers with the Mahalanobis distance, and as a result, 100 data surveys were deleted for the Analysis. After releasing the outliers' data, multivariate normality was not yet achieved (c.r. multivariate 22,991). Therefore, we conducted a structural equation modeling using bootstrap resampling methods with 1000 subsamples in the next step of the analysis.

SEM was analyzed in two steps: measurement model test and structural model test. A measurement model was used to test and validated the instrument at the latent variable level. We used confirmatory factor (CFA) analysis to test the model because the latent construct of attitude, perceived behavioral control, and entrepreneurial intention has been established theoretically in some literature and validated in the previous study. CFA provided multiple competing hypotheses for evaluating the dimensionality of the construct. In this study, we will test the dimensionality to confirm the previous result as conducted by Vamvaka (2020). We will provide competing models containing nested and non-nested models. Nested models were compared using the Chi-square value and non-nested models were compared using the Akaike information criterion (AIC) and expected cross-validation index (ECVI). The lower the Chi-square value, Akaike information criterion (AIC) and expected cross-validation index (ECVI), indicates the higher the model fit (Kaplan, 2000)

Finally, a structural model was analyzed to test the hypotheses and the goodness of fit. Goodness of fit of structural model used some indicators: chi-square ratio and df (χ^2/df) is < 5 , comparative fit index (CFI > 0.90), Tucker-Lewis's index (TLI > 0.90), and root mean square error of approximation (RMSEA < 0.08 (reasonable fit) – 0.10 (acceptable fit)).

RESULTS AND DISCUSSION

Results

Table 1 shows the competing model. The lowest value of Chi-Square, AIC, and ECVI was achieved in model 0. It indicated that the best-fitted model of attitude toward entrepreneurship, perceived behavioral control and entrepreneurial intention construct is model 0. The goodness of fit indices was achieved after deleting one item of commitment to entrepreneurship because the recommendation of the modification indices indicated that the item has a high correlation with other items in different constructs. We also correlated the error terms of 10 pairs of items as suggested by modification indices. It was acceptable since the correlated residuals represented the same construct and had similarities in their items' contents (Brown, 2015). The modification model was acceptable fit ($\chi^2/df = 2.9$, TLI = 0.91, CFI = 0.92, GFI = 0.84, RMSEA = 0.07).

Table 1. Competing Model Test

Model	AIC	ECVI	Chi-Square
Model 0 ATT= two components—IA, AA PBC: two components—PSE, PC INT: three components—CI, COM, NAS	1799.020	3.259	1302.0
Model 1 ATT: one component PBC: two components—PSE, PC INT: three components—CI, COM, NAS	1849.220	3.350	1709.2
Model 2 ATT: two components—IA, AA PBC: one component INT: three components—CI, COM, NAS	1960.631	3.369	1820.6
Model 3 ATT: two components—IA, AA PBC: two components—PSE, PC INT: one component	3153.940	5.714	3021.9

For the best model, we tested the construct validity and reliability as the classical assumption test. Factor loadings of each item are above the threshold (> 0.5), ranging from 0.54 to 0.93. It indicated that each item significantly accounted for a large variance of the construct. Table 2 shows the construct validity and reliability score. Cronbach's alpha values of all constructs are above 0,71, indicating that every construct has good internal consistency. However, only one variable has Cronbach alpha 0.6, which was still acceptable considering that the composite reliability score of the variable is high (CR= 0.82). In comparison, CR is a better estimate for SEM modeling than Alpha score (Peterson and Kim, 2013). The average variance extracted is more than 0.5 ranging from 0.63 to 0.79, indicating that each variable has good validity. Based on Fornier-Larcker criterion, the value of the square root of AVE is higher than the intercorrelation among each variable. It indicated that every variable has good discriminant validity. Overall, the results showed that the multidimensional model of entrepreneurial intention is the best. Thus, this result supports hypothesis 1, 2, and 3. Therefore, we need to treat attitude toward entrepreneurship, perceived controllability, and entrepreneurial intention as multidimensional constructs.

Table 2. Construct Validity and Reliability (Cronbach Alpha, Composite Reliability, Average Variance Extracted, And Fornier-Larcker Criterion

Constructs	α	CR	AVE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Instrumental	0.58	0.82	0.70	0.84						
(2) Affective	0.84	0.90	0.76	0.53	0.87					
(3) Choice	0.82	0.88	0.65	0.36	0.55	0.80				
(4) Commitment	0.93	0.95	0.75	0.41	0.74	0.68	0.87			
(5) Controllability	0.71	0.84	0.63	0.46	0.54	0.49	0.55	0.80		
(6) Nascent	0.91	0.94	0.79	0.43	0.45	0.55	0.57	0.54	0.89	
(7) Self-efficacy	0.88	0.91	0.63	0.53	0.62	0.59	0.65	0.77	0.57	0.80

Structural Model: Structural Relationship of Attitude Toward Entrepreneurship, Perceived Control Behavior, And Entrepreneurial Intention

The goodness of fit model

Having satisfied with the measurement model, we tested the hypothesis using structural modeling. We connected structural paths of attitude and perceived behavioral control dimension to entrepreneurial intention. We analyzed the model using bootstrap analysis. However, not all of the structural paths were statistically significant as postulated. The initial result with non-significant direct paths only performs the acceptable fit model as explained in the measurement model. Thus, we Follow Vamvaka et al. (2020) to delete non-significant results. After deletion, there is an improvement in the goodness of fit. Figure 1 performed the final results of SEM model with the best fitted model ($\chi^2/df = 2.8$, TLI = 0.91, CFI = 0.93, GFI = 0.85, AGFI = 0.82, RMSEA = 0.04). Overall, the squared multiple correlations of choice intention, commitment to entrepreneurship, and nascent entrepreneurship are 0.52, 0.76, and 0.45, respectively. It is indicated that the model explained a large variance of entrepreneurial intention's construct.

SEM results

The finding indicated that an affective attitude could improve students' choice intention ($\beta = 0.29$, $P < 0.001$) and commitment to entrepreneurship ($\beta = 0.61$, $P < 0.001$). An instrumental or rational attitude could improve the student's nascent entrepreneurship ($\beta = 0.45$, $P < 0.001$). Respondents with a high level of self-efficacy also reported a high level of choice intention ($\beta = 0.44$, $P < 0.001$) and commitment to entrepreneurship ($\beta = 0.20$, $P = 0.002$). However, respondents who reported a high level of perceived controllability only reported high nascent entrepreneurship ($\beta = 0.32$, $P < 0.001$). Accordingly, the higher the choice intention, the higher the commitment to entrepreneurship ($\beta = 0.37$, $P < 0.001$). And the higher the commitment to entrepreneurship, the higher the respondents' nascent entrepreneurship ($\beta = 0.38$, $P < 0.001$). The result suggests that the more students perceived positive experiences and perceived self-confidence to achieve an entrepreneurial career, the more they will choose and commit to an entrepreneurial career. However, in nascent entrepreneurship, the capacity building for entrepreneurship was predicted by instrumental attitude and perceived controllability. It means that students' willingness to study entrepreneurship and build financial and social capital was predicted by their rational evaluation of the entrepreneurship career and was predicted by how they perceived their ability to control the external factors related to entrepreneurship.

Table 3 reported the total effect of the antecedents. The result supports hypothesis 4 dan 5 that the total effect of affective attitude is the largest, followed by self-efficacy. It means that affective attitude and self-efficacy are stronger predictors of entrepreneurial intention than instrumental attitude and perceived controllability.

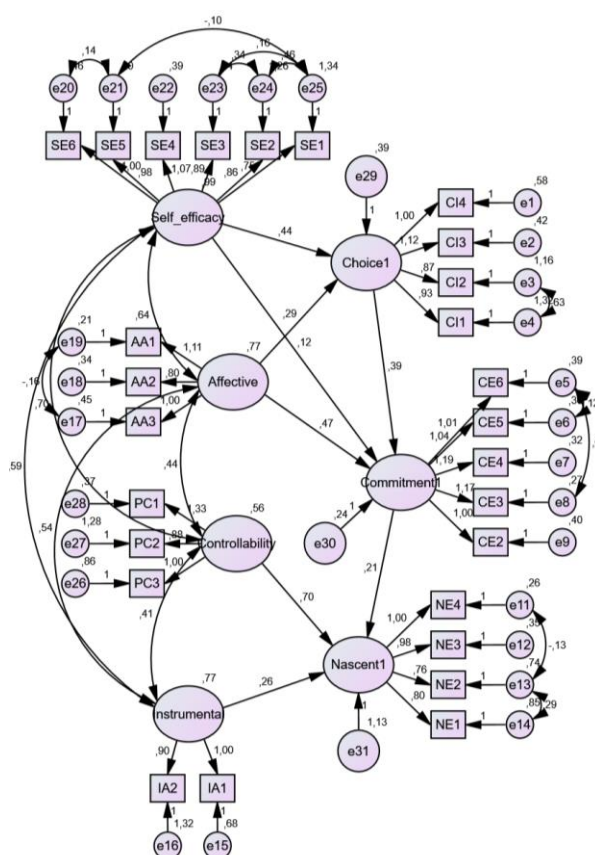


Figure 2. Structural Model

Table 3. Total Effect

	Controllability	Self-efficacy	Affective	Instrumental	Choice	Commitment	Nascent
Choice	0.000	0.442	0.291	0.000	0.000	0.000	0.000
Commitment	0.000	0.288	0.582	0.000	0.387	0.000	0.000
Nascent	0.703	0.061	0.123	0.257	0.082	0.212	0.000

The final model, Figure 2, was analyzed using bootstrap analysis method. The bootstrap analysis was used to test the standard error difference between original sample data with bootstrap resampling results (Nevitt & Hancock, 2001). The result demonstrated that the standard error of the original sample and bootstrap standard error has no significant difference ranging from 1% to 8%. It means that we could not reject our model.

Discussion

The first question in this study sought to determine whether the multidimensional model is the best model to explain the entrepreneurial intention and its association with attitude towards entrepreneurship and perceived behavioral control. The result satisfies the previous study (Vamvaka, 2020, Botsaris & Vamvaka (2016), Gracia, Morales-Gualdron & Roig-Dobón

(2018), and Valliere (2017)) and confirms that entrepreneurial behavior is a multidimensional concept. This study found that entrepreneurial intention consists of three dimensions: choice intention, commitment to entrepreneurship, and nascent entrepreneurship which is proved a continuum dimension. Attitude toward entrepreneurship consists of two dimensions: affective and instrumental attitude. And perceived behavioral control consists of two dimensions: self-efficacy and perceived controllability. This finding, therefore, supports Hypothesis 1-3 of this study.

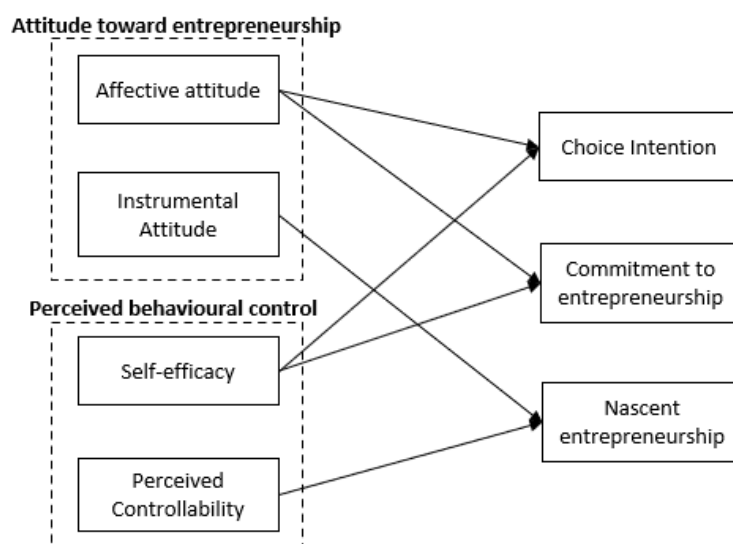


Figure 3. Proposed model based on final structural model (figure 2).

This proposed model has a unique relationship at every dimension's level. At the choice and commitment level, it was found that both factors were predicted by affective attitude and student self-efficacy. At the nascent entrepreneurship level, the capacity building for entrepreneurship was predicted by instrumental attitude and perceived controllability (see our proposed model: figure 3). This finding was also reported by Vamvaka et al. (2020). According to the findings, affective attitude and self-efficacy were the most prominent factors contributing to entrepreneurial intention. These findings thus support hypothesis 4 and 5 which suggest that affective attitude and self-efficacy will more significantly affect entrepreneurial intention than instrumental attitude and perceived controllability. The result is consistent with Rigoni et al. (2015), who posits that an affective attitude affects intention stronger than a rational attitude because it gives concrete experience. Park et al. (2018) demonstrated that an affective attitude implied career decision and commitment by offering positive feelings (being happy, proud, enthusiast) and reducing career choice anxiety (Autio et al., 2001; Fredrickson & Losada, 2005; Ou & Verhoef, 2017). Thus, it will affect stronger to human behavior. While, within perceived behavioral control, self-efficacy was a stronger effect than perceived controllability because the intention to do a behavior depends on individual perceived competence and self-confidence to succeed in such behavior. (Bandura, 1982; Park et al., 2018). This study supports evidence from previous observations (Brändle et al., 2018; Vamvaka et al., 2020).

Accordingly, nascent entrepreneurship was explained by instrumental attitude and perceived controllability. This result may be explained by the fact that an instrumental attitude associated

with cognitive evaluation will give students awareness about the potential barrier in an entrepreneurial career, thus it will drive students to prepare the entrepreneurial resources. It was also explained by the theory of reasoned action. Nascent entrepreneurship as a "concrete action to developing entrepreneurial resources", was contributed by individual rational reason/cognitive evaluation about entrepreneurship (Fishbein & Ajzen, 2010). In addition, nascent entrepreneurship was also affected by perceived controllability. A possible explanation for this might be that the intention to prepare entrepreneurial career and improve entrepreneurial knowledge was due to individual belief and optimism that they can control entirely external factors by learning and preparing about an entrepreneurial career.

CONCLUSION

Overall, this study strengthens the idea that entrepreneurial behavior is in the multidimensional model. Moreover, there were different patterns in every dimension. Therefore, these findings contribute to the development of entrepreneurship literature by proposing a multidimensional model of planned behavior theory.

These findings also suggest several courses of action for education policymakers. Overall, entrepreneurial attitude and perceived behavioral control were needed to enhance students' entrepreneurial intention. An improvement of the curriculum was needed, focusing on developing an affective attitude by giving positive experiences related to entrepreneurship and improving self-efficacy development such as education, which builds students' self-confidence. Such an effort will develop students' choice intention and commitment to entrepreneurial careers. A proportional knowledge about advantages, disadvantages, challenges, and barriers to becoming an entrepreneur was also needed to build an instrumental attitude.

This study has some limitations. Firstly, this study used a cross-sectional design. Thus, there is generally no evidence of a temporal relationship between exposure and outcome. To establish an actual cause and effect relationship, it needs to conduct a longitudinal study. Secondly, the Theory of planned behavior posits that entrepreneurial intention was shaped not only by attitude and perceived behavioral control but also by subjective norms. Although some studies have established an accepted subjective norm model using a single construct, the future study can develop a more comprehensive study by conducting a multidimensional model of entrepreneurial behavior, including subjective norm.

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