

# The Effects Of Pre-University Entrepreneurship Education On Entrepreneurial Intention As Mediated By Acquired Competencies And Mindset

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## Abstract

As the interest of the Filipino youth in entrepreneurship continues to progress with the need for a stronger economy fueled by innovative enterprises, the Department of Education thought to provide pre-university entrepreneurship education through the K to 12 Program, where students are expected to develop the competencies and mindset needed to ignite among students the desire to put up a business in the future. The researchers used mixed-method design to determine how Entrepreneurial Competencies (EC) and Entrepreneurial Mindset (EM) mediate the relationship between Entrepreneurial Education (EE) and Entrepreneurial Intention (EI) as reflected by Grade 12 Accountancy, Business, and Management (ABM) Senior High School (SHS) students in Metro Manila. To achieve this, the researchers polled 425 Grade 12 ABM students with a self-reporting questionnaire consisting of a 52-item Likert scale. Also, 31 informants were interviewed to validate and to further support the findings in the quantitative analysis. After performing Mediated Regression Analysis, Path Analysis, Thematic Analysis, and Pattern Matching, the results showed that EC and EM partially mediate the relationship between EE and EI. The students' education, knowledge, or experience in business and entrepreneurship serves as a significant factor in acquiring the essential EC and EM that would help develop their intention to become entrepreneurs. Students who plan to become entrepreneurs are advised to choose ABM as their senior high school strand, and educational institutions are recommended to prioritize experience-based learning through increasing project-based outputs and startup immersions.

**Keywords:** entrepreneurship education, entrepreneurial competencies, entrepreneurial mindset, entrepreneurial intention, senior high school entrepreneurship, pre-university business education.

## **I. Introduction**

Entrepreneurs change society and the world [1]. As entrepreneurs strive to meet a demand or need that no one usually sees, technological innovations and scientific breakthroughs are produced in a constantly changing world where people do not have to face the possible failures and consequences of pursuing an entrepreneurial idea. Looking at the entrepreneurial index of the Philippines, the country is ranked 86<sup>th</sup> in the world with a score of 23 - which is relatively low compared to the top 20 countries whose score ranges from 58.10 to 86.80 [2]. This, therefore, calls for consistent encouragement for aspiring entrepreneurs in the country, whereby the Philippine government responded through the implementation of the K to 12 Program, most notably in the Accountancy, Business, and Management (ABM) Senior High School (SHS) strand. In the fulfillment of the program, entrepreneurship serves as one of the promising attributes the governing bodies in the education sector seek to promote among students and graduates [3]. Given that a decade of the national implementation of the Program has passed, a study on the effectiveness of the K to 12 ABM Program in developing entrepreneurial skills, attitude and inclination in students is fittingly called for. To support this, curriculum reviews on educational programs tend to be conducted after three, six, or seven years of implementation, which is why writing research on the effectiveness of the K to 12 ABM program in developing entrepreneurial intention must also be conducted in the Philippines as the program had been established in 2016, hitting the five-to-six-year mark [4]. Consequently, the main problem of this study focuses on whether entrepreneurial competencies and mindset mediate the relationship between entrepreneurial education and intention, as seen in Grade 12 SHS students with ABM strand in Metro Manila. Through this, the researchers sought to contribute to the

developing literature on EI at a pre-university level as present studies on EE, EM, EC, and EI tend to focus on university students.

## **2. Theoretical Background**

As most of these studies were also conducted outside of the Philippines, the researchers chose to analyze how the K to 12 ABM Program in the country impacts these variables. In line with this, the researchers also aimed to fill the lack of literature in the mediating role of EC and EM on the relationship between EE and EI in the case of the Philippines.

### **2.1 Entrepreneurial Intention (EI)**

The concept of EI may be defined as a mindset that urges a person to develop a new business concept and to pursue an entrepreneurial career [5]. Simply, it is the intention to take part in the formation of a new venture [6]. Among all the models that have emerged, the Theory of Planned Behavior (TPB) [7] has remained to be one of the widely acknowledged theory-driver models in the study of EI [5, 8, 9]. Serving as an intention-based model, TPB has been tested and validated for its relevance and robustness in the context of not only business start-up intentions, but also ensuing entrepreneurial actions [10]. As such, the present study adapted TPB to explain EI. TPB presumes three independent factors of intention: personal attitude, subjective norms, and perceived behavioral control [7]. Within this model, personal attitude is referred to as a person's degree of favorability or unfavorability towards the behavior; subjective norms as the perceived social pressure towards a behavior; and perceived behavioral control as a person's perception on the level of ease or difficulty in performing a behavior [7]. The TPB framework was applied to the sphere of entrepreneurship, assuming that business creation is an intentional process that is swayed by the three determinants of TPB [11]. The Entrepreneurial Intention Questionnaire [12]

and Individual Entrepreneurial Intent Scale [13] are two validated scales for measuring TPB constructs [14].

## 2.2 Entrepreneurial Education (EE)

Entrepreneurial Education or learning entrepreneurship is described as the study of entrepreneurial knowledge that develops business skills and entrepreneurial inspiration that changes the hearts and minds of individuals toward entrepreneurship to the point that they develop a conviction to plan or set-up a new venture [15]. Over time, more recent studies have attempted to define EE as a form of teaching or training individuals to become entrepreneurs [16-18]. A study [17] developed a model for EE through the adaptation of the constructs from two other research, one thought of EE to consist of three sub-variables: teaching and learning, adequate knowledge, and inspiration [18], while another explains EE as teaching and developing entrepreneurship in students [19]. Entrepreneurial teaching and learning were defined as processes done to meet the needs of different people [21-22]. Adequate knowledge was defined as a type of asset that may be communicated, utilized, and managed with the purpose of planning, gathering, and organizing activities [19]. And, inspiration was defined as an emotional and mental trigger to start working towards a goal or a new product [23, 24].

## 2.3 Entrepreneurial Competencies (EC)

EC are traits acquired through a holistic and psychological orientation and are requisites with the development of successful entrepreneurial operations [25]. It is frequently characterized as a set of individual characteristics that enable one to utilize one's abilities in fulfilling one's job as an entrepreneur [26]. These characteristics encompass knowledge, motives, traits, self-images, social roles and skills that an entrepreneur may be aware of or unaware of; While competence could be observed through

their behavior displayed when undertaking a particular job [27]. As there is a continuous development of the conceptualization of EC, a framework was developed to identify inclusive EC which summarizes a seemingly extensive phenomenon into five dimensions, namely: administrative competencies, knowledge and technology competencies, entrepreneurial leadership competencies, creativity and innovativeness competencies, and network building competencies [28]. Consisting of five (5) determinants, EC include [28-30]:

- a. administrative competencies or the capacities to make choices, recognize issues, assess solutions, communicate, plan, control, and organize, as well as adapt to change;
- b. knowledge and technology competencies or the skills necessary to use information and technology through techniques, procedures, and experiences, and to employ seemingly unconnected variables or technology to generate suitable and helpful solutions when difficulties emerge;
- c. entrepreneurial leadership competencies or the capacity of an entrepreneur to sway stakeholders towards a shared objective and a meaningful vision of the organization's future condition;
- d. creativity and innovativeness or the capacity to capitalize on market changes by enhancing, inventing, and developing new goods, services, processes, offers, delivery methods, customer experience, business models, and networks that produce value that outweighs their costs;
- e. lastly, network building or the behavioral abilities to engage in, build, grow, and maintain a broad and diversified social network that improves profession or career and enables them to possess necessary resources.

## 2.4 Entrepreneurial Mindset (EM)

EM is the collective perception that enables an individual to find opportunities through adapting

in uncertain situations by thinking complexly and creatively coming up with innovative solutions [31, 32, 33]. Several attempts have been made to develop a concrete measure of EM. There have been several developed instruments that aimed to measure EM, however, there were issues regarding the reliability and validity of some of the instruments mentioned in these studies [34]. In this regard, a study developed and validated the scale, the College Students' Entrepreneurial Mindset Scale, to measure EM [34]. Specifically, there are five (5) identified sub-constructs of EM - autonomy, innovativeness, needs for achievement, proactiveness, and risk-taking.

- a. Autonomy refers to the ability of a person to push forward to meet his or her goals in a more independent manner;
- b. Innovativeness refers to the capacity of a person to think of new and creative ideas;
- c. Needs for achievement, on the other hand refers to the desire of a person to be better and to succeed for his own fulfillment. Furthermore, proactiveness refers to the active participation of a person to think of solutions to contingencies;
- d. Risk-taking then refers to willingness of a person to push through a decision knowing that there are uncertainties. The authors also mentioned that these dimensions are aimed to target the improvement of a wide spectrum of entrepreneurial classes.
- e. Likewise, it can also be traced back to the identified entrepreneurial characteristics and entrepreneurial orientation variables.

### **2.5 Effects of Entrepreneurial Education on Entrepreneurial Intention and the mediating role of Entrepreneurial Competencies**

According to Ni and Ye [35], students who are provided with EE tend to have more EC that led to the development of EI as it could boost their comprehension on business and lay a foundation for their future careers as entrepreneurs. Draksler

and Sirec [36] also found that the relationship of EE and EI is mediated by EC, and through the analysis of several EC models, they framed a congregated hybrid research model that shows EI is derived from the variables EE through EC. From the model, EE represents a key to develop specific EC that are not linked to creating a new business but is linked to the development of EI through subjective norms such as attitude and perceived behavioral control; Moreover, for further development in the field, they expressed the need to conduct further empirical testing on the phenomenon of the impact of EE on EC in relation to EI [36].

### **2.6 Effects of Entrepreneurial Education on Entrepreneurial Intention and the mediating role of Entrepreneurial Mindset**

EM and EE are two common concepts in entrepreneurship that are often associated with each other. There are several studies showing that EM mediates the relationship between EE and EI. In the study of Yusoff et al., [37], the importance of EE in the development of EM which affects the EI of the Agricultural students in Malaysia was established. Further, greater emphasis was given on the effects of EE on the EM of the students specifically in the aspects of innovativeness, proactiveness, and risk-taking. The mediating role of EM in the relationship between EE, entrepreneurial culture, and EI was examined with university students as the population of interest, and the findings indicated that EM has positively influenced EI [38]. Moreover, it was found that EE, along with entrepreneurial culture, is richly linked to the students' EM.

### **2.7 Framework of the Study**

The operational framework seen in Figure 1 is a detailed representation of the variables being investigated. Aside from showing the hypothesized interaction between the variables, the model also indicates the dimensions under

which the constructs would be evaluated. EE was measured using the constructs identified by Denanyoh et al. [19], while EI was evaluated using the Theory of Planned Behavior as measured by the scale of Liñan and Chen [12]. Other scales used were those of Zarefard and Cho [28] and Jung and Lee [34] for EC and EM, respectively.

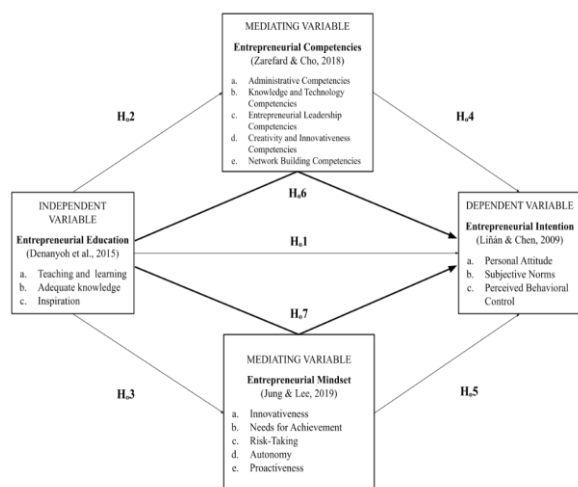


Figure 1: Operational framework

## 2.8 Hypotheses of the Study

The researchers proposed seven 7 hypotheses based on the empirical studies of several authors. The researchers formed H1 based on several studies [35, 39-41], which suggest that EE has positive effects on EI. On the other hand, H2 was formed based on research publications positing that receiving EE tends to lead to higher EC [35-36]. Meanwhile, there are studies suggesting that well-developed and entrepreneurial-specific education tends to lead to higher EM, making these good bases for H3 [42-44]. Literature supports the claim of a positive and significant influence of EC on EI [28, 29, 30, 45], making H4 part of the relationships to be tested in the model. In research studies, EE was deemed a significant factor in building the EM of students [42, 46-47]; Hence, H5. The mediating roles of EC [35, 36] and EM [37-38] on the effects of EE on EI have also been established in the available

literature; Hence the bases for H6 and H7, respectively.

H1: Entrepreneurial education significantly affects entrepreneurial intention

H2: Entrepreneurial education significantly affects entrepreneurial competencies

H3: Entrepreneurial education significantly affects entrepreneurial mindset

H4: Entrepreneurial competencies significantly affect entrepreneurial intention

H5: Entrepreneurial mindset significantly affects entrepreneurial intention

H6: Entrepreneurial competencies significantly mediate the relationship between entrepreneurial education and entrepreneurial intention

H7: Entrepreneurial mindset significantly mediates the relationship between entrepreneurial education and entrepreneurial intention

## 3. Materials and Methods

This study follows a mixed-method explanatory sequential design. In such a study, quantitative data is collected first, followed by qualitative data to assist, explain, and expound on the quantitative results [48]. The rationale for this technique is that quantitative data and its outcomes give a broad image of the study topic; then more analysis, particularly qualitative data collecting, is required to improve, expand, or explain the broad picture. Moreover, this study followed a purposive sampling technique with the following criteria of respondents:

- (1) Grade 12 ABM students,
- (2) enrolled in educational institutions located in Metro Manila,
- (3) 18 years of age or with parent's consent. A sample of 425 Grade 12 ABM students were surveyed for this study; among which, 31 students were selected as interview participants. Both the survey and the interviews were conducted online via Google Forms questionnaire and Zoom interviews respectively. The self-administered questionnaire was divided into four parts to measure each variable: EI, EE,

EC, and EM. First, EI was based on the Entrepreneurial Intention Questionnaire by Liñán and Chen [12]. Second, EE was based on a questionnaire taken from the studies of Denanyoh et al. [19] and Karyaningsih et al. [17]. Third, EC was based on a questionnaire from the study of Zarefard and Cho [28]. This section of the questionnaire was further subdivided into five parts to measure each sub-variable of EC: administrative competency, knowledge and technology competencies, creativity and innovativeness competencies, and network-building competency. Lastly, EM was based on a questionnaire from the study of Jung and Lee [34]. Similarly, this section was subdivided into five parts to measure each sub-variable of EM: innovativeness, needs for achievement, risk-taking, autonomy, and proactiveness. All these questionnaires used a 7-point Likert scale for this study.

## 4. Results

### 4.1 Descriptive Statistics and Correlations

The grand mean for EI is 5.42, which shows that it is demonstrated to a very large extent by the Grade 12 ABM students. This suggests that they have a very large intent to start a new business venture. Similarly, EE was found to be mostly effective with a grand mean of 5.56. In this case, the EE received by the students refers to the ABM education. The students are also determined to possess a high level of EC with a grand mean of 5.12. Moreover, they demonstrate EM is believed to be above average, suggesting that they have the perception and the ability to adapt to uncertain situations, and to think creatively and innovatively.

Table 1: Summary of Descriptive Statistics

Construct <sup>1</sup>	Mean	Standard Deviation	Interpretation <sup>2</sup>
Entrepreneurial Intention	5.42	1.47	Thought to be very high
Entrepreneurial Education	5.56	1.39	Deemed mostly effective
Entrepreneurial Competencies	5.12	1.38	Perceived to be at a low above average level
Administrative Competency	4.92	1.37	low above average level
Knowledge and Technology	5.37	1.28	Mid-above average level
Entrepreneurial Leadership	5.19	1.38	low above average level
Creativity and Innovation	5.24	1.36	low above average level
Network Building	4.92	1.40	low above average level
Entrepreneurial Mindset	5.52	1.36	Believed to be above average
Innovativeness	5.87	1.23	Middle above average
Achievement Needs	5.56	1.27	Middle above average
Risk Taking	5.45	1.29	Middle above average
Autonomy	4.94	1.50	Low above average

Proactiveness	5.39	1.29	Middle above average
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<sup>1</sup>Based on a 7-point Likert scale,

<sup>2</sup>Ranging based on the concept of equal intervals  
Based on the responses, there is a moderate positive correlation between EE and EC, EE and EM, EE and EI, and EM and EI. The correlation between EE and EI showed a moderate positive correlation,  $r(423)=.56$ ,  $p<.001$ . Likewise, the correlation between EE and EM had a moderate positive correlation,  $r(423)=.55$ ,  $p<.001$ . EE and EC also showed a moderate positive correlation,  $r(423)=.56$ ,  $p<.001$ . Whereas, the correlation between EM and EI had the lowest moderate positive correlation,  $r(423)=.51$ ,  $p<.001$ . Moderate positive correlation suggests that there is a tendency that each independent variable may affect their respective dependent variable. Meanwhile, the correlation between EC and EI had the highest strong positive correlation,  $r(423)=.70$ ,  $p<.001$ . This indicates that EI increases the degree of its linear relationship with EC.

Table 2: Correlation Results

Entrepreneurial	Intention	Education	Competencies	Mindset
Intention	-----			
Education	0.56 **	-----		
Competencies	0.62 **	0.56 **	-----	
Mindset	0.51 **	0.55 **	0.70 **	-----

\*\* Significant at alpha = 0.01

#### 4.2 Mediation Analysis Using Baron and Kenny's Method

Using Baron and Kenny's method [51], the mediating role of EC and EM in the relationship between EE and EI was tested on Microsoft Excel. Firstly, the regression of EE on EI is significant,  $R^2 = 0.307$ ,  $F(1, 423) = 188.439$ ,  $p < .001$ . This shows that EE is a significant predictor of EI,  $\beta = 0.578$ ,  $t(423) = 13.727$ . For the first mediating variable, the regression of EE on EC is significant,  $R^2 = 0.317$ ,  $F(1, 423) = 196.536$ ,  $p < .001$ . This shows that EE is a significant predictor of EC,  $\beta = 0.578$ ,  $t(423) = 14.019$ . The regression of EC on EI is also significant,  $R^2 = 0.380$ ,  $F(1, 423) = 259.195$ ,  $p < .001$ . This shows that EC is a significant predictor of EI. Finally, the regression with EE and EC predicting EI was conducted, resulting in a significant regression equation,  $R^2 = 0.443$ ,  $F(1, 422) = 168.014$ ,  $p < .001$ . This suggests that EE and EC accounted for a significant amount of variance in EI. Based on the results, EC is a significant predictor of EI when EE is included in the model,  $\beta = 0.513$ ,  $t(422) = 10.120$ . Similarly, EE was found to be a significant predictor of EI in the presence of EC,  $\beta = 0.317$ ,  $t(422) = 6.930$ . Since EE still significantly predicts EI in the presence of EC with a non-zero value, the mediation is deemed to be a partial mediation.

Table 3: Regression Results for Analysis of the Mediating Role of Entrepreneurial Competencies

Dependent Variable	Independent Variable	$\beta$	S.E.	t	F	$R^2$	p
Entrepreneurial Competencies	Entrepreneurial Education	0.509	0.036	14.019	196.536	0.317	< .001
Entrepreneurial Intention	Entrepreneurial Competencies	0.711	0.044	16.100	259.195	0.380	< .001
Entrepreneurial Intention	Entrepreneurial Education and	0.317	0.046	6.930	168.014	0.443	< .001

	Entrepreneurial Competencies	0.513	0.051	10.120			
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On the other hand, regarding the second mediating variable, a significant relationship between EE and EM was found,  $R^2 = 0.303$ ,  $F(1, 423) = 183.563$ ,  $p < .001$ . Thus, EE is a predictor of EM,  $\beta = 0.296$ ,  $t(423) = 13.549$ . Moreover, a simple regression was conducted for EM to predict EI, resulting in a significant relationship,  $R^2 = 0.985$ ,  $F(1,423) = 147.544$ ,  $p < .001$ . Hence, EM is a predictor of EI,  $\beta = 0.985$ ,  $t(423) = 12.147$ . Afterwards, a multiple regression was conducted to analyze the relationship between EE, EM, and EI. The results showed that the

relationship between EE and EI and EM and EI are both significant,  $R^2 = 0.367$ ,  $F(1,423) = 122.522$ ,  $p < .001$ . This indicates that both EE,  $\beta = 0.411$ ,  $t(423) = 8.517$ , and EM,  $\beta = 0.564$ ,  $t(423) = 6.282$ , are predictors of EI. Overall, since EE still significantly predicts EI in the presence of EM with a non-zero value, the mediation is likewise deemed to be a partial mediation.

Table 4: Regression Results for Analysis of the Mediating Role of Entrepreneurial Mindset

Dependent Variable	Independent Variable	$\beta$	S.E.	t	F	$R^2$	p
Entrepreneurial Mindset	Entrepreneurial Education	0.414	0.031	13.549	183.563	0.303	< .001
Entrepreneurial Intention	Entrepreneurial Mindset	0.703	0.058	12.147	147.544	0.259	< .001
Entrepreneurial Intention	Entrepreneurial Education and	0.411	0.048	8.503	122.522	0.367	< .001
	Entrepreneurial Mindset	0.401	0.064	6.238			

**4.3 Path Analysis in R**

To further validate whether the regression models accurately describe the data, a path analysis was performed using the R software [50]. With EC as the mediator between EE and EI, the total effect was determined to be  $\beta = 0.541$ ,  $z = 11.243$ ,  $p < .001$ , which is still significant to some extent. Here, the indirect effect,  $\beta = 0.240$ ,  $z = 7.781$ ,  $p < .001$ , which represents the portion of the relationship between EE and EI that is mediated by EC, is reduced compared to the direct effect,  $\beta = 0.302$ ,  $z = 5.825$ ,  $p < .001$ . This shows that the mediation is a partial mediation as the effect of EE on EI was reduced in absolute size but is still

different from zero when EC was introduced. On the other hand, With EM as the mediator between EE and EI, the results showed that the total effect is significant to some extent,  $\beta = 0.338$ ,  $SE = 0.046$ ,  $z = 7.420$ ,  $p < .001$ . The indirect effect,  $\beta = 0.036$ ,  $SE = 0.025$ ,  $z = 1.464$ ,  $p < .001$ , which represents the mediation of EM to the relationship between EE and EI, showed that it is significantly reduced as compared to the direct effect,  $\beta = 0.302$ ,  $SE = 0.052$ ,  $z = 5.825$ ,  $p < .001$ . However, the results of the indirect effect suggest that the mediation of EM between the relationship of EE and EI is not significant,  $\beta = 0.036$ ,  $SE = 0.025$ ,  $z = 1.464$ ,  $p = .143$ . The



indirect effect not being significant is most likely caused by the relationship between the path from EM to EI being not significant,  $\beta = 0.123$ ,  $SE = 0.084$ ,  $z = 1.472$ ,  $p = .141$ . Despite this, there is still a partial mediation that occurred since it was mentioned by Hayes [49] that mediation can still occur despite having one path (either a or b) not being statistically significant. Consequently, when the two mediators are tested separately, through mediation analysis using the R software [50] and Baron and Kenny's method [51], the results showed that the path is statistically significant. Hence, this shows that EM partially mediates the relationship between EE and EI.

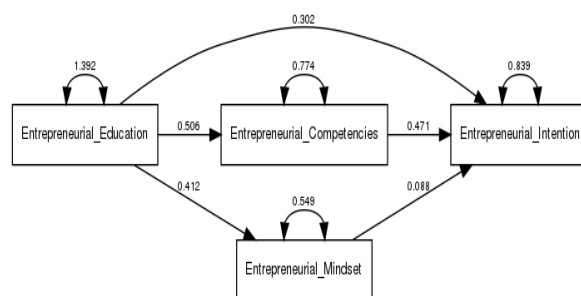


Figure 2: Node diagram for the path analysis

Table 5: Parameter Estimates for the Path Analysis

Parameter Estimate	Unstandardized	Standardized	p
<b>Regressions</b>			
Entrepreneurial Education → Entrepreneurial Intention	0.30(0.05)	0.29	< .001
Entrepreneurial Education → Entrepreneurial Competencies	0.51(0.04)	0.56	< .001
Entrepreneurial Competencies → Entrepreneurial Intention	0.47(0.05)	0.41	< .001
Entrepreneurial Education → Entrepreneurial Mindset	0.41(0.03)	0.55	< .001
Entrepreneurial Mindset → Entrepreneurial Intention	0.09(0.06)	0.06	.144
Indirect Effect of Entrepreneurial Intention on Entrepreneurial Education by Entrepreneurial Competencies	0.24(0.03)	0.23	< .001
Indirect Effect of Entrepreneurial Intention on Entrepreneurial Education by Entrepreneurial Mindset	0.04(0.02)	0.04	.146
Total Effect of Entrepreneurial Intention on Entrepreneurial Education	0.58(0.04)	0.56	< .001
<b>Errors</b>			
Error in Entrepreneurial Education	1.39(0.10)	1.00	< .001
Error in Entrepreneurial Competencies	0.77(0.05)	0.68	< .001
Error in Entrepreneurial Mindset	0.55(0.04)	0.70	< .001

Error in Entrepreneurial Intention	0.84(0.06)	0.57	< .001
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Squared multiple correlations ( $R^2$ ) of each endogenous variable was computed, and all returned a value greater than 0.20.  $R^2$  values less than or equal to 0.20 means the endogenous variable is not sufficiently attributed for by regression in the model and should hence be removed [52].

Table 6: Squared multiple correlations of endogenous variables

Endogenous Variable	Standard Error	R2
Entrepreneurial Competencies	0.77	.32
Entrepreneurial Mindset	0.55	.30
Entrepreneurial Intention	0.84	.43

**4.4 Results of hypothesis tests**

Results obtained from conducting Pearson’s Correlation, Mediated Regression using Baron and Kenny’s method [51], and Path Analysis using R [50] led to rejecting all the study’s null hypotheses. The p-values obtained for each respective hypothesis deemed the relationships tested to be significant at 0.05 alpha level. Similarly, the partial mediation by EC and EM in the relationship between EE and EI is determined to be statistically significant. As such, EC and EM have a significant relationship with EI; Also, there’s significant direct relationship between the independent (EE) and dependent (EI) variables. Likewise, both mediators intervene in the relationship between EE and EI. Thus, with a partial mediation, EE still influences EI even without the presence of the two mediators.

**4.5 Results of Thematic Analysis**

Supplementary to the qualitative data analysis, a thematic analysis was conducted to explore themes found in the data gathered from the interviews. The analysis was conducted according to the 6-step framework design by Braun and Clarke [53]. The analysis was aimed to qualitatively explore the effects of the variables being studied.

**4.5.1 Soft Skills and Learning Process**

Based on the insights shared by the interviewees, EE is an essential component in developing EM as it helped them develop soft skills such as interpersonal and intrapersonal skills. Those skills involve dealing with other people and internal abilities such as passion and determination. The interviewees also stated that EE provided them with various learning processes such as learning from experience, learning from school, and learning from other people which helped them develop the skills and mindset that will help them in their success. Notably, the participants identified that one of the best ways to improve their knowledge and skills is through learning from the experiences that they gained from several people and activities. Likewise, the students also mentioned that their experiences helped them to improve their innovativeness, fill up their personal need for achievement, develop risk-taking capacity, form autonomy for the sake of self-employment and proactiveness to approach projects. Since these things were needed in the development of their EI, this shows that EM is found to have an impact on their intention to put up a business venture.

**4.5.2 Learning Moments**

EE is also found to be a significant contributor to the development of EC as it enables students to gain the essential entrepreneurial competencies such as administrative, knowledge and

technology, entrepreneurial leadership, creativity and innovativeness, and network building competencies. The statements of the participants indicate that EC is consistently found to have a positive impact on EI as students are able to learn from mentors, learn to manage people and operate a business, learn to constantly evaluate themselves, learn to be financially literate, learn to manage risks, and learn to analyze their business environment.

#### **4.5.3 Knowledge as an Important factor in entrepreneurial involvement**

Similarly, EE is found to have a significant positive impact on EI as the interviewees mentioned how knowledge is an important factor of entrepreneurial involvement which leads to their intentions to join or create their own startup venture. The participants also identified that they have acquired knowledge from the education that they are receiving and from the entrepreneurial activities, like the business simulation, that come along with it. In turn, the knowledge that they gained serves as their motivation and support in pursuing a career in entrepreneurship.

#### **4.5.4 Learning moments relating to the different dimensions of Entrepreneurial Competencies**

Through the EE received by the participants, they were able to develop their EC. In turn, EC provided learning moments on administrative, knowledge and technology, entrepreneurial leadership, creativity and innovativeness, and network building competencies which influenced the intention of the students to become an entrepreneur. This shows that the ABM education and the experiences of planning and executing a business, for example, gained by the students is a significant avenue to acquire the competencies that would further help the students in developing their intention to venture into business.

#### **4.5.5 Applying Lessons Learning in Entrepreneurial Activities**

The participants identified that they can hone their EM through the EE that they received. The lessons that they learned in school as well as the experiential learning that they had through their experiences enabled them to develop an intention to put up a business. In the same way, the students can see the importance of coming up with creative and unique ideas, cultivating their will to success, acquiring knowledge in risk management, gaining an understanding in autonomy, and participating actively in generating solutions not only in their present entrepreneurial engagements but also in their future business venture. The statements of the students also highlighted that they see the EM that they have developed as a factor that would positively influence their future entrepreneurial activities. Thus, showing that education is an avenue to influence the mindset of the students towards starting a business venture.

#### **4.6 Results of Pattern Matching**

To cross-validate the quantitative and qualitative data analysis, pattern matching was further used. Through this, students provided with effective EE tend to have more EC which leads to the development of EI, as supported by the studies of Ni and Ye [35] and Draksler and Sirec [36]. Similarly, students provided with EE most likely develop EM that positively influences their EI - this is likewise supported by the studies of Yusoff et al. [37] and Mukhtar et al. [38]. More specifically, EE received by the students fosters their EI, like the findings of Ni and Ye [35] and Farani et al. [39]. Moreover, the EE received by the students aided the development of EC which is also supported by Ni and Ye [35] and Draksler and Sirec [36]. Furthermore, the present study found that EE is a significant factor in fostering EM, which is like the findings of Asghar et al. [42], Solesvik et al. [43], and Ridley et al. [44]. With this, students who have exhibited EM were

found to have higher EI as similarly found by Cao and Ngo [46], and the EC developed by the

students nurtures their EI as likewise revealed by several literatures earlier cited [28-29, 30,45].

Table 7: Pattern Matching

Relationship Tested	Quantitative Analysis	Qualitative Analysis	Related Literature	Interpretation
The effect of EE on EI	EE is a significant predictor of EI. Likewise, students who are given EE tend to have higher EI.	Knowledge or EE is a significant motivating factor to become an entrepreneur.	Ni and Ye [35], Farani et al. [39], and Lee et al. [54] suggested that people with EE tend to have higher EI. Meanwhile, Karyaninsih et al. [17] found that some people with high EE tend to have low EI.	The education that the ABM students received from entrepreneurial activities both inside and outside of their schools fosters the students' intention to start a business.
The effect of EE on EC	EE is a significant predictor of EC. Students with EE have the tendency to develop EC.	Through the ABM curriculum, students can acquire administrative, knowledge and technological, entrepreneurial leadership, creativity and innovativeness, and network building competencies.	Ni and Ye [35] and Draksler and Sirec [36] concluded that people with EE tend to develop EC. On the contrary, Weaver et al. [55], on the other hand, posited that EE has little impact on EC.	Graduates of the program perceive that the ABM senior high school curriculum is effective for students to develop entrepreneurial competencies.
The effect of EE on EM	EE is not only a significant predictor of EM, but it also helps in developing the EM of the students.	Through different learning processes, the students can develop the skills and mindset that can help them in their success.	The study of Asghar et al. [42], Solesvik et al. [43], and Ridley et al. [44] all suggested that EE is a significant factor in fostering EM. On the other hand, Jung and Lee [34] posited that not all sub-constructs of EM	The education that the ABM students received from their schools fostered the students' mindset or their collective perception that enabled them to find opportunities

			might be outcomes of EE. Meanwhile, Cui [56] suggested that different models of EE can have various effects on EM.	to become enterprising.
The effect of EC on EI	EC is a significant predictor of EI. The students who possess EC are most likely to have EI.	Learning moments are important factors for students to hone their competencies and decide whether they intend to pursue entrepreneurship as a career.	The papers of Zarefard and Cho [28, Botha and Taljaard [29], Kyguolienė and Švipas [45], and Morris et al. [30] suggested that acquiring EC leads to higher EI. On the contrary, Daliman et al. [57] concluded that students who acquired EC through entrepreneurship lectures and mentorship do not directly influence their EI.	The ABM program provides a sufficient theoretical basis for learning milestones and experiences that allow students to enhance and sharpen their competencies and also to consider entrepreneurship as a career.
The effect of EM on EI	EM is a significant predictor of EI. Furthermore, students who demonstrated EM are most likely to have higher EI.	The students were able to identify how the several sub-constructs of EM affect their intention to put up a business. They are under the impression that EM affects EI.	The paper of Cao and Ngo [46] suggested that EM positively affects the EI of the people. On the other hand, the paper of Misiak-Kwit [58] suggested that there is a weak positive relationship between EM and EI.	ABM students who exhibited high level of EM, especially those with experience in entrepreneurial activities, would most likely have a higher intention to put up a business in the future.
The mediating effect of EC on the relationship between EE and EI	EC partially mediates the relationship between EE and EI.	Learning moments acquired from EE further develops EC, which are	Ni and Ye [35] and Draksler and Sirec [36] proposed that increasing EC greatly supports the relationship between	ABM students who are provided with effective EE tend to have more EC that lead to the development of EI.

		significant factors in consideration regarding beginning a venture.	EE and EI. However, Draksler and Sirec [59] in their most recent study, concluded that the impact of EE on EC was not confirmed, but EC positively influences EI.	
The mediating effect of EM on the relationship between EE and EI	EM partially mediates the relationship between EE and EI.	EE instills innovativeness, needs for achievement, risk-taking, autonomy and proactiveness in students for their intention to establish a business.	The studies of Yusoff et al. [37] and Mukhtar et al. [38] indicated that increasing EM greatly supports the relationship between EE and EI. In contrast, the study of Lilleväli and Täks [60] revealed that varying EE models affect EM differently, which in turn impact EI.	ABM students with good EE would most likely develop an EM which would in turn positively influence their intention to put up a business venture.

**5. Conclusions**

The Filipino youth’s growing interest towards Entrepreneurship has led to several improvements on the entrepreneurial education in the country. Through the Accountancy, Business, and Management (ABM) strand of the SHS program, the students, particularly those who wish to pursue business or entrepreneurship, are able to hone several competencies and mindset that further develop their intent to engage in entrepreneurial activities. The researchers found that EE is a significant predictor of EC, EM, and EI. This result highlights the importance of having an effective ABM curriculum as it fosters not only the competencies and mindset, but also the intention of the students to participate in entrepreneurial activities. The participants can identify that they have acquired administrative, knowledge and technology, entrepreneurial leadership, creativity and innovativeness, and

network building competencies through their EE. In relation to their mindset, the students also identified that EE helped in honing and cultivating their innovativeness, needs for achievement, risk-taking, autonomy, and proactiveness. Notably, the participants of the study also explained that apart from the theoretical knowledge that they have learned in school, learning through application and business exposures or entrepreneurial experiences would further cultivate the skills and knowledge that they have learned in class. Furthermore, the findings of this study also indicate that EC and EM are predictors of EI. In this regard, students who exhibited EC and EM would most likely engage in entrepreneurial activities. The statements of the participants put an emphasis on the importance of actual learning moments and experience in the mastering and exhibiting their Entrepreneurial competencies and mindset as

those greatly affect the intention of the students to pursue a career in entrepreneurship. Overall, the researchers have established that EC and EM mediate the relationship between EE and EI. More so, the findings of this study also reveal the relationship between the variables; wherein, it is highlighted that students want to learn and hone their competencies and mindset through experience. By doing so, it will also greatly affect their intention to engage in entrepreneurial activities in the future. Hence, the recommendation of the researchers will focus on the improvements that several stakeholders can implement in relation to these findings. Students who wish to become entrepreneurs in the future, or who have hints of possibly doing business after college, are advised to acquire pre-university business education through the ABM strand of the Kto12's senior high school program. The ABM program should have activities not only targeted at making students want to be entrepreneurs, or at exciting them of the perks of being his own boss, but also on the acquisition of entrepreneurial skills and developing the right investor's mindset. These are best accomplished when the activities in the program are more experiential and reflective with the students being in the forefront of the practice or simulation while being mentored by an able supervisor on the sides. After all, entrepreneurship can be learned, and it can start as early as senior high school.

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