European Journal of Education Studies
ISSN: 2501 - 1111
ISSN-L: 2501 - 1111
Available online at: www.oapub.org/edu

DOI: 10.46827/ejes.v12i7.6100 Volume 12 | Issue 7 | 2025

ENTREPRENEURIAL EDUCATION AND ATTITUDE ORIENTATION OF ABM STUDENTS: THE MEDIATING ROLE OF MOTIVATION

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Abstract:
A key factor in influencing the development of entrepreneurship among individuals is their attitudes towards entrepreneurship and their intentions to engage in entrepreneurial activities. This study aimed to investigate the mediating role of motivation on the relationship between entrepreneurial education and entrepreneurial attitude orientation. A total of 404 ABM senior high school students were randomly surveyed from identified big senior high schools in Digos City, both in Grades 11 and 12, using an adapted-standardized questionnaire. The data were analyzed using the Sobel z-test, including the other prerequisite descriptive tools. Descriptive statistics underlined that the respondents expressed a moderate level of entrepreneurial education (EE), entrepreneurial attitude orientation (EAO), and extrinsic motivation (EM). Also, statistical evidences show that there is a significant relationship between EE→EAO, EE→EM, and EM→EAO. Extrinsic motivation partially mediates the relationship between entrepreneurial education and entrepreneurial attitude orientation. Thus, to improve students' entrepreneurial mindset orientation, it is advised that ABM educational institutions incorporate motivational components into their entrepreneurship instruction.

Keywords: business management, entrepreneurial education, entrepreneurial attitude orientation, motivation, sequential mediation, Sobel test, Philippines

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1. Introduction

In order to effectively integrate entrepreneurship education and promote innovation, economic development, and self-reliance within Filipino society, the current educational system is aiming to identify and address any gaps or opportunities that may exist. According to Lv *et al.* (2021), promoting students to launch their own companies is an essential strategy for boosting the nation's innovative development and economic transformation. It is feasible to educate entrepreneurship, despite the fact that it is a very uncertain field with widely varying features for entrepreneurs. If senior high school students receive entrepreneurship education and gain entrepreneurial knowledge and abilities, they have a higher chance of becoming entrepreneurs in the future (Hahn *et al.*, 2019; Lv *et al.*, 2021). As a result, both the government and academic institutions have given entrepreneurship education a lot of attention, and how to assess and advance entrepreneurship education has grown in importance within the area of education (Daneshjoovash & Hosseini, 2019).

Entrepreneurial attitude matters a lot in producing high-quality students. It was proven that the higher the stage of education is, the more beneficial the effect it has on the creation of an entrepreneurial attitude in a person. Moreover, it was stated that the acquisition of a wide range of competencies during the learning process motivates people to self-employ and minimizes, especially at the initial stage, the costs of the launched business (Law & Breznik, 2017). Administrators who are actually pursuing to raise school's motivational proficiency induce productive staff and programs to make the school more efficient (Zhang, Wang & Owen, 2015).

Cognizant of the importance of studies on entrepreneurial attitude, the researcher made an extensive review of the literature for possible variables associated with it. Entrepreneurial education was the first variable considered to be relevant. It plays an important role in the development of the entrepreneurial attitude of students (Fullan, 2009; Kishore & Nair, 2013; Labby, 2010; Smith, 2003). Entrepreneurial education uses values, attitudes, and behaviors to intrinsically motivate students, thus increasing student's sense of spiritual survival and membership, resulting in positive entrepreneurial attitude outcomes (Ladd & Zelli, 2005; Liu, 2007; Smith, Guarino, Strom, Reed & Adams, 2003).

Another variable that caught the attention of the researcher is motivation. It is used to describe a process where the learners' attention becomes focused on meeting their scholastic objectives and their energies are directed towards realising their academic potential (Cardona, 2000; Fullan, 2010; Hopkins, 2007; Marley, 2009; Perry & McWilliam, 2007). However, the researcher would like to know how motivation mediates the effect of entrepreneurial education on entrepreneurial attitude.

The capacity to clarify the underlying mechanisms via which entrepreneurial education changes people's attitudes toward entrepreneurship makes the motivation mediation of the relationship between entrepreneurial education and attitude significant. The significance of motivation as a mediator in this relationship is shown by research by

Liñán and Fayolle (2020), which suggests that entrepreneurial education not only conveys information and skills but also nurtures the motivation and self-efficacy required for cultivating a good entrepreneurial mindset. Teachers and legislators can create more successful entrepreneurship programs that not only impart knowledge but also foster the innate drive and resolve required to pursue entrepreneurial endeavors successfully by understanding how motivation mediates this relationship (Neneh & Boso, 2019).

It is on the above context that the researcher took interest in examining if motivation will mediate the relationship between entrepreneurial education and entrepreneurial attitude; hence, making this study a generation of new knowledge that can give a specific contribution to the field of education.

Despite the increased emphasis on entrepreneurial education in senior high school programs, there remains a limited understanding of how motivation mediates the relationship between entrepreneurial education and entrepreneurial attitude orientation among students. There is a lack of research on how internal elements like motivation affect the relationship because the majority of current studies concentrate on either entrepreneurial education or attitude alone. Insights from this study can assist educators and policymakers in creating more successful educational interventions that not only improve students` entrepreneurial abilities but also cultivate positive entrepreneurial mindsets; therefore, closing this gap is imperative.

The main purpose of this study was to find out the mediating effect of motivation on the relationship between entrepreneurial education and entrepreneurial attitude orientation of ABM senior high school students of Davao del Sur. Specifically, the following objectives were to describe the level of entrepreneurial education in terms of course content and pedagogical approaches, to ascertain the level of entrepreneurial attitude orientation in terms of achievement, innovation, personal control, self-esteem, and self-employment intention, to measure the level of extrinsic motivation of the ABM senior high school students, to determine the significance of the relationship between entrepreneurial education and entrepreneurial attitude orientation, entrepreneurial attitude orientation and extrinsic motivation, and extrinsic motivation and entrepreneurial education, and to determine the significance of mediation of motivation on the relationship between entrepreneurial education and entrepreneurial attitude.

This study utilized a 0.05 level of significance to test the hypothesis that there are no significant relationships that exist between entrepreneurial education, entrepreneurial attitude orientation, and extrinsic motivation, and extrinsic motivation has no significant mediating effect on the relationship between entrepreneurial education and entrepreneurial attitude orientation among ABM senior high school students.

This study is anchored on the theory of planned behavior of Ajzen (1985) to explain the effect of entrepreneurial education on individuals' entrepreneurial attitude. The theory was intended to explain all behaviors over which people have the ability to exert self-control. The key component to this model is behavioral intent; behavioral intentions are influenced by the attitude about the likelihood that the behavior will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome.

The theory of planned behavior is a psychological model which has become highly influential on entrepreneurship research. In a nutshell, it states that the entrepreneurial behavior is determined by the entrepreneurial intentions, which are themselves determined by three antecedents, namely: attitude towards starting-up; subjective norm; and perceived behavioral control.

In addition, Fayolle and Gailly (2004) emphasized the importance of creating and reinforcing venture creation intentions, thus enhancing the efforts of a person willing to invest in setting up a business. Kolvereid and Moen (1997) also confirmed that choosing entrepreneurship as a major does result in higher entrepreneurial intentions. Furthermore, Noel (2002) found that entrepreneurship graduates have higher intentions to set up a business within the next two-five years compared to the graduates of non-business majors.

Figure 1 presents the conceptual framework showing the variables of the study. The independent variable of this research focuses on the *entrepreneurial education*, which is depicted by the indicators, namely: course content and pedagogical approaches. *Course content* refers to all lectures, texts and any other tangible expressions of the intellectual content of entrepreneurship; and *pedagogical approaches* refer to the teaching style, teaching approach and feedback and assessment about entrepreneurship (Ayuo, Kibas and Auka, 2017).

The dependent variable of the study is entrepreneurial attitude in terms of achievement, innovation, personal control and self-esteem. *Achievement* refers to the desired result which will be successfully bring about through effort, skill or courage; *innovation* refers to the approach to opportunities in a unique or in a new way; *personal control* refers to the belief about the degree that an individual can bring; *self-esteem* refers to the confidence of an individual to perform very well on its part in any business project involved.

The mediating variable of the study is motivation. It refers to the desire and willingness of the students to learn in school. A mediating variable is one that lies intermediate between causal factors and a final outcome. It further aims to estimate the way a variable affects the impact of X on Y. A mediator is presumed to cause the outcome and not vice versa. One reason for testing mediation is trying to understand the mechanism through which the initial variable affects the outcome (Baron & Kenny, 1986). Motivation may function as a mediator when variations in the perceived entrepreneurial education and entrepreneurial attitude of ABM senior high school students account for the variations in motivation; variations in motivation significantly account for the variations in entrepreneurial attitude, and the direct link between entrepreneurial education and entrepreneurial attitude is no longer significant.

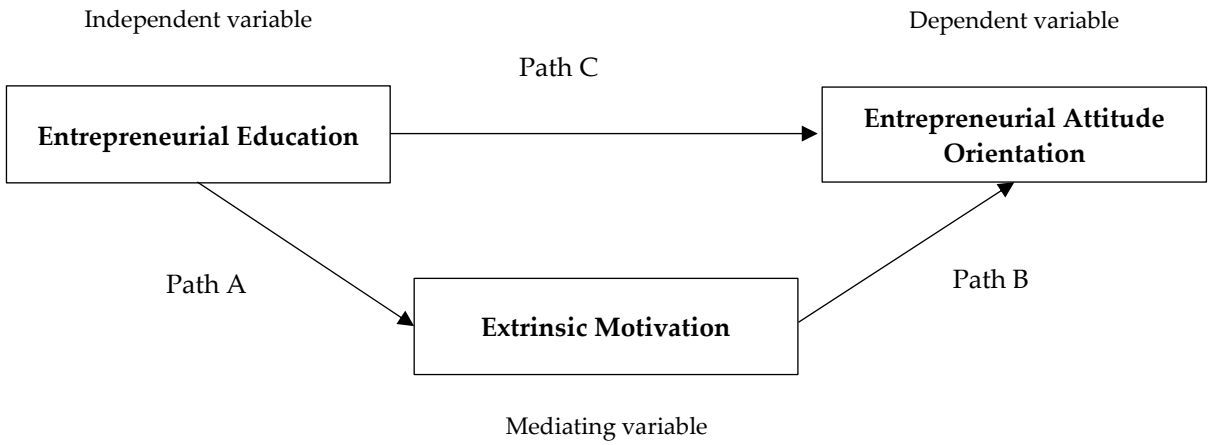


Figure 1: Conceptual Framework of the Study

Valuable and relevant information obtained from the study may become beneficial to education. This may enable leaders to become capable of transforming a school environment so that its students may become highly motivated. It may provide understanding of how leaders can lay the groundwork successfully by setting a clear direction and tone, investing in professional development, setting up mentors, giving persons in authority to make key decisions and elevating the importance of intrinsic motivation.

The outcome of this study may serve as a guide for benchmarking the school programs, needs, and problems regarding the quality of school performance from different public schools in the region. The results of the study may provide some insights and information in the course of carrying out the functions of leaders as key players in the operation of the school. It may help them understand the impact of the entrepreneurial attitude and motivation to make the institution become an environment where students transform and are suited for being an entrepreneur.

The data gathered in this study may serve as a basis for understanding the quality of the school as reflected in the United Nations` Sustainable Development Goals (SDGs) 4 – *quality education* and 8 - *Decent Work and Economic Growth*. The findings of the study may help motivate and challenge teachers as a medium to deliver classroom instructions that facilitate the collaborative and interactive learning process of the learners to achieve high-quality performance. In addition, facts that may derive from this study may be useful for the students since they are the ultimate recipients of any educational endeavor and the center of educational changes. They may directly benefit from the leadership skills and quality of school authorities as tools for learning and improving their entrepreneurial attitude orientation.

Moreover, by shedding light on how entrepreneurial education and motivation affect students` entrepreneurial attitude orientation, this study may be beneficial to senior high school administrators, teachers, and curriculum developers. The results may be used by policymakers, particularly the Department of Education, to develop policies and programs that support senior high school-level entrepreneurship activities. Since the

study may help develop more driven and entrepreneurially minded graduates who are better equipped to engage in new business endeavors, the business sector, especially local entrepreneurs and industry partners, may also profit.

2. Material and Methods

2.1 Research Respondents

There were 404 respondents in the study who were senior high school students under the Accountancy, Business and Management (ABM) strand from the selected senior high schools in the Division of Digos City. In particular, the respondents included in this study as the respondents were those students who are currently enrolled in the said strand both in Grades 11 and 12. The use of the appropriate sample size was equally claimed as well through the study of Bonita *et al.* (2025)

To guarantee a representative sample of senior high school students enrolled in the Accountancy, Business, and Management (ABM) strand across the division of Digos City`s schools, the study used stratified random sampling – a probability sampling method which divides the population into discrete subgroups, or strata (Nguyen *et al.*, 2021) where in the case of the study are Grades 11 and 12. Afterwards, the random samples were selected from every stratum, improving the sample`s representativeness and enabling more accurate comparisons between subgroups (Rahman *et al.*, 2022).

The inclusion criteria focused on senior high school students currently enrolled in the Accountancy, Business and Management (ABM) strand from the selected schools in the Division of Digos City. Specifically, students in Grades 11 and 12 were included to ensure a comprehensive representation of the target population, as both grades were part of the ABM strand. On the other hand, students who were not enrolled in the ABM strand, as well as those in other academic strands like Science, Technology, Engineering, and Mathematics (STEM) or Humanities and Social Sciences (HUMSS), were excluded from the study. Additionally, students who were not actively enrolled in the current academic year were also excluded to maintain the focus on students who were currently experiencing the curriculum relevant to entrepreneurial education. Also, students with incomplete or invalid responses in the survey were also excluded.

2.2. Materials and Instrument

There were three sets of questionnaires adapted from different authors, which were validated by experts. The first part of the questionnaire deals with the quality of entrepreneurial education, with indicators such as course content and pedagogical approach. The modified instrument was taken from the study of Ayuo, Auka and Kibas (2017). The first instrument attained a Cronbach`s alpha of 0.856. Furthermore, the second set of instruments employed was to measure entrepreneurial attitude orientation. The instrument was modified from the study of Robinson, Stimpson, Huefner and Hunt (1991). There were four indicators on this variable, namely: achievement, innovation, personal control, and self-esteem. It obtained a Cronbach`s alpha of 0.821. The third set

of the questionnaire was adapted from the study of Lepper, Corpus and Iyengar (2005). The last instrument obtained a Cronbach`s alpha of 0.789.

As per expert-validation, five (5) experts were invited to validate the survey questionnaire. An average of 4.65 was calculated, which was verbally described as excellent based on the judgement of the invited expert-validators. Also, comments provided were properly addressed prior to the conduct of the data collection.

The five orderable mean ranges in interpreting the response on entrepreneurial education, attitude orientation and motivation are as follows:

Range of Means	Descriptive Level	Interpretations
4.20 – 5.00	Very High	This indicates that the measures relating to entrepreneurial education, attitude orientation, and motivation are always manifested and/or observed.
3.40 – 4.19	High	This indicates that the measures relating to entrepreneurial education, attitude orientation, and motivation are often manifested and/or observed.
2.60 – 3.39	Moderate	This indicates that the measures relating to entrepreneurial education, attitude orientation, and motivation are sometimes manifested and/or observed.
1.80 – 2.59	Low	This indicates that the measures relating to entrepreneurial education, attitude orientation, and motivation are seldom manifested and/or observed.
1.00 – 1.79	Very Low	This indicates that the measures relating to entrepreneurial education, attitude orientation, and motivation are never manifested and/or observed.

2.3. Design and Procedure

The study utilized the quantitative, descriptive-non-experimental design using the correlation technique. It aided in determining the levels of the quality of entrepreneurial education, extrinsic motivation and entrepreneurial attitude orientation of Senior High School students in selected schools in Digos City. Quantitative research narrows itself to statistical analyses of collected data via survey questionnaires employing computational approaches (Trefry, 2017). Descriptive research depicts the precise selection of respondents through a survey (Kowalczyk, 2018). The design described the relationship between the motivation concerning the quality of entrepreneurial education and the entrepreneurial attitude orientation of senior high school students in selected schools in Digos City. Since the study focused on observing and describing the natural relationships among variables without manipulating them, it appropriately aligned with a non-experimental approach.

In order to investigate the connections between entrepreneurial education, motivation, and entrepreneurial attitude orientation of ABM senior high school students, this study used a correlation research approach. Since the goal of this study was to ascertain the degree of relationship between these variables without changing them, correlational research was a suitable method. Using this approach, the study was able to

find important correlations between students` entrepreneurial attitudes, motivation levels, and the quality of their entrepreneurial education, providing insightful information without suggesting a clear causal relationship.

Moreover, this study will utilize the sequential mediation model approach of Baron and Kenny (1986). By utilizing this model, three (3) assumptions or conditions shall be addressed: (1) entrepreneurial education (*independent variable*) should significantly be correlated to motivation (*mediating variable*), (2) once the effect of the independent variable is controlled, motivation (*mediating variable*) shall be significantly correlated to entrepreneurial attitude (*dependent variable*), and (3) the indirect effect of entrepreneurial education (*independent variable*) to entrepreneurial attitude (*dependent variable*) should be significant.

After the approval of the panel members, a formal permission to conduct the study was sent to the School Principals of the selected schools in Digos City. Upon the approval, the researcher set a schedule with the senior high school principals for the administration of the survey with the students. Before the administration of the questionnaires, the study was introduced by the researcher to the SHS authority and explained the research tool and its purpose. For the fast facilitation of the survey questionnaire, the researcher adopted the online survey using Google Forms. After the online survey was done, the researcher downloaded and organized the raw data in an Excel file and presented the Excel results to the assigned statistician for computation. The analysis and interpretation were made based on the objectives of the study.

For a more comprehensive interpretation and examination of the data, the following statistical tools were utilized. Mean was used to determine the level of entrepreneurial education, level of entrepreneurial attitude and level of motivation to answer problems 1, 2 and 3. Pearson r was utilized to determine if the relationship between entrepreneurial education and entrepreneurial attitude, entrepreneurial education and motivation and motivation and entrepreneurial attitude orientation of ABM senior high school students is really significant. Lastly, Medgraph using the Sobel z-test was employed to visualize whether the reduction in the effect of the entrepreneurial education, after including the motivation as mediator, is a significant reduction and therefore whether the mediation effect is statistically significant.

This study followed the ethical guidelines as determined by established criteria and evaluations of the study protocol, as certified and approved by the University of Mindanao Ethics Review Committee (UMERC). After being told of the goal and advantages of the study, ABM senior high school students voluntarily chose to participate without fear of repercussions or penalties, and their rights were completely upheld. All personal information was kept secure and private to ensure privacy and confidentiality. No questionnaires were distributed without the approval of Digos City school officials, and an informed consent procedure was put in place. The study also assured that there was no physical, psychological, or socioeconomic harm for the respondents of the study. Benefits-wise, the results were intended to offer insightful information that may help DepEd authorities and school administrators in creating

policies and initiatives that would enhance learners` academic motivation and learning conditions. Furthermore, since there was no biological or environmental testing in the study, biosafety factors were taken into account. To preserve the integrity of the study, additional ethical issues including respondent anonymity, conflict of interest, data fabrication, plagiarism, and technological difficulties were also thoroughly addressed.

3. Results and Discussion

This part of the study presents the answers to the objectives particularly the quality of entrepreneurial education, entrepreneurial attitude orientation, and extrinsic motivation Also, discuss here is the correlation analysis between entrepreneurial education, entrepreneurial attitude orientation, and extrinsic motivation. Lastly, this part highlights the discussion on the mediating effect of extrinsic motivation on the entrepreneurial education and entrepreneurial attitude orientation.

3.1. Entrepreneurial Education

Entrepreneurial education is a short–term training that includes the required skills for initiating and establishing an enterprise so that its value will be created after a short time (Tajpour, 2021). Table 1 illustrates that the level of the quality of entrepreneurial education is high ($\bar{x} = 3.85; SD = .475$), resulting from the high levels of responses. The indicators of the course content ($\bar{x} = 4.09; SD = .505$) and pedagogical approaches ($\bar{x} = 3.62; SD = .564$) have high ratings.

Table 1: Level of Entrepreneurial Education

Indicators	SD	Mean	Descriptive Level
Course content	.505	4.09	High
Pedagogical approaches	.564	3.62	High
Overall	**.475**	**3.85**	**High**

The high-level rating of the course content reflects the high applicability of the entrepreneurial educational content as perceived by the students. This is reflective of the pronouncement of Li, Shen, and Lv (2020), indicating that entrepreneurship course contents, as vessels of entrepreneurship talent training, play an irreplaceable role in knowledge impartation and skills cultivation. Thus, the introduction of entrepreneurial education in schools' curriculum for the purpose of promoting entrepreneurial spirit among the students is done to stave off the lack of employable skills and jobs among graduates (Adu, Boakye, Suleman, & Bingab, 2020).

Furthermore, the high-level rating of pedagogical approaches in entrepreneurial education manifests the kind of meaningful transfer of learning utilizing appropriate teaching methods and styles towards interactive teaching and learning activities.

The result is in line with the different authors (Arasti, Falavarjani, & Imanipour, 2012; Wahid, Ibrahim, Hashim, & Chandra, 2015) indicating that the quality of entrepreneurial education depends more on the teaching method and selecting a teaching

approach is influenced by different factors including the objective of entrepreneurial education. More so, pedagogical approaches point to the idea of the provisions of innovative teaching mechanisms which are suitable for experiential learning, which potentially increases students' problem–solving abilities as they learn through practice (Jones & Iredale, 2010). These abilities may be activated and enabled through different active learning processes of concepts and skills (Maritz & Brown, 2013) and employing real-life activities like individual presentations, workshops, group discussions, group projects, guest speakers, business study visits, and developing business plans, among others (Ruswanti, 2016).

3.2. Entrepreneurial Attitude Orientation

The extent of the entrepreneurial attitude orientation is shown in Table 2, indicating a moderate level ($\bar{x} = 3.32; SD = .516$) resulting from the moderate to high levels of responses. The indicators, attitudes towards money ($\bar{x} = 3.57; SD = .787$) and attitude towards entrepreneurship ($\bar{x} = 3.57; SD = .492$), have high ratings while indicators, attitude towards competitiveness ($\bar{x} = 3.04; SD = .843$) and attitude towards change ($\bar{x} = 3.10; SD = .782$), have moderate ratings.

Table 2: Level of Entrepreneurial Attitude Orientation

Indicator	SD	Mean	Descriptive Level
Attitude towards competitiveness	.843	3.04	Moderate
Attitude towards money	.787	3.57	High
Attitude towards change	.782	3.10	Moderate
Attitude towards entrepreneurship	.492	3.57	High
Overall	**.516**	**3.32**	**Moderate**

The high level of attitude towards money reflects the belief of an individual that having a high income meaning he/she has success in his/her life, or it is highly important for them to make a lot of money. Various researchers (Klontz & Britt, 2012; Qamar *et al.*, 2016) have said that money attitudes have a significant impact on the financial management behavior of an individual. Most recently, money attitudes, as one of the determinants of financial well-being, have been found to substantially contribute to one`s fulfillment of current and ongoing financial obligations (Sabri *et al.*, 2020). Moreover, the high level of attitude towards entrepreneurship underlines the perception of an individual to become an entrepreneur in the future. This is relevant to the idea of the capacity of an individual in turning ideas into action as an ability of an entrepreneur (Borzaga *et al.*, 2020) and contributing to a high positive likelihood of entrepreneurial intention (Santos *et al.*, 2016).

On the other hand, the moderate level of attitude towards competitiveness operationally implies working somewhat harder or improving one's performance to avoid being compared to others. The idea of being competitive is relevant to the consideration that this is one of the most important survival methods for individuals (Thiel, 2017) since it is impossible to think of entrepreneurial activities without competition (Kirzner, 2015). This was confirmed by Yambao (2021) that more competitive

individuals have a desire to be better than others; thus, it is considered to be a motivator to have a better grade. Balafoutas, Batsaikhan, and Sutter (2021) revealed that entrepreneurs become more competitive when decisions are publicly observable and that the more competitive entrepreneurs earn higher profits in their business.

Global and technological environments have rapidly become dynamic, ambiguous, and complex (Park & Park, 2021). The moderate level of attitude towards change contextually implies that an individual is somewhat looking for a regular change to remain stimulated, despite it leading to uncertainty; thus, for them, working in a stable and routine environment is somewhat monotonous. This is relevant to the suggestion of the various authors (Park & Park, 2019; Jundth, Shoss, & Huang, 2015) that those who are adaptive to changes are best suited for those individuals who are constantly dealing with the context of dynamic changes like handling new people or engaging to new work environment.

3.3. Extrinsic Motivation

Table 3 explains the level of motivation of students. A moderate level of extrinsic motivation ($\bar{x} = 3.31; SD = .530$) was explained as derived from the high level in terms of easy work ($\bar{x} = 3.51; SD = .589$) and moderate levels in terms of pleasing the teacher ($\bar{x} = 3.06; SD = .736$) and dependence on the teacher ($\bar{x} = 3.36; SD = .654$).

Table 3: Level of Extrinsic Motivation

Indicator	SD	Mean	Descriptive Level
Easy work	.589	3.51	High
Pleasing teacher	.736	3.06	Moderate
Dependence on the teacher	.654	3.36	Moderate
Overall	**.530**	**3.31**	**Moderate**

The high level of extrinsic motivation contextually entails a high level of likeness in dealing with challenges, learning new things due to curiosity, and improving one`s mastery independently. This means that an individual does the activity because it's internally rewarding (Augustyniak *et al.*, 2016). Conceptually, Ryan and Deci (2000) underlined that intrinsic motivation is the inherent tendency to seek out novelty and challenges, to extend and exercise one`s capacity, to explore and to learn. Moreover, the feeling of one`s satisfaction with his or her own curiosity is an indicator of internal motivation (Hagtvedt *et al.*, 2019). This is evident to various authors (Wooley & Fishback, 2017; Kruglanski *et al.*, 2022), who revealed that intrinsically motivated increases engagement and the experience of goal attainment transfers to pursuing the goal. That is why scholars agreed that being motivated intrinsically means increased creativity (Knippenberg & Hirst, 2020), increased organization engagement (Liu *et al.*, 2016) and evident beneficial outcomes of work (Ilies *et al.*, 2017).

Extrinsic motivation implies one`s eagerness to do the activity in order to obtain external gains (Augustynial *et al.*, 2016). The moderate level of extrinsic motivation in this study contextually implies that an individual is somewhat motivated if the work is easy,

can gain attention from others or being dependent from others once in the middle of a challenge.

The result is congruent to monetary payoff, recognition, external control, and so on (Antonioli, Nicolli, Ramaciotti, & Rizzo, 2016). Extrinsic motivation obtained the lower scores compared to intrinsic motivation. Malebana (2021) found that students are primarily somewhat motivated by the need for achievement and affiliation with others. Nevertheless, students still valued the validity of feeling externally motivated (Hamilton & de Klerk, 2016).

3.4. Correlation Analysis Between Entrepreneurial Education, Entrepreneurial Attitude Orientation, and Extrinsic Motivation

Correlation analysis between variables in the study using the Pearson product-moment correlation coefficient at $p<0.05$ was essential as a preliminary test to establish evidence whether the variables merit a further test of mediating effect using the Baron and Kenny approach. It can be gleaned from Table 4 that, all in all, there was statistical evidence showing a significant relationship between entrepreneurial education and entrepreneurial attitude orientation, $r(402) = 0.390$, $p<0.001$. This means that there is a positive relationship between the two variables, which leads to the decision of rejecting the null hypothesis. This implies that the positive correlation suggests that as one variable increases or decreases, the other variable also increases or decreases.

Table 4: Correlation Matrix of the Variables

Pair	Variables	Correlation Coefficient	*p*-value	Decision on Ho
IV at DV	Entrepreneurial education and entrepreneurial attitude orientation	0.390	<0.001	Reject
IV at MV	Entrepreneurial education and extrinsic motivation	0.349	<0.001	Reject
MV at DV	Extrinsic motivation and entrepreneurial attitude orientation	0.572	<0.001	Reject

Abiah *et al.* (2017) stress that entrepreneurship education prepares students with entrepreneurial tools, such as attitude. Many researchers (Nesse *et al.*, 2015; Mwatsika & Sankhulani, 2016; Kiyani, 2017) highlighted that there is a correlation between entrepreneurship and one`s attitude towards entrepreneurship. Hence, entrepreneurship education plays a vital role in molding a positive attitude in people (Balder *et al.*, 2020). Some authors (Daim, Dabic, & Bayraktaroglu, 2015; Nitu–Antoine & Feder, 2015) have confirmed that if entrepreneurship learning is enhanced, it is guaranteed that the attitude orientation of students towards entrepreneurship will also increase. This implied that the better the implementation of entrepreneurial education, the higher the orientation of students towards entrepreneurship, including their intention to pursue entrepreneurship and start a business (Suasana, *et al.*, 2018).

One of the most significant aims for entrepreneurial education is to develop the motivational stimulus to make individuals engaged with entrepreneurship (Tajpour, 2021). Thus, it can be gleaned in Table 3 that a significant relationship was evident for entrepreneurial education and extrinsic motivation, $r(402) = 0.349$; $p<0.001$. This means that entrepreneurial education is positively correlated with motivation, which implies that as the quality of entrepreneurial education increases, the extrinsic motivation of an individual also increases. The results were established by a few researchers (Tarigan, Doringin, & Budiana, 2022; Nawawi, 2022) that once entrepreneurial education is continuously enhanced and improved, the more it will develop highly interested individuals towards entrepreneurship.

Lastly, the data revealed that there is statistical evidence of a significant relationship between entrepreneurial attitude orientation and extrinsic motivation, $r(402) = 0.572$, $p<0.001$. This implies that motivation, as a mediating variable, is positively correlated with entrepreneurial attitude orientation. Entrepreneurial behaviors and attitudes have been demonstrated to be influenced by extrinsic motivation, which is fueled by outside rewards like incentives and recognition. The result is in corroboration of a study which stated that entrepreneurial intents were positively influenced by extrinsic motivations among Philippine senior high school students (Cano *et al.*, 2022). Similarly, studies emphasized the significance of external rewards in promoting entrepreneurial behaviors and the function of extrinsic motivation in forming entrepreneurial intentions (Ridwan *et al.*, 2024).

3.5. Mediating Effect of Extrinsic Motivation on the Entrepreneurial Education and Entrepreneurial Attitude Orientation

Data was analysed with the linear regression method as input to the MedGraph. In Table 5, the results of regression analyses are evidently displayed. Mediation analysis developed by Baron and Kenny (1986), is the mediating effect of a third variable on the relationship between two variables.

Table 5: Regression Analysis Showing the Influence of Entrepreneurial Education on Entrepreneurial Attitude Orientation as Mediated by Extrinsic Motivation

Step	Path	B	S.E.	β
Model 1 (*extrinsic motivation as mediator*)				
Step 1	c	0.423	0.050	0.390**
Step 2	a	0.389	0.052	0.349**
Step 3	b	0.484	0.041	0.497**
Step 4	c′	0.235	0.046	0.217**

Note: **p<0.01

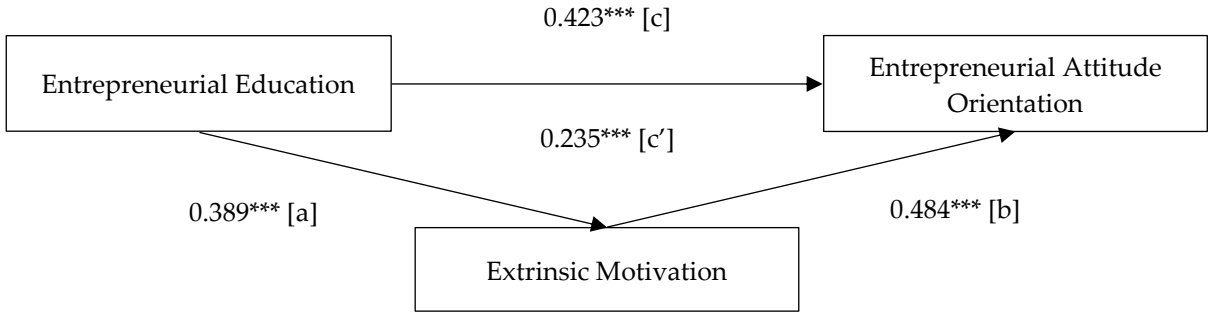
This study contributes to the literature regarding the possible indirect mediating variable for the relationship between entrepreneurial education and entrepreneurial attitude orientation. Specifically, intrinsic and extrinsic motivation were investigated as a

potential mediating variable that could explain the effect of entrepreneurial education and entrepreneurial attitude orientation.

There are four steps to be met for a third variable to be acting as a mediator as shown in Table 5. Firstly, the entrepreneurial education as the independent variable (IV) significantly predicts the students` entrepreneurial attitude orientation as the dependent variable (DV). Secondly, entrepreneurial education significantly predicts extrinsic motivation, the mediator (M). Thirdly, extrinsic motivation significantly predicts entrepreneurial attitude orientation. Since the three steps (paths a, b, and c) are significant, further mediation analysis through medgraph is warranted, involving the Sobel z test to assess the significance of the mediation effect. At the final step, if the independent variable`s effect on the dependent variable yields non-significant results, the full mediation can be achieved. It can be suspected that the mediating variable is responsible for all of the effects. A partial mediation can be suspected if the regression coefficients are reduced substantially but remain significant at the final step.

Furthermore, Figure 2 shows the computation of the mediating effect of extrinsic motivation on the relationship between entrepreneurial education and entrepreneurial attitude orientation. The Sobel test yielded a z-value of 6.293783 with a p-value of less than 0.01, which is significant at the 0.05 level. This means that partial mediation is accounted for by extrinsic motivation in the relationship between entrepreneurial education and entrepreneurial attitude orientation. In addition, the causal relationship between entrepreneurial education and entrepreneurial attitude orientation has been reduced from a significant beta coefficient value of 0.423 to 0.235, which is still significant, at the inclusion of extrinsic motivation, the mediator variable.

Figure 2: Medgraph Showing the Variables of the Study



Mediation Analysis

Sobel z: 6.293783, $p<0.01$**

Percentage of the total effect that is mediated: 44.420986%

Ratio of the indirect to direct effect: 0.799240

Effect Size Measures

Unstandardized Coefficients

Total: .423

Direct: .235
Indirect: .389
Ratio Index: .920

Moreover, Figure 2 shows the result of the computation of the effect size in the mediation test conducted between the three variables. It seems that about 44.42 percent of the total effect of the independent variable on the dependent variable goes through the mediator variable, and about 55.58 percent of the total effect is either direct or mediated by other variables not included in the model. Generally, the significant mediation of motivation in the relationship between the quality of entrepreneurial education and entrepreneurial attitude orientation was corroborated by Hassan *et al.* (2021).

4. Conclusion and Recommendations

The relationship between the quality of entrepreneurial education and entrepreneurial attitude orientation is found to be a significant and positive linear relationship between the two variables, implying that an increase in the quality of entrepreneurial education results in an increase in entrepreneurial attitude orientation. With this, the learning institutions offering entrepreneurial education may focus on improving the quality of their programs. This could involve updating their curriculum content to reflect current trends and best practices in entrepreneurship, incorporating real-world case studies, providing practical hands-on experiences, and ensuring that instructors are highly qualified and experienced in the field.

Moreover, the relationship between extrinsic motivation and entrepreneurial attitude orientation indicates a significant and positive linear relationship, implying that an increase in extrinsic motivation results in an increase in entrepreneurial attitude orientation. Thus, efforts may be made by the academic institutions to cultivate both intrinsic and extrinsic motivation among individuals pursuing entrepreneurial education. Intrinsic motivation can be fostered by highlighting the personal fulfillment and satisfaction that comes from pursuing entrepreneurial endeavors, while extrinsic motivation can be encouraged through rewards, recognition, and incentives for entrepreneurial achievements.

Mediation analysis confirmed that the partial mediation accounted for by extrinsic motivation on the relationship between the quality of entrepreneurial education and entrepreneurial attitude orientation is significant. Thus, academic institutions may explicitly incorporate elements aimed at enhancing motivation. This could involve seminars, workshops, or mentoring sessions focused on goal-setting, self-efficacy, resilience, and other factors that contribute to motivation and drive in entrepreneurship. Additionally, institutions may create a supportive and nurturing learning environment in promoting an entrepreneurial attitude orientation, such as mentorship programs, networking opportunities, and access to funding and incubation services to support aspiring entrepreneurs in their journey.

In addition, the causal relationship between the quality of entrepreneurial education and entrepreneurial attitude orientation has been reduced, which is still significant, upon the inclusion of motivation (extrinsic and intrinsic) as a mediator variable. Thus, further research is needed to explore additional factors that may influence the relationship between entrepreneurial education, motivation, and attitude orientation. Continuous evaluation of entrepreneurial education programs is essential to ensure they remain effective and relevant in preparing individuals for successful entrepreneurship.

Acknowledgements
The authors of this study would like to extend their thanks to the people who worked with them hand in hand, most especially to the respondents. This study has been realized with no financial assistance received from others.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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