

Entrepreneurship Education, Attitudes and Entrepreneurial Intention of Engineering Students in Technical and Vocational Education and Training Institutions in Kenya

Amos O Ayuo^{1*} Dr. Daniel Auka¹ Prof. Peter Kibas²

1. Department of Business Administration, Faculty of Commerce, Egerton University, Kenya

2. School of Business, Presbyterian University of Eastern Africa

Abstract

This study proposes the research framework that entrepreneurship education affects entrepreneurial intention through the mediating mechanisms of attitudes. The study adopted the Baron and Kenny (1986) approach to analyze the hypothesis. The respondents comprised 265 students taking engineering courses at diploma level in Technical and Vocational Education and Training institutions in Kenya. A total of 239 valid questionnaires, representing 90% of the sample, were analyzed. The results revealed that attitudes partially mediate the effect of entrepreneurship education on entrepreneurial intention among engineering students in Kenya. This study finding contributes to knowledge by addressing the gaps in previous studies regarding the direct effect of entrepreneurship education on entrepreneurial intention. Second, by reporting partial mediation of attitudes on the relationship between entrepreneurship education and entrepreneurial intention, the research proposes the need for more studies to explore other possible mediating factors, other than attitudes, which may affect the relationship between entrepreneurship education and entrepreneurial intention.

Keywords: entrepreneurship education; entrepreneurial intention; attitude, mediating effect

1. Introduction

Entrepreneurship education is a learning process that is meant to influence attitudes, behavior and values or intentions towards entrepreneurship as a career option or as a means to participate in the development of the individual's role in the community (Mwasalwiba, 2010). Literature suggests that the past two decades have witnessed significant growth in entrepreneurship education programs in most countries (Carey & Matlay, 2008; Katz, 2008). In their view, Carey and Matley (2008) attribute this significant growth of entrepreneurship education programs to global belief in the positive impact that entrepreneurship can have on the socio-economic and political infrastructure of a nation. More so, public policy makers recognize the importance of entrepreneurship as promoter of economic development and hence support entrepreneurship education programs to increase entrepreneurial activity (Fayolle, Gailly, & Lassas-Clerc, 2006). Elsewhere, Mwasalwiba (2010) asserts that the purpose of entrepreneurship education involves development of entrepreneurial culture, spirit, and attitudes which lead to creation and growth of start-ups and hence job opportunities. Thus, the major purpose of entrepreneurship education is to enhance development of attitude.

Attitude is a learned pre disposition to respond in a consistently favourable or unfavourable manner with respect to a situation (Schwarz, Wdowiak, Almer-Jarz, & Breiteneker, 2009). In particular, there are three fundamental attitudinal antecedents of intention: personal attitude toward outcomes of behavior, perceived social norm, and perceived behavioural control. They have proven to account for a large part of the variance in intentions (Fishbein & Ajzen, 2005). Fayolle et al., (2006) posit that the main aim of entrepreneurship education is to generate positive attitudes towards entrepreneurship activities and develop thinking skills which will enable students to recognize, screen and pursue opportunities. Thus, entrepreneurship education enhances positive attitude which in turn leads to development of entrepreneurial intention.

Entrepreneurial intention is the cognitive state of mind immediately prior to executing a behavior (Izedomni & Okafor, 2010). As such, entrepreneurial intention is concerned with the inclination of a person to start an entrepreneurial activity in the future. Intentions are said to be a strong predictor of future entrepreneurial behavior (Linan & Chen, 2009; Souitaris, Zerbinati, & Al-Laham, 2007). In this sense, intention acts as a force that propels entrepreneurial intention and behavior hence a catalyst for action (Fayolle et al., 2006).

Previous studies suggest that intention is a reliable predictor of entrepreneurial actions as starting a new venture is typically a planned behavior and therefore applicable for intention models (Haase, & Lautenschlager, 2010; Schwarz et al., 2009). It is therefore, a key determinant of the action of new venture creation moderated by exogenous variables such as attitudes and entrepreneurship education.

2. Statement of the problem

In recent years, the nexus between entrepreneurship education and entrepreneurial intention has received growing attention in entrepreneurship research. As a result, academic literature has reported several effects of entrepreneurship education on entrepreneurial intention but the linkage they report is inconsistent. Whereas some

studies (Bae, Qian, Miao, & Fiet, 2014; Otuya, Kibas, & Gichira, 2012; Ngugi, Gakure, & Waithaka, 2012) reported a significant and positive effect of entrepreneurship education on intention, other scholars (Von Graevenitz, Harhoff, & Weber, 2010; Oosterbeek & Ijsselstein, 2010; Olomi & Sinyamule, 2009) have reported a negative effect. Further, a study by Souitaris et al. (2007) found insignificant and mixed results on influence of entrepreneurship education on intention among university students.

The inconsistent findings regarding the direct effect of entrepreneurship education on entrepreneurial intention suggests that there may be other factors moderating or mediating the relationship. To harmonize these apparently conflicting findings, this study seeks to adopt a contingency perspective to develop an integrative model interconnecting variables by answering the question: What is the influence of attitudes on the relationship between entrepreneurship education and entrepreneurial intention of engineering students in TVET institutions in Kenya?

3. Objective of the Study

The objective of the study was to determine the influence of attitudes on the relationship between entrepreneurship education and entrepreneurial intention of engineering students in TVET institutions in Kenya.

4. Significance of the Study

The researcher envisaged that the study would provide and empirically validate a multi-level conceptual framework about the effect of attitudes on the relationship between entrepreneurship education and entrepreneurial intention. Such literature would be of use to academics interested in understanding and or investigating entrepreneurial intention of students.

The findings and recommendations would also be useful to policy makers in enhancing entrepreneurship education through appropriate curriculum that would be, not only content focused, but also pedagogically sound hence likely to yield positive results. Thus, the practical significance of this study would reflect on its implication for entrepreneurship education practice.

5. Assumptions of the Study

The study was premised on assumptions that: the students had no prior entrepreneurship education before joining the TVET institution; the intentions had been developed in the students at the time of study and that these intentions in future would turn into actual behavior, and respondents would voluntarily participate in the study and give accurate and reliable responses.

6 LITERATURE REVIEW

6.1. Entrepreneurship Education and Entrepreneurial Intention

Entrepreneurship education has been defined as a learning process that is meant to influence attitudes, behavior and values or intentions towards entrepreneurship as a career option or as a means to participate in the development of the individual's role in the community (Mwasalwiba, 2010). Entrepreneurial intention on the other hand, is the cognitive state of mind immediately prior to executing a behavior (Izedomi & Okafor, 2010). Literature suggests that entrepreneurship education has an influence on entrepreneurial intention.

Entrepreneurship education can contribute to intention by fostering the right mindset, by raising awareness of career opportunities as an entrepreneur or as a self-employed person, and by providing relevant business skills. McMullan and Shepherd (2006) argue that entrepreneurship education not only improves knowledge, skills and information needed to pursue an opportunity but also equips individuals with analytical ability and knowledge of entrepreneurial process. Similarly, Nabi and Holden (2008) contend that entrepreneurship education is a human capital investment to prepare a student to start a new venture through integration of experience, skills and knowledge important to develop and expand a business. Other scholars posit that entrepreneurship education aims at equipping people with skills and enhances their abilities to recognize, evaluate, marshal resources and to initiate and run the business (Fayolle & Gailly, 2008; Solomon, 2007).

Empirical studies that have investigated the influence of entrepreneurship education on entrepreneurial intention of participants are less unanimous on the results. While some scholars report positive effects (Bae et al., 2014; Otuya et al., 2012; Ngugi et al., 2012) others find insignificant and mixed results (Souitaris et al., 2007; von Graevenitz et al., 2010). Further, some scholars report negative findings (do Paço, Ferreira, Raposo, Rodriguez, & Dinis, 2013; Marques et al., 2012; Oosterbeek, van Praag, & Ijsselstein, 2010; Olomi & Sinyamule, 2010).

Bae et al. (2014) conducted a meta-analysis that focused on the relationship between entrepreneurship education and entrepreneurial intention among the youth in Belgium. The findings suggest a significant but small correlation between entrepreneurship education and entrepreneurial intention. However, Bae et al. (2014) report that when they controlled for pre-education intention of respondents, post-education intention was not significant. Other scholars, Otuya et al. (2012) also conducted a survey on the influence of entrepreneurship education on entrepreneurial intention using a sample of university students in Kenya. Based on the theory of planned behaviour, the findings show that entrepreneurship education positively influences entrepreneurial intentions. In another study,

Ngugi et al. (2012) used Shapero's Model to determine the relationship between entrepreneurship education and entrepreneurial intention among university students in selected universities in Kenya. The findings further confirm that entrepreneurship education process may help to develop entrepreneurial intention and the necessary abilities to be an entrepreneur among students.

A number of studies, however, have found that entrepreneurship education has either no discernible influence or a negative influence on entrepreneurial intention (do Paço et al., 2013; Marques et al., 2012; Oosterbeek et al., 2010; Olomi & Sinyamule, 2010; Souitaris et al., 2007). A study by do Paço et al. (2013) compared the psychological attributes and behaviours associated with entrepreneurship as well as entrepreneurial intention among students attending a sports school in Portugal. The results report that despite their not receiving any kind of entrepreneurship education, the students at the neighbouring sports school tended to have higher entrepreneurial intention which suggests that there are other factors influencing entrepreneurial intention.

In a similar vein, Marques et al. (2012) assessed the impact of entrepreneurship education, psychological and demographic factors in prediction of entrepreneurial intention among secondary school students in Portugal and reported that entrepreneurship education does not have a significant influence on entrepreneurial intention. Elsewhere, Oosterbeek et al. (2010) analyzed the impact of entrepreneurship education program on college students' entrepreneurship skills and motivation. The scholars (Oosterbeek et al., 2010) found that the effect of entrepreneurship education on students' self-assessed skills was insignificant and the effect on intentions to become an entrepreneur was even negative.

Further, Olomi and Sinyamule (2009) investigated the effect of an entrepreneurship program offered in Vocational and Training Centers in Tanzania using a sample of professionals and reported that entrepreneurship education process program had no significant effect on start-up intentions. Similarly, Souitaris et al. (2007) examined the influence of entrepreneurship education on entrepreneurial attitudes and intent of university students in Germany. The study concluded that exposure to entrepreneurship education process increases some attitudes and overall intentions of students. More so, von Graevnitz et al. (2010) studied the effect of entrepreneurship education on intention of learners in Munich School of Management in Germany. The study reported mixed results. According to the findings, students' intentions decline with education but the program had a significant positive effect on self-assessed entrepreneurial skills of the students.

6.2. Entrepreneurship Education, Attitudes and Entrepreneurial Intention

From the past literature and empirical studies, there exist mixed and inconsistent conclusions on the effect of entrepreneurship education on entrepreneurial intention. The inconsistencies could be as a result of the influence of exogenous factors such as attitude. Attitude is a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a situation (Schwarz, Wdowiak, Almer-Jarz, & Breitenacker, 2009). The theory of planned behavior, for example, argues that attitudes are precursors to intentions which are an antecedent to behaviours (Ajzen & Cote, 2008). More specifically, attitudes have a behavioural component that consists of behavioural intentions and predispositions to act in a particular way toward some subject (Haris & Gibson, 2008). Shapero and Sokol (1982) argue that attitudes are linked with entrepreneurial intentions, especially in perceived feasibility and desirability. They suggest that attitudes are partly derived from prior exposure to entrepreneurship education. Extant literature by Gatewood, Shaver, Powers, & Gartner (2002) opined that attitudes can be learned and changed through education. Entrepreneurial intention is therefore dependent on attitudes that are influenced by previous life experiences such as education.

Empirical evidence (Malebana, 2012; Ramayan & Harun, 2005) confirm that exposure to entrepreneurship education influences students' attitude towards behavior. More recently a number of scholars (Gibcus, de Kok, Snijders, Smit, & Linden, 2012) investigated the effect of entrepreneurship education on attitude and entrepreneurial intention of students in selected European countries and in Portugal. The findings suggest that entrepreneurship education positively affects attitudes and consequently influencing entrepreneurial intention. Further, Souitaris et al. (2007) studied the effect of entrepreneurship education on attitude of a group of students in a French engineering school. The findings further confirm that students in entrepreneurship education program increased their entrepreneurial attitude and intention. The findings get support from evidence presented by other scholars (Guerrero, Ralph, & Urbano, 2008) who are emphatic that entrepreneurship education positively influences attitude toward entrepreneurship.

The importance of attitudes, both in general and toward entrepreneurship, in explaining entrepreneurial intention has also been recognized and empirically confirmed in previous studies (Wang & Wong, 2004; Krueger, Reilly, & Carsud, 2001; Franke & Luthje, 2004). Finally to corroborate the link between attitudes and entrepreneurial intention, Franke and Luthje (2004) found a strong positive relationship between the attitude toward self-employment and the intention to become an entrepreneur. In line with this, we posit that:

H1. The effect of entrepreneurship education on entrepreneurial intention is mediated by attitudes.

7. RESEARCH METHODOLOGY

Using a cross-sectional survey design, primary data was collected from a sample of 239 students drawn from engineering diploma students in TVET institutions in Kenya. Simple random sampling was done in stages to select the respondents. The statistical formula suggested by Kothari (2004) was used to arrive at the number of participating institutions and the number of participating students. To arrive at the sub-sample from the selected institutions, the formula by Krejcie and Morgan (1970) was used. The specific respondents were selected by use of systematic sampling method. This was achieved by picking the *Kth* student from each of the engineering programs as they were leaving the lecture rooms. Data was collected through a questionnaire containing Likert type scale questions which were validated by two experts from the Faculty of Commerce, Egerton University. Using the Cronbach Alpha, the reliability of the instrument was established at 0.9 which was above the recommended threshold of 0.7 (Nunnally & Bernstein, 1994). The questionnaire was self-administered in the classroom. The study hypothesis was analyzed by use of Baron and Kenny (1986) four step approach of testing mediation. The first step was to show that there exists a relationship between the independent variable and dependent variable which may be mediated. Hence, the dependent variable, entrepreneurial intention was regressed on the independent variable, entrepreneurship education. Regression model (i) was used to test the first condition for mediation:

$$Y = \alpha_0 + \beta_1 X_1 + \epsilon_0 \text{-----(i)}$$

Where:

Y is the dependent variable (entrepreneurial intention)

α_0 is the Y intercept

β_1 is the regression (beta) coefficient for entrepreneurship education

X_1 is the independent variable (entrepreneurship education)

ϵ_0 is the regression error term

The second step was to show that the independent variable is related to the potential mediator. Hence the potential mediating variable, attitudes was regressed on independent variable, entrepreneurship education. This is represented by regression model (ii):

$$M = \alpha_1 + \beta_2 X_1 + \epsilon_1 \text{-----(ii)}$$

Where:

M is the mediating variable (attitudes)

α_1 is the Y intercept

β_2 is the regression (beta) coefficient for entrepreneurship education

X_1 is the dependent variable (entrepreneurship education)

ϵ_1 is the regression error term

The third step was to show that the potential mediator is related to the dependent variable. To show this, the dependent variable, entrepreneurial intention was regressed on the mediating variable, attitudes. To make the assessment, regression model (iii) was applied:

$$Y = \alpha_2 + \beta_3 M + \epsilon_2 \text{----- (iii)}$$

Where:

Y is the dependent variable (entrepreneurial intention)

α_2 is the Y intercept

β_3 is the regression (beta) coefficient for attitudes

M is the mediating variable (attitudes)

ϵ_2 is the regression error term

In the final step, dependent variable was regressed on independent variable and the potential moderator in blocks. This is to show that the strength of the relation between entrepreneurship education and entrepreneurial intention was significantly reduced when the mediator, attitude, was added to the model. If the variable is a complete mediator, the relations between independent and dependent variables would not be significant after the effect of the mediating variable, attitude, is controlled for. To test this condition, model (iv) was used:

$$Y = \alpha_3 + \beta_4 X_1 + \beta_5 M + \epsilon \text{----- (iv)}$$

Where:

Y is the dependent variable (entrepreneurial intention)

α_3 is the Y intercept

β_4 is the regression (beta) coefficient for entrepreneurship education

β_5 is the regression (beta) coefficient for attitudes

X_1 is the independent variable (entrepreneurship education)

M is the mediating variable (attitudes)

ϵ_3 is the regression error term

8. DATA ANALYSIS, FINDINGS AND DISCUSSION

8.1. Profile of Respondents

The respondents in this study were students in public TVET institutions spread across Kenya and taking engineering courses in their third year of study. They were considered to have formed entrepreneurial intention as a result of prior three years of undergoing entrepreneurship education in their respective institutions. Frequencies and percentages were used to examine the distribution of the respondents by course of study, gender and region. The profile of the respondents is shown in Table 1.

Table 1: Distribution of Respondents by Course, Gender and Region

Feature	Aspect	Frequency	Percent	Valid Percent
Course	Electrical Engineering	73	30.5	30.5
	Quantity Surveying	9	3.8	3.8
	Civil Engineering	25	10.5	10.5
	Architecture	2	.8	.8
	Building and Construction	25	10.5	10.5
	Mechanics and Automotive Engineering	56	23.4	23.4
	Plumbing	2	.8	.8
	Land Survey	18	7.5	7.5
	Others	29	12.1	12.1
Gender	Male	176	73.6	73.6
	Female	63	26.4	26.4
Region	Mount Kenya	30	12.6	12.6
	Nairobi	93	38.9	38.9
	Western	71	29.7	29.7
	North Rift	28	11.7	11.7
	Coast	17	7.1	7.1

The study explored the distribution of students on the basis of course of study. As shown in Table 1, majority of students were taking Electrical Engineering (30.5%), followed by Mechanical and Automotive Engineering (23.4%). The students enrolled for Civil Engineering and Building Construction Engineering stood at 10.5% respectively. A total of 7.5% enrolled for Land Survey while 3.8% were taking Quantity Survey. The least popular courses were Architecture and Plumbing (0.8%) respectively.

The distribution of respondents by gender indicated that the majority of respondents (73.6%) were male while only 26.4% were female. This was expected as most of engineering courses are popular with males than they are with females not only in TVET institutions, but also in other institutions of higher learning in Kenya.

The study also examined the distribution of respondents by region. From Table 1, Nairobi Region had the highest enrollment (38.9%) followed by Western Region (29.7%). While Mt. Kenya Region had an enrollment of 12.6%, North Rift Region registered only 11.7%. Finally, Coast Region had the least population of only 7.1%.

8.2. Entrepreneurship Education

The study examined entrepreneurship education acquired by students. Table 2 presents the results of the analysis.

Table 2: Mean and Standard Deviation for Measures of Entrepreneurship Education

Statements	N	Min	Max	Mean	Std. Dev
Course content				4.26	
The entrepreneurship course increases my understanding of generating innovative ideas	239	1	5	4.34	.795
The entrepreneurship course increases my understanding of environmental assessment of entrepreneurial ventures	239	1	5	4.11	.879
The entrepreneurship course increases my understanding of financial preparation for entrepreneurial ventures	239	1	5	4.31	.871
The entrepreneurship course increases my understanding of planning a business	239	1	5	4.44	.752
The entrepreneurship course increases my understanding of market research for entrepreneurial ventures	239	1	5	4.16	.884
Entrepreneurship course increases my understanding of attitudes of entrepreneurs (how they view entrepreneurship and why they act)	239	1	5	3.94	.942
Entrepreneurship course increases my understanding of importance of entrepreneurship to both society and individuals	239	1	5	4.27	.747
Entrepreneurship course increases my understanding of personal characteristics of entrepreneurs (risk taking, innovation)	239	1	5	4.32	.772
Entrepreneurship course gives me a sense that entrepreneurship is achievable	239	1	5	4.26	.811
Entrepreneurship course increases my understanding of the motives of engaging in entrepreneurial activities (money, self-achievement, social status)	239	1	5	4.16	.790
Entrepreneurship course enhances my ability to develop networks (obtaining useful information from lecturers, guest speakers or classmates)	239	1	5	4.07	.983
The creative atmosphere in the entrepreneurship class inspires my entrepreneurial mind	239	1	5	4.01	1.006
Views of external speakers inspire my entrepreneurial mind	239	1	5	3.87	1.037
The entrepreneurial experience of the entrepreneurs enhances my understanding of the entrepreneurial process	239	1	5	3.97	.835
Entrepreneurship course enhances my skills to develop business plans	239	1	5	4.48	.697
Entrepreneurship course enhances my skills to handle an entrepreneurship project	239	2	5	4.31	.695
Entrepreneurship course enhances my skills to deal with risks and uncertainties	239	1	5	4.18	.832
Entrepreneurship course enhances my skills to allocate resources (e.g. money, personnel, time)	239	2	5	4.33	.720
Entrepreneurship course enhances my ability to identify a business opportunity	239	1	5	4.48	.782
Pedagogical Approaches				3.16	
The instructor frequently gave the class case studies	239	1	5	3.20	1.182
Guest speakers/lecturers were often invited to give lectures	239	1	5	3.03	1.241
Group discussions were commonly used during lectures	239	1	5	3.09	1.247
The lecturer frequently used traditional lecture method	239	1	5	2.70	1.219
The class would perform role plays to enhance lectures	239	1	5	3.26	1.111
The lecturer would give the class individual project work	239	1	5	3.40	1.263
The lecturer would give the class group project work	239	1	5	3.49	1.192
The lecturer would use real world situations (simulation) in teaching	239	1	5	3.88	1.111
During the class I had the chance to listen to entrepreneur's field reports (e.g. entrepreneurs' speeches, lecturer's reports).	239	1	5	3.34	1.284
There were frequent field visits to established businesses	239	1	5	2.69	1.335
Our lectures were computer based	239	1	5	2.84	1.306
The class frequently interacted with practicing entrepreneurs	239	1	5	2.95	1.335
Overall Mean				3.71	
Valid N (listwise)	239				

As shown in Table2, the overall mean score for entrepreneurship education dimension was 3.17. The items with the highest score was “entrepreneurship course enhances my ability to identify a business opportunity” (M = 4.48, SD = 0.782). The item with the lowest score was “there were frequent field visits to established businesses” (M = 2.69, SD = 1.335). The overall mean score for entrepreneurship education was 3.71.

These results indicate that the respondents strongly agreed with the statements regarding entrepreneurship education in their institutions. These results were interpreted to mean that entrepreneurship education course content is adequate and is capable of creating entrepreneurial intentions. Thus, the entrepreneurship education curriculum content offered in TVET institutions is effective and comprehensive enough to impart “know what”, “know who”, “know why” and “know what” skills. However, Wilson, Vyakamam, Volkmann, Mariotti, and Rabuzzi (2009) propose that in building curricula to encourage and empower future entrepreneurs, it must be recognized that “one size does not fit all.” This means that there is no perfect content and therefore the curriculum content should be based on the learning needs of students. Entrepreneurship education curriculum content should be given serious attention if it is to be an effective learning process and produce quality outcomes.

In inculcating entrepreneurial skills, lecturers require several innovations in the mode of teaching (Solomon, 2007). The findings in this study reveal that pedagogical methods are entirely based on traditional approach, especially, classroom lecture. This contradicts the assertion by Mwiya (2014) that effective entrepreneurs are exceptional learners. They learn from everything. They learn from customers, suppliers and especially competitors. They learn from employees and associates. They learn from other entrepreneurs. They learn from experience and by doing. The above discussion shows that a variety of pedagogical approaches are essential for effective delivery of the curriculum.

8.3. Attitudes

The study sought to describe the attitudes of students using inferential statistics. Table 3 presents the results of the analysis.

Table 3: Mean and Standard Deviation Measures of Attitude

Statement	N	Min	Max	Mean	Std. Dev
Attitude towards competitiveness					
				3.32	
I work harder in situations where my performance is compared against that of others.	239	1	5	3.79	1.261
It annoys me when other people perform better than I do	239	1	5	2.85	1.458
				2.81	
Attitude towards money					
If you have a high income, that is a sign that you have had success in your life.	239	1	5	2.72	1.484
It is important for me to make a lot of money.	239	1	5	3.35	1.378
				3.04	
Attitude toward change					
I find working in stable and routinized environments boring.	239	1	5	2.80	1.250
I need constant change to remain stimulated, even if this would mean higher uncertainty	239	1	5	3.28	1.165
Attitude towards entrepreneurship					
				3.79	
A career as an entrepreneur is totally unattractive to me.	239	1	5	2.32	1.356
If I had the opportunity and resources, I would love to start a business.	239	1	5	4.27	.992
Amongst various options, I would rather be anything but an entrepreneur.	239	1	5	3.55	1.333
Being an entrepreneur would give me great satisfaction.	239	1	5	4.06	.968
Being an entrepreneur implies more advantages than disadvantages to me.	239	1	5	4.16	.892
I would rather be my own boss than a secure job	239	1	5	4.36	.809
Overall mean					
Valid N (listwise)	239			3.46	

As shown in Table 3, the overall mean score for attitudes was 3.46. The mean score for the attitude towards competitiveness dimension was 3.32. The item with the higher score was “I work harder in situations where my performance is compared against that of others” (M = 3.79, SD = 1.26) while the item with the lower score was “It annoys me when other people perform better than I do” (M = 2.85, SD = 1.46). The mean score attitude towards

money dimension is 2.81. The item with the higher score was “It is important to make a lot of money” (M = 3.35, SD = 1.38) whereas the item with the lower score was “If you have a high income, that is a sign that you have had success in your life (M = 2.72, SD = 3.35). The next dimension was attitude towards change with a mean score of 3.04. The higher score was “I need constant change to remain stimulated, even if this will mean uncertainty” (M = 3.28, SD = 1.17) and the item with the lower score was “I find working in stable and routinized environments boring (M = 2.80, SD = 1.25). The mean score for attitude towards entrepreneurship dimension was 3.79. The item with the highest score was “I would rather be my own boss than secure a job (M = 4.36, SD = 0.81) while the item with the lowest score was “A career as an entrepreneur is totally unattractive to me” (M = 2.32, SD = 1.36). The results demonstrate that students develop varying attitudes towards competitiveness, money, change and entrepreneurship.

8.4 Entrepreneurial Intention

The mean score and standard deviations on entrepreneurial intentions are presented on Table 4.

Table 4: Mean and Standard Deviation for Entrepreneurial Intention

Statement	N	Min	Max	Mean	Std. Dev
Self- prediction				4.26	
I am ready to do anything to be an entrepreneur	239	1	5	3.90	1.085
My professional goal is becoming an entrepreneur	239	1	43	4.08	2.720
I will make every effort to start and run my own firm	239	1	5	4.38	.801
I have got the intention to start a firm some day	239	1	5	4.35	.790
I am determined to create a firm in the future	239	1	5	4.42	.763
I have very seriously thought of starting a firm	239	1	5	4.33	.896
I have got the intention to start a firm some day	239	1	5	4.29	.850
Desirability				3.96	
I desperately want to work for myself	239	1	5	3.68	1.307
The idea of owning my own business is very appealing to me	239	1	5	4.24	.950
I cannot imagine working for someone else	239	1	5	3.25	1.326
Working in my own business would be very personally satisfying	239	1	6	4.35	1.006
Overall mean Valid N (listwise)				4.12	
	239				

As shown in Table 4, the overall mean for entrepreneurial intention was 4.12. The mean score for self-prediction dimension was 4.26. The item “I am determined to create a firm in future” had the highest mean score (M = 4.42, SD = 4.08), while the item “my professional goal is becoming an entrepreneur” scored the lowest mean (M = 4.04, SD = 2.72). The score for desirability dimension was 3.96. The highest mean was for the item on “Working in my own business would be very personally satisfying” (M = 4.35, SD = 1.01) while the item with the least score was “I cannot imagine working for someone else” (M = 3.25, SD = 1.33). These scores indicate that a majority of the respondents strongly agreed that they had entrepreneurial intentions.

9. Test of Hypothesis

This section presents analysis and results of the test of hypothesis using inferential statistics. The section presents the results of statistical analyses, interpretations, and discussions of the results in relation to the research hypothesis.

9.1. Entrepreneurship Education, Attitudes and Entrepreneurial Intention

The objective of the study was to examine the influence of attitudes on the relationship between entrepreneurship education and entrepreneurial intention. The *hypothesis (H1) stated that the effect of entrepreneurship education on entrepreneurial intention is mediated by attitudes*. To test the hypothesis, Baron and Kenny (1986) four step approach in which several regression analyses are conducted and the significance of the coefficients are examined at each step was used. Composite scores of entrepreneurship education, attitudes and entrepreneurial intention were used in the analysis. The composite scores were computed by adding scores from all the items measuring the respective variables and dividing the total score by the total number of the items (Pallant, 2010).

In the first step, the analysis was to show that there existed a relationship between entrepreneurship education and entrepreneurial intention which may be mediated. Hence, the dependent variable, entrepreneurial intention was regressed on the independent variable, entrepreneurship education. The results of the analysis are shown in Table 5.

Table 5: Simple Regression Results for Effect of Entrepreneurship Education on Entrepreneurial Intention Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.384 ^a	.147	.144	.61292

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.339	1	15.339	40.829	.000 ^b
	Residual	88.659	236	.376		
	Total	103.998	237			

a. Dependent Variable: EntreIntention

Table of Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	2.008	.324		6.191	.000	1.000	1.000
	Entrepreneurship Education	.541	.085	.384	6.390	.000		

a. Dependent Variable: EntreIntention

b. Predictors: (Constant), Entrepreneurship Education

The model Table 5 shows that R^2 is 0.147 which shows that 14.7% of variation in entrepreneurial intention is explained by variation in entrepreneurship education. The ANOVA results show that the model was significant ($F = 36.227$, $p < 0.05$). The standardized coefficients show that the effect of entrepreneurship education on entrepreneurial intention is positive and significant ($\beta = 0.365$, $t = 6.019$, $p < 0.05$). The first analysis established that there existed a significant relationship between entrepreneurship education and entrepreneurial intention which could be mediated.

In the second step, the analysis was to show that the independent variable was related to the potential mediator. Hence the potential mediating variable, attitude was regressed on independent variable, entrepreneurship education. The aim of this step was to show that entrepreneurship education and attitude were related. Table 6 shows the results of the regression analysis.

Table 6: Simple Regression Results for Effect of Entrepreneurship Education on Attitudes Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.398 ^a	.159	.155	.65134

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.901	1	18.901	44.551	.000 ^b
	Residual	100.123	237	.424		
	Total	119.024	238			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	1.240	.311		3.988	.000
	Entrepreneurship Education	.558	.084	.398	6.675	.000

a. Dependent Variable: Attitude

b. Predictors: (Constant), Entrepreneurship Education

The model in Table 6 shows that R^2 is 0.159, indicating that entrepreneurship education explains 15.9% of the variance in attitude. The ANOVA results indicate that the model is significant ($F = 44.551$, $p < 0.05$). The standardized coefficients show that the effect of attitude is positive and significant ($\beta = 0.398$, $t = 6.675$, $p < 0.05$). Thus, the results show that the second condition for mediation was also satisfied, that is, entrepreneurship education and attitudes were significantly related.

The third step analysis was to determine whether the potential mediator was related to the dependent variable. To prove this, the dependent variable, entrepreneurial intention was regressed on the mediating variable, attitudes. The results of the analysis are presented in Table 7.

Table 7: Simple Regression Results for Effect of Attitudes on Entrepreneurial Intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434 ^a	.188	.185	.59810

a. Predictors: (Constant), Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.576	1	19.576	54.725	.000 ^b
	Residual	84.422	236	.358		
	Total	103.998	237			

a. Dependent Variable: EntreIntention

b. Predictors: (Constant), Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	2.729	.185		14.765	.000
	Attitude	.406	.055	.434	7.398	.000

a. Dependent Variable: EntreIntention

The results in Table 7 indicate that R² was 0.188. This shows that 18.8% of the variance in entrepreneurial intention is explained by variation in attitude. Further, the ANOVA results indicate that the model is statistically significant (F = 54.725, p < 0.05). The standardized coefficients show that the effect of attitude on entrepreneurial intention is positive and significant ($\beta = 0.434$, t = 7.398, p < 0.05). The third condition for mediation was also accomplished.

In the fourth step, a hierarchical regression analysis was performed. This was to determine whether the moderator variable was a full or partial mediator. The dependent variable (entrepreneurial intention) was regressed on independent variable (entrepreneurship education) and the potential mediator (attitudes) in two stages. First, the dependent variable was regressed on the mediator variable. Second, the dependent variable was regressed on the independent variable again while controlling for the potential mediator, attitude. This was to show that the strength of the relation between the independent and dependent variable was significantly reduced when the mediator was added to the model. If the variable was a complete, full or perfect mediator, the relations between independent and dependent variables would not be significant after the effect of the mediating variable is controlled for. In contrast, if there remains a significant direct effect of entrepreneurship education on entrepreneurial intention, after controlling for attitudes, researchers typically report that the mediator is only a partial mediator. The regression results for the fourth step were as shown in Table 8.

Table 8: Hierarchical Regression Results for Effect of Entrepreneurship Education on Entrepreneurial Intention, Controlling for the Effect of Attitudes

Model Summary^c											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change		
1	.384 ^a	.147	.144	.61292	.133	36.227	1	236	.000		
2	.482 ^b	.232	.225	.58298	.099	30.275	1	235	.000		
ANOVA^a											
Model	Sum of Squares			df	Mean Square	F	Sig.				
1	Regression	13.840			1	13.840	36.227	.000 ^b			
	Residual	90.158			236	.382					
	Total	103.998			237						
2	Regression	24.129			2	12.065	35.498	.000 ^c			
	Residual	79.869			235	.340					
	Total	103.998			237						
Coefficients^a											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.312	.294		7.862	.000					
	Entrepreneurship Education	.475	.079	.365	6.019	.000	.365	.365	.365	1.000	1.000
2	(Constant)	1.912	.287		6.669	.000					
	Entrepreneurship Education	.297	.081	.228	3.660	.000	.365	.232	.209	.841	1.189
	Attitude	.321	.058	.343	5.502	.000	.434	.338	.315	.841	1.189

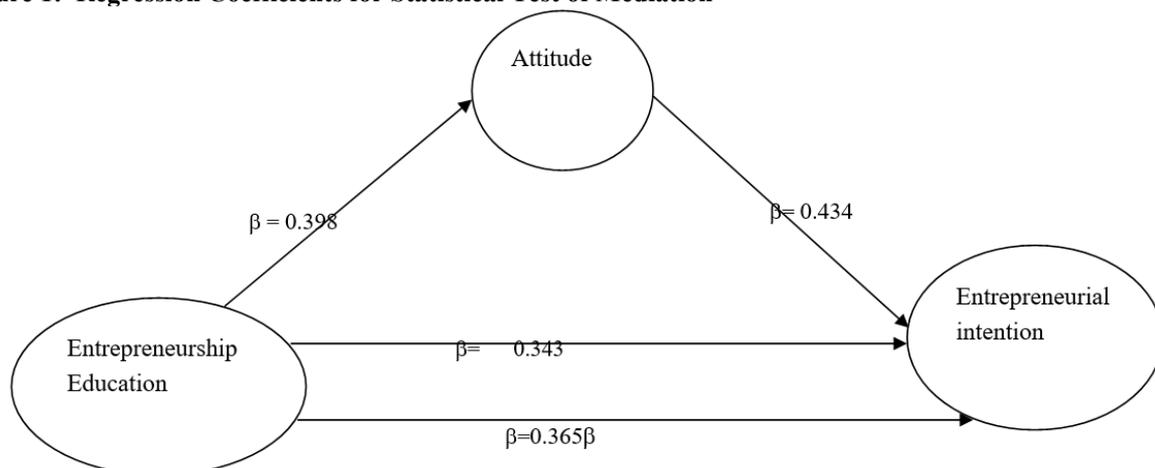
- a. Dependent Variable: Entrepreneurship Intention
- b. Predictors: (Constant), Entrepreneurship Education
- c. Predictors: (Constant), Entrepreneurship Education, Attitude

As shown in the Model 1 in Table 8, R^2 is 0.133 indicating that variation in entrepreneurship education explains 13.3% of the variance in entrepreneurial intention. The ANOVA results indicate that the model was significant ($F = 36.227, p < 0.05$). The standardized coefficients show that the effect of entrepreneurship education on entrepreneurial intention is positive and significant ($\beta = 0.365, t = 6.019, p < 0.05$).

Model 2 shows that 23.2% of the variation in entrepreneurial intention is explained by variation in entrepreneurship education and attitude ($R^2 = 0.232$). The model further shows that addition of attitude explained additional 9.9% (R^2 change = 0.999) variation in entrepreneurial intention. The additional variation in entrepreneurial intention was significant (F change = 30.275, $p < 0.05$). The ANOVA results show that Model 2 which includes entrepreneurship education and attitude is significant ($F = 35.498, p < 0.05$). The standardized coefficients show that the effect of attitude on entrepreneurial intention is positive and significant ($\beta = 0.343, t = 5.502, p < 0.05$).

Overall, the results showed a significant relationship between entrepreneurship education as the independent variable and entrepreneurial intention as the dependent variable ($\beta = 0.365, t = 6.019, p < 0.05$); significant relationship between entrepreneurship education and attitude as mediating variable ($\beta = 0.398, t = 6.675, p < 0.05$) and significant relationship between attitude and entrepreneurial intention ($\beta = 0.434, t = 7.398, p < 0.05$); Further, the effect of entrepreneurship education on entrepreneurial intention was still significant when the effect of attitude was controlled for ($\beta = 0.343, t = 5.502, p < 0.05$). These results show that not all the conditions for full mediation were met but that there was partial mediation hence the results support the hypothesis that the effect of entrepreneurship education on entrepreneurial intention is mediated by attitude. Figure 1 summarizes the results of the mediated regression analysis.

Figure 1: Regression Coefficients for Statistical Test of Mediation



The results in Figure 4.3 show that not all the conditions for full, complete or perfect mediation were met. The results show that there was partial mediation, thus there could be other indirect variables other than attitudes would also mediate the relationship between entrepreneurship education and entrepreneurial intention.

This finding is consistent with the finding of Wang and Wong (2004); Krueger et al., (2001) who established that entrepreneurship education changes one's attitude which in turn causes entrepreneurial intention. The finding also corroborates previous (Autio et al., 2001; Franke & Luthje, 2004) findings that attitudes mediate the relationship between entrepreneurship education and entrepreneurial intention. Generally, the findings of this study support those from prior studies that attitude of a person mediates the relationship between entrepreneurship education and entrepreneurial intention. The study adds to the existing body of knowledge by showing that attitude mediates the relationship between entrepreneurship education and entrepreneurial intention.

10.0 Conclusion, Implications and Recommendations

The study sought to examine the influence of attitudes on the relationship between entrepreneurship education and entrepreneurial intention. The corresponding hypothesis (H1) postulated that the effect of entrepreneurship education on entrepreneurial intention is mediated by attitudes. The regression results show that not all the conditions for demonstrating complete mediation were met hence showing that attitudes partially mediate the effect of entrepreneurship education on entrepreneurial intention (significant relationship between entrepreneurship education and entrepreneurial intention $\beta = 0.365$, $t = 6.019$, $p < 0.05$; significant relationship between entrepreneurship education and attitude $\beta = 0.398$, $t = 6.675$, $p < 0.05$; significant relationship between attitude and entrepreneurial intention $\beta = 0.434$, $t = 7.398$, $p < 0.05$; relationship between entrepreneurship education and entrepreneurial intention was still significant when effect of attitude is controlled for, $\beta = 0.343$, $t = 5.502$, $p > 0.05$). Thus hypothesis (H1) was supported.

10.1. Implications of the Research Findings and Recommendations

The finding that attitudes partially mediate the effect of entrepreneurship education on entrepreneurial intention implies that though attitudes influence the relationship between entrepreneurship education and entrepreneurial intention, there could be other factors, not included in the study, which might also influence the relationship between the two variables.

10.2. Implications for Management Policy and Practice

The study reveals that attitude partially mediates the relationship between entrepreneurship education and entrepreneurial intention. This implies that entrepreneurship education affects entrepreneurial intention through increased positive attitude among the learners. The entrepreneurship education instructors need to identify and emphasize aspects of attitude that can be changed by entrepreneurship education. Entrepreneurship education instructors need to take cognizance of the fact that effective content delivery revolves around an attempt at creating attitudinal change towards entrepreneurship in general.

10.3 Limitations of the Study

This study was cross-sectional and, therefore, the findings may be time specific and lack generalizability over time. Second, the study did not take into account respondents' prior exposure to entrepreneurship education. Third, the study used empirical data from a single developing country and, thus, the findings may be limited to Kenya and not generalizable to developed countries as a result of cultural settings. Finally, this study focused on

entrepreneurial intention, not actual entrepreneurial action. Intention is the best predictor of a behavior that requires careful planning, such as entrepreneurship. Based on this, the main stream of entrepreneurship research has focused on entrepreneurial intentions. To assess the effectiveness of entrepreneurship education, the most explicit way could be to measure the impact of education components on entrepreneurial intention and finally actual start-up actions. The intentions may not after all be implemented.

10.4 Recommendations for Further Research

This study contributes to the understanding of the effect of attitudes on the relationship between entrepreneurship education and entrepreneurial intention. However, further research is necessary to address some of the limitations of this study.

The study was a cross sectional survey. A longitudinal study could increase understanding of the influence of contingency factors on relationship between entrepreneurship education and entrepreneurial intention.

The study found partial mediation of attitudes on the relationship between entrepreneurship education and entrepreneurial intention. Future studies may consider exploring other factors, other than attitudes, which affect the relationship between entrepreneurship education and entrepreneurial intention.

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