

# The Impact of Entrepreneurship Education on the Entrepreneurial Intention of Students in Tertiary Institutions

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## Abstract

The current research aims to discover the impact of entrepreneurship education on entrepreneurial intentions of undergraduate students. This is achieved through individual factors (attitude towards behavior, entrepreneurial motivation, entrepreneurial resource and perceived behavioral control) and entrepreneurship education. A quantitative survey design was used to collect information from a study sample of 255 undergraduate agriculture science students from the College of Agriculture Education, Mampong - University of Education, Winneba, Ghana. Results indicated that individual factors and entrepreneurship education have a direct positive influence on entrepreneurial intentions. Also, entrepreneurship education moderates the influence of individual factors on entrepreneurial intentions among undergraduate students. In conclusion, using agriculture science students, entrepreneurship education plays a major role in equipping and enhancing students with entrepreneurial

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knowledge and developing entrepreneurial interest among undergraduate students. The practical implications and future scope are discussed as well.

**Keywords:** Entrepreneurship Education; Entrepreneurship; Entrepreneurial Intention.

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## Introduction

In academic research, entrepreneurship education has become a pivotal aspect of investigation in a considerable length of time. The increasing interest and desire in entrepreneurial research have been aligned to the impact of entrepreneurship and the role it plays in economic development through innovation, new inventions, and job opportunities, a revival of an inactive economy and other aspects of the economy. For instance, the introduction of entrepreneurship education into post-secondary education has enabled entrepreneurship to produce 27million jobs in the US economy between 1980 and 1995 (Gyamfi, 2014; Sexton, 1997). Similarly, Germany also introduced entrepreneurship education into their tertiary school's curriculum which has been well developed to date (Clark, 1998; Gyamfi, 2014). But the situation in other countries seems not to have changed. For example, per the introduction of entrepreneurship education in higher-level institutions in Ghana, the negative attitudes of graduates towards self-employment seem not to have changed (Owusu-Ansah & Poku, 2012; Wongnaa & Seyram, 2014). The unemployment rate in Ghana was 6.71% as of 2018 which is an increase from 2017 and a decrease from 2016 with 0.08% and 0.14% respectively (MacroTrends, 2018). The situation, nonetheless, is not different from Nigeria where a high percentage of graduates seek employment (Adejimola & Olufunmilayo, 2009). Unemployment among youth especially graduates has, therefore, become a hindrance to the economic growth and development for some countries and the citizenry as well.

In attribution to the possible causes of unemployment situations, it was found out that undergraduate students have low intentions in choosing a career in entrepreneurship which is evidenced by the studies of Boateng & Ofori-Sarpong (2002), Owusu-Ansah and Kofi (2012) and Wongnaa & Seyram (2014). In addition, entrepreneurship is as low as 80% at the introductory stage (Gyamfi, 2014) in some developing nations like Ghana. Also, a minor proportion of the labor force in some developing countries is engaged in wage jobs (Gindling & Newhouse, 2012). Finding possible solutions to control unemployment situations, it was discovered the kind of education which tertiary institutions offer students have not been able to fully develop their entrepreneurial skills, attitudes, and mindset towards self-employment. To provide a suitable kind of education is to train students' minds entrepreneurially. This is because entrepreneurship education plays a major role in the reduction of unemployment (Babatunde & Durowaiye, 2014). It is the core aim of entrepreneurship education to raise in youth an entrepreneurial culture that would advance their career decisions towards entrepreneurship (Deakins et al., 2005).

Following the significant effect of entrepreneurship education on entrepreneurship in economic development, governments and policymakers believe that if critical care is given to entrepreneurship education, self-employment will increase and unemployment situations will be controlled (Afriyie & Boohene, 2014). They, Afriyie & Boohene (2014) also consider that if tertiary students especially are trained in entrepreneurship education, it will develop their skills and ignite their entrepreneurial culture that can change their attitude towards self-employment. Like entrepreneurship education, general education also contributes to developing skills and abilities of individuals which consequently change their attitudes towards career choices. In the work one researcher, he opined that the objective of education and training is to change the behavior of learners which is seen as values, attitudes, knowledge, and skills (Salihu, 2016). The role of government is to develop active initiatives to enhance the learning and teaching of entrepreneurship education. In a World Bank study on Entrepreneurship Education and Training; Insights from Ghana, Kenya, and Mozambique, the study reported that the enormous benefits of entrepreneurship has caused governments around the world to take an interest in interventions that stimulate and facilitate entrepreneurial success through essential support systems and the removal of impediments to entrepreneurship (see: McKernan 2002; Paulson and Townsend 2004; DeMel, McKenzie, and Woodruff 2009) (Robb et al., 2014). For instance, the President of the Republic of Ghana launched the National Entrepreneurship and Innovation Plan (NEIP) in 2018 (GNA, 2018). According to the report, the NEIP is a multi-pronged approach aimed at creating a conducive and business-friendly environment to stimulate enterprise and provide unified national support for start-ups and small businesses that would, in turn, create employment for the teeming youth of Ghana. This intervention will facilitate and encourage graduates and individuals' entrepreneurial ambitions.

With the introduction of entrepreneurship education in higher-level institutions and government initiatives, it is expected that learners can develop an interest in self-employment and generate positive attitudes towards entrepreneurship that will consequently control unemployment situations. However, previous studies argued that the training which tertiary institutions offer students has not been fully effective in preparing them with appropriate skills and competencies required for job creation and self-employment (Amaewhule, 2007; Gyamfi, 2014; Madumere-Obike, 2000; Nwangwu, 2007). Even though entrepreneurship education tested to have a positive impact on entrepreneurial intention and attitudes, the question of whether entrepreneurship education constitutes an integral component of factors influencing decision making in entrepreneurship has not yet been examined (Karali, 2013; Peterman & Kennedy, 2003). In view of this, it is recommended that the impact of entrepreneurship education on entrepreneurial intention needs more investigation (Gorman et al., 1997).

It is in this view that this study is conducted to investigate the direct effect of entrepreneurship education on entrepreneurial intention of undergraduate students towards start-up business.

A few studies have dubbed into research on entrepreneurship education in developing economies; like (Dzisi, 2014; Gyamfi, 2014; Nyadu-Addo, 2018; Owusu-Ansah & Poku, 2012; Wongnaa & Seyram, 2014), but, empirical evidence on the direct effect of entrepreneurship education on entrepreneurial intention is uncommon. In this view, the

current study attempts to investigate empirically on the direct effects of entrepreneurship education on entrepreneurial intention of undergraduate students. The study will prove further to ascertain the influence some individual factors have on students' entrepreneurial intentions. And lastly, find out the moderating effect of entrepreneurship education on the relationship between individual factors and entrepreneurial intentions.

## **Theoretical Model and Hypothesis Development**

### *Theory of Planned Behavior (TPB)*

The theory of planned behavior (TPB) was propounded by Ajzen (1991) to study the intention to engage in entrepreneurial activity. The model presented three (3) constructs (attitude towards behavior, subjective norm, and perceived behavioral control) that are used to study intentions toward entrepreneurial behavior. This is similar to Shapero and Sokol's (1982) model which is based on three (3) variables (perceived desirability, perceived feasibility and propensity to act) to determine the intention of entrepreneurial behavior. TPB is an addition of the theory of reasoned action on beliefs, attitudes, and intentions as determinants of human behavior (Ajzen, 2011; Bandura, 1982, 1993; Fishbein & Ajzen, 1975; Mwiya, 2014). Research has it that intention is the best predictor of human behavior and a planned behavior is an indication of how willing a person is ready to try and how much strength they plan to apply in order to carry out the behavior. As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance (Ajzen, 1991).

Quite a number of works have been conducted to provide evidence on the use of the theory of planned behavior to adequately predict intentions toward a given behavior. For example travelers' mindset and theory of behavior (Japutra et al., 2019), mobile device use while crossing the street (Piazza et al., 2019), intention to purchase sustainable housing (Judge et al., 2019), and young people's behavior intentions towards reducing PM2.5 in China (Ru et al., 2019) among others. With regards to entrepreneurship, quite a number of studies have been conducted but this area of research is still at the inception stage (Autio et al., 2001).

The failure of the situational and personality approaches to predict what leads an individual to engage in entrepreneurship due to their limited practical explanatory validity, called for a comprehensive model to better understand and explain the antecedents of intention (Krueger Jr et al., 2000b). This also called for a more integrated model of entrepreneurial intention to augment hypothetical clarity (Fayolle & Liñán, 2014; Krueger, 2009; Shook et al., 2003). The study, therefore, postulates a theoretical model inspired by two (2) variables from Ajzen's theory and another two (2) variables based on empirical evidence from previous works. Individual factors (attitude towards behavior, entrepreneurial motivation, entrepreneurial resource, and perceived behavioral control) are termed as independent variables, entrepreneurial intention as the dependent variable, and entrepreneurship education as the moderating variable in the study.

### *Entrepreneurial Intention (Dependent Variable).*

Intentions are important in studying human behaviors (Lo, 2011; Tubbs & Ekeberg, 1991). This is because, in psychological literature, intentions best predict any planned behavior (see: Baggozi et al., 1989; Bird, 1988, Zhang et al. 2014) and an example of such planned behavior is entrepreneurship (Bird, 1988, Krueger, Jr. et al. 2000). Also, Krueger, (2000) enquired, “*Why are intentions interesting to those who care about new venture creation*”? In affirmative, entrepreneurial behavior can be examined and understood through entrepreneurial intention as unlike personality traits or exogenous factors. According to Ajzen (1991), intentions are general opinions of individual attractiveness, social norms, and feasibility to act while Shapero (1982) contends that entrepreneurial intentions are perceptions of personal desirability, feasibility, and propensity to act. This means that people may have the desire and interest to act in a certain way but the time for the actual action (behavior) is unknown (Krueger Jr et al., 2000b).

Attention has been directed to the study of entrepreneurial intentions in predicting entrepreneurial behavior regarding the importance entrepreneurship plays in economic growth and development. Also, factors that influence intention have gained focus on academic research. Entrepreneurship helps control social problems and increases employability skills and abilities. Education in entrepreneurship develops individuals’ interest in an intention that results in self-employment activities. In other words, entrepreneurship education focuses on shifting students’ minds to having intentions and behaviors that will result in forming new businesses and new job opportunities (Afriyie & Boohene, 2014). Attitudes influence behavior by their impact on intentions, which means intentions could be observed through attitudes, but, intentions and attitudes depend on the situation of a person (Krueger Jr et al., 2000b). In all, attitudes and intentions are perception-based and that they are learnable (Krueger & Brazeal, 1994; Lo, 2011). Therefore, fostering attitudes and intentions through entrepreneurship education is paramount in creating self-employment awareness. Also, when intentions are known, it will inform policymakers to take keen measures to support individual’s intentions about self-employment activities. In doing this, attention should be directed to factors that influence the desire to engage in self-employment initiatives.

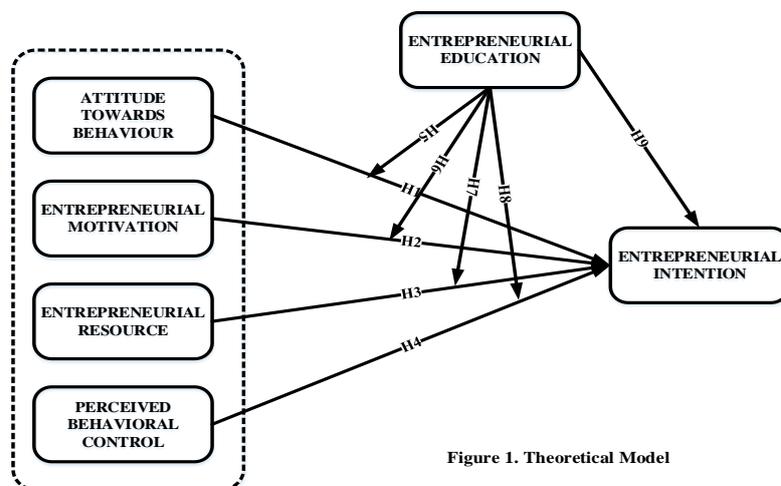


Figure 1. Theoretical Model

Figure 1: Theoretical Model

### *Attitude towards Behavior*

Attitude towards behavior is adopted from Ajzen 1991 theory of planned behavior which is equivalent to Shapero and Sokol's (1982) desirability variable. In explaining the entrepreneurial process, attitudes account for over 50% of the differences in intentions while intention account for a variance of 30% in behavior (Ajzen, 1987; Autio et al., 2001; Karali, 2013; Krueger et al., 2000). This attitude is influenced by expectations and beliefs about the personal impacts of outcomes resulting from the behavior (Krueger Jr et al., 2000a). Further, this construct measures the degree to which a person feels either negatively or positively towards the behavior of interest. A person with a higher attitude towards behavior is more likely to engage in the intended behavior with good anticipated outcomes (Karali, 2013; Ajzen, 1991). To elaborate extensively, (HENZ et al., 2011; Rudhumbu et al., 2016) used three (3) components to measure attitude towards behavior which are; cognitive (understanding of entrepreneurship and entrepreneurship education based on beliefs and opinions that form their attitude, (Pulka et al., 2014), affective (importance of feeling and emotions that affect the interest and desirability to act, (Pulka et al., 2014), and behavioral attitude (reactions and inclination to accept or respond to something (Mani, 2008). Nonetheless, education especially entrepreneurship education helps to stimulate a positive attitude towards entrepreneurial intention. In Karali (2013) study, he reported that students who attended entrepreneurship program showed that attitude towards behavior have a positive and significant correlation to entrepreneurial intention after studies. Similarly, attitude towards behavior made a major contribution to forming entrepreneurial intention (Ajzen, 1991). Further, students who have joined an entrepreneurship program showed a higher positive attitude than non-participants as in the case of Karali (2013). This indicates that students may develop attitude towards intention but the knowledge in entrepreneurship education increases their intention towards the behavior. Even though these empirical evidences did not establish the direct influence of attitude towards behavior, evidence on this dimension is minimal. The current study takes the position and hypothesized that;

**H1:** Attitude towards behavior has a direct effect on entrepreneurial intention.

### *Entrepreneurial Motivation*

Motivation is the core of biological, cognitive, and social regulation that triggers the energy, direction, and persistence as well as intention (Carsrud & Brännback, 2011; Ryan & Deci, 2000). This means that motivation drives a person to act in a certain way. In Vroom's theory, the individual selects the best of action that will yield the most expected results. This implies that the intention to perform a particular behavior is the orientation behind motivation. Individuals are inclined to act in a particular way based on expected results. The results serve as motivators that influence their motives to act. One of the results is the achievement motive (McClelland, 1961). He further explained that achievement motive is what influence entrepreneurial behavior other than profit motive (Olugbola, 2017). Moreover, it is contended that profit motive is a very important factor that motivates students towards new venture creation (Choo & Wong, 2006). In other words, if individuals are able to accrue excess profits and build successful businesses it will serve as a motivation to engage in new ventures (Olugbola, 2017). Another factor considered in this work is independence and autonomy (Stephan, Hart, Mickiewicz, &

Drews, 2015). Basically, entrepreneurs want to be their own boss directing the affairs of their business. Kourilsky (1995) reported that 75% of high school students agreed that independence is the primary motivation to start their own business. Also, income (profit) security (Stephan, Hart, Mickiewicz, & Drews, 2015) which serves as a reward to business owners triggers the decision to engage in business.

The results from Choo and Wong (2006), McClelland (1961) and Olugbola (2017) showed that students who have the maximum level of motivation to engage in entrepreneurial activity than students who have a minimal level of motivation since it involves sole responsibilities. The indication is that motivation influence entrepreneurial intention towards entrepreneurial behavior. Nonetheless, having entrepreneurial knowledge acquired from an entrepreneurship program may foster high motivation in entrepreneurial intention but yet the role of entrepreneurship education in motivation towards intentions has not been fully assessed. In a study, the three (3) constructs of TPB were used as entrepreneurial motivators have a positive influence on entrepreneurial intention (Kim-Soon et al., 2018). Motivational factors influence intention but intentions do not guarantee immediate action, hence; it is proposed that motivation stimulus could convert latent intentions to result in entrepreneurship (Carsrud & Brännback, 2011; Edelman et al., 2010). Still, empirical evidence on this measurement is insignificant and the study suggests that more research should be done on it. The study dwells on these findings and hypothesized that;

**H2:** Entrepreneurial motivation has a direct effect on entrepreneurial intention.

### *Entrepreneurial Resource*

Resources are the tangible and intangible assets which are permanently tied to the firm (Aragon-Sanchez et al., 2017; Wernerfelt, 1984). Resources are used to produce goods and services or the output of the supply. The creativity, foresight, intuition, and alertness controlled by an individual constitute entrepreneurial resources (Mosakowski, 1998). Resources are the most important element of the entrepreneurial process, and the critical resources are financial capital, human and social capital (Singh Sandhu et al., 2011). This is an indication that the basic need of every entrepreneur is the resource at their disposal to be exploited to create value.

Lack of easy access to financial resources hinders entrepreneurial intentions (Henderson & Robertson, 1999; Li, 2007; Robertson et al., 2003; Singh Sandhu et al., 2011; Turnbull et al., 2001). Financial resources are the monetary aspect of the business used to acquire raw materials, land and other equipment for the business. The inability to secure funds is the fact that nascent entrepreneurs do not have collateral and experience to secure funds for their startup businesses. Since undergraduate students believe that they would face difficulties with regards to obtaining a business license and other required legal documents that are key in starting a business, it will obstruct their intention of starting a business after school (Aragon-Sanchez et al., 2017; Jemal, 2017). These two (2) scenarios clearly depict that if students should have easy access to these resources, it will influence their intentions which will bring about entrepreneurship. Evidently, previous studies showed the important role resources play in entrepreneurial intention. Olugbolo (2017) found a positive and significant relationship between resources and

entrepreneurial readiness of participants in entrepreneurship training and in addition, the influence of entrepreneurship training on the relationship between resources and entrepreneurial readiness. This means that entrepreneurship education enhances knowledge about acquisition and use of resources yet evidence supporting this claim is minimal. Similarly, Sandhu et al. (2011) reported that the availability of resources has a direct effect on entrepreneurial intentions. Finding team members with skills and abilities is also a resource that should be critically examined. The ability to build great teams for a business startup will guarantee a successful business. Managing resources to achieve the aim of starting a business is critical in a startup business. In this regard, entrepreneurship education will nurture students on how to acquire and use resources in a startup business. This research then hypothesized that:

**H3:** Entrepreneurial resource has a direct effect on entrepreneurial intention.

#### *Perceived Behavioral Control (PBC)*

Perceived behavioral control is the ease or difficulty of carrying out a planned behavior and it is expected to replicate the earlier experience as well as anticipated obstacles. Entrepreneurship like any other profession requires some set of skills, knowledge, and abilities such as financial, administrative, management, etc. (PowWowNow, 2019) to be able to control uncertainties and manage anticipated risks in the process of performing the planned behavior effectively. The entrepreneur should have administrative and managerial skills to control the day-to-day running of the business. In the same way, he should possess financial skills to manage a business's financial portfolio which is paramount in the formation and running of a business. Entrepreneurs should be able to study market imperfections and sell their products or services and win a competitive advantage over their competitors by exhibiting marketing skills. Team building is critical to achieving the success of a new firm; therefore potential entrepreneurs should be able to build a great team for the success of the business. The missing item in the formation of a new venture is the ability to build a great team (Olugbola, 2017). These sets of skills and abilities may determine the success or failure of the business with regards to how these are exhibited. In exploring the antecedents of entrepreneurial intention, Karali (2013) revealed that PBC has a positive and significant effect on individuals who took part in an entrepreneurship program. This shows that influence entrepreneurship education (programs) in enhancing entrepreneurial ability in startup business is crucial. However, empirical evidence on this dimension is just a few.

The TPB model clearly depicts that PBC together with intention can be used directly to predict behavioral achievement (Ajzen, 1991). According to Wilson et al. (2007) and Bandura (1987), self-efficacy or self-confidence is an individual evaluation of his skills and abilities in a given context. They further explained that self-efficacy or self-confidence highlights the assessment of individuals' innermost perceived abilities required for performing a perceived behavior as well as the conviction of using these skills effectively to attain a favorable outcome (Bandura, 1982; Wilson et al., 2007). Tkachev et al., (1999) and Autio et al. (2001) equally concluded that PBC can better explain and predict employment status decisions. In other words, it improves employability skills. However, another study reported that PBC has no effect in predicting

entrepreneurial behavior (Souitaris et al., 2007). The study accepts these evidences and proposes that:

**H4:** Perceived behavioral control has a direct effect on entrepreneurial intention.

### *Entrepreneurship Education*

Unlike general education, entrepreneurship education is to specifically develop a person's attitude and competencies towards entrepreneurship. Entrepreneurship education plays a very unique role in future career decisions, economic growth, and development according to Kourilsky (1995). Entrepreneurship education is a kind of education which aims at assisting students to develop positive attitudes, innovative skills for self-reliance, rather than relying on the government for employment (Henry et al., 2005). Since individuals have some entrepreneurial features that are not fully developed (Olugbola, 2017), these innate features can be developed after entrepreneurial orientation and enterprise training (Olugbola, 2017; Packham et al., 2010). This will enhance the risk-taking propensity, innovativeness, and proactiveness of such individuals. Abebe (2017) posits two (2) main reasons why entrepreneurship should be studied in higher learning institutions; i. there are limited jobs offers; and ii. the need to change students' mindset from seeking employment to creating jobs (Abebe, 2015). This means that if students are introduced to entrepreneurship education it will create an entrepreneurial culture and interest in students to take a career in entrepreneurship. In Ghana for instance, entrepreneurship education is taught in higher learning institutions to create entrepreneurial culture and generate intention towards entrepreneurship. The government also has instituted the National Youth Policy (NYP), National Employment Policy (NEP), Students in Free Enterprise Program (SIFE), Skills Training and Entrepreneurship Program, the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA) as well as the Microfinance and Small Loans Centre (MASLOC) and others to promote students in enterprise business.

The main objective of entrepreneurial education to an extent is to advance some level of entrepreneurial competencies (Lackeus, 2015). The author went further to explicitly define entrepreneurial competencies as “*knowledge, skills, and attitudes that affect the willingness and ability to perform the entrepreneurial job of new value creation*”. This means that entrepreneurship education develops an individual's mindset to have a positive attitude (willingness, interest), motivation (need for achievement, reward) and perceived entrepreneurial control (ability to act) toward entrepreneurship. The knowledge and skills acquired will help the entrepreneur explore avenues, acquire and manage resources in the entrepreneurial process. Lack of these skills and knowledge may serve as a barrier that will discourage an individual not to start a business for the fear of failure (Choo & Wong, 2006).

In exploring the antecedents of entrepreneurial intention, entrepreneurship education should be added to traditional intention models (Peterman & Kennedy, 2003) since it plays a major role in developing entrepreneurial intentions among tertiary students (Ibrahim et al., 2015). In this direction, prior studies found a positive correlation between entrepreneurship education and entrepreneurial intention which has been empirically tested. For example, evidence from (Rahim et al., 2016) and (Yusoff, Zainol, & Ibrahim,

2014) showed a positive significant relationship between entrepreneurship education effectiveness and the skills needed for graduate employability but (Singh Sandhu et al., 2011) evidence showed a positive direct influence of entrepreneurship on entrepreneurial intention. Karali (2013) and Olugbolo (2017) reported that students who partook in entrepreneurship education programs have a high tendency of starting a business than non-participants. This evidence is the reason for adopting entrepreneurship education for the study since evidence on this subject in developing countries like Ghana is low. It is therefore accepted in this study that entrepreneurship education enhances in developing positive attitudes, resources acquisition, and motivation to engage in self-employment as well as entrepreneurial abilities and competencies. The current study accepts these empirical results and proposes that;

*H5: Entrepreneurship education has a direct significant effect on entrepreneurial intention.*

*H6: Entrepreneurship education moderates the effect of attitude towards behavior on entrepreneurial intention.*

*H7: Entrepreneurship education moderates the effect of entrepreneurial motivation on entrepreneurial intention.*

*H8: Entrepreneurship education moderates the effect of entrepreneurial resources on entrepreneurial intention.*

*H9: Entrepreneurship education moderates the effect of perceived behavioral control on entrepreneurial intention.*

## **Methodology**

### *Sample and Procedure*

The target population was final year undergraduate agriculture science students who learned entrepreneurship education in their third year. Conducting a survey research on final year students as target population is applicable to test entrepreneurial intention (Kolvereid, 1996; Krueger Jr et al., 2000b; Krueger & Carsrud, 1993; Liñán et al., 2011; Lüthje & Franke, 2003; Mwiya, 2014; Nabi et al., 2010; Souitaris et al., 2007). Also, students who pursued science base program have significantly higher entrepreneurial intentions than business or arts students (Hassan & Wafa, 2012; Zhang et al., 2014). The total population for the study was 360 final year agricultural science students and a sample size of 255 was drawn using Cronbach's a confidence level of 99% and a confidence interval of 5. Through the help of a worker in the university, the questionnaires were delivered to the class representatives to distribute to students. Administering questionnaires in classroom meeting is a useful way of achieving a fully answered questionnaires because the required sample population can be reached at the same point (Autio et al., 2001; Corbett, 2007; Li et al., 2008; Prieto et al., 2010) and has been useful in the study of entrepreneurship education research most times (Oosterbeek et al., 2010; Packham et al., 2010) which give a great response rate of more than 60% (Mwiya, 2014).

Students were brief on guidelines on how to answer the questionnaire as depicted on the first page of the questionnaire. Students’ response confidentiality was assured so students to give out desired answers. Out of the 300 questionnaires were distributed for fear of not reaching the sample size, out of which 255 questionnaires were selected and analyzed.

### *Demographic Characteristics*

The study sampled 255 undergraduate students from the college of agriculture education, University of education. From the sample, majority of the respondents were males (89.1%, n=228), were the ages of 24-29 (54.5%, n=139). Only 9 (3.5%) of the respondents were student-entrepreneurs and 24 (9.4%) were employed. The details are presented in Table 1. below.

Table 1. Demographic Characteristics

Demographic	Responses	Frequency (n)	Percentage (%)
Gender	Male	228	89.1
	Female	27	10.2
	Total	255	100.0
Age	18-23years	97	37.9
	24-29years	139	54.5
	30-35years	14	5.5
	36+years	5	2%
	Total	255	100.0
Occupation	Student	222	87.1
	Student – worker	24	9.4
	Student self-employed	9	3.5
	Total	255	100.0

### *Measurements*

Base on the underlying framework of this study, variables in the model were measured on a multi-item scale. A multi-item measure is capable of embedding the adequate distinction of responses obtained from participants and permits a more accurate computation (Lo, 2011). Each variable on the model individual factors (attitude toward behavior, motivation, resources and perceived behavioral control), entrepreneurship education and entrepreneurial intention had measured items on the questionnaires. All items were measured on a 5-point Likert scale; *5-strongly agree, 4-agree, neutral-3, disagree-2, strongly disagree-1*. Participants were asked to indicate the extent of their agreement on items in the questionnaires. These measurement scales help to compare students’ scores with a distribution of scores from the sample group and it is suitable to measure attitudes and intentions toward entrepreneurship after joining the

entrepreneurship program (Lo, 2011). Data analysis for the study used SPSS v.20 (Structural Equation Modeling (SEM) and Amos v.23. The moderation effect (indirect effect) was measured by the use of Bootstrap Bias-Corrected Confident Interval at 95%, and the use of Sobel for further testing (see Table 4).

Table 2 presented the retained items, as items with factor loadings of less than 5 were deleted. From the results, the total variance extracted (TVE) was 78.28% which is higher and met the minimum requirement of 50%. The Kaiser-Meyer-Olkin (KMO) measure of sampling Adequacy should be at least 0.6 which the current study achieved 0.817 indicating a higher score. Also, Bartlett's Test of Sphericity should be statistically significant in order to show the strength of correlations among the variables to guarantee EFA. The results attained ( $X^2 = 3089.378$ ; sig. 0.000) showing EFA was appropriate, as there existed enough correlation among the variables. The correlation Determinant should also not be equal to zero (0), as an indication of positive definiteness in the data used for the estimation. The Determinant obtained for EFA was .203 which is not equal to zero (0).

### *Confirmatory Factor Analysis (CFA)*

The CFA results presented in Table 2 were estimated, as the EFA presented met the respective thresholds. The standardized factor loadings for the measurement variables were all greater than 0.5, as expected. This shows that all measurement items significantly explained their latent variables. The Critical Ratio (C.R.) for all items obtained was statistically significant at a level of 1%. The Cronbach's Alpha (CA) for all latent variables was higher than the minimum requirement of 0.7, which shows that there was high internal reliability among the measurement variables.

Table 2: Confirmatory Factor Analysis

Measurement Items	Std. Factor Loadings	Undstd. Factor Loadings	S. E.	C. R.
Attitude towards behavior (ATT): CA = 0.741				
ATT 1	.782	1.072	.134	7.978***
ATT2	.894	1.335	.160	8.322***
ATT3	.823	1.100		
Motivation (MOT): CA = 0.768				
MOT1	.675	1.100	.119	9.206***
MOT2	.907	1.347	.148	9.101***
MOT3	.767	1.250	.127	9.816***
MOT4	.764	1.200		
Resources (RES): CA = .846				
RES1	.746	.827	.062	13.324***
RES2	.822	1.026	.071	14.399***
RES3	.850	1.000		
Perceived Behavioural Control (PBC): CA = 0.877				
PBC1	.760	.932	.067	13.855***
PBC2	.783	.943	.066	14.357***
PBC3	.851	1.040	.066	15.784***

Measurement Items	Std. Factor Loadings	Undstd. Factor Loadings	S. E.	C. R.
PBC4	.803	1.000		
Entrepreneurship Education (EED): CA = .872				
EED1	.771	1.000		
EED2	.906	1.130	.069	16.489***
EED3	.870	1.055	.066	15.921***
EED4	.644	.851	.076	11.261***
Intention (INT): CA = 0.772				
INT1	.892	1.000		
INT2	.655	.884	.121	7.310***
INT3	.860	1.072	.134	7.985***
Model fits:	CMIN=391.752; DF=227; CMIN/DF=1.726; P-value=.000; GFI=.849; PClose=.400; TLI=.934; CFI=.960; RMSEA=.049; RMR=.034			

### Discriminant Validity

According to Fornell and Larcker (1981), a minimum AVE of 0.5 is required and composite reliability (CR) on the other hand is required to be at least 0.7. The discriminant validity was obtained by comparing the square-root of raw average variance extracted ( $\sqrt{\text{AVE}}$ ) to their corresponding inter-correlation coefficients.  $\sqrt{\text{AVE}}$  is showed as bold and underline. All variables attained the required threshold as presented in Table 4.3 below. In conclusion, data obtained from CFA analysis is legitimate for model estimation.

Table 3: Discriminant Validity

Variables	CR	AVE	ATT	MOT	RES	PBC	EED	INT
ATT	0.873	0.696	<u>0.834</u>					
MOT	0.862	0.613	0.154	<u>0.783</u>				
RES	0.848	0.652	0.221**	0.371**	<u>0.807</u>			
PBC	0.876	0.640	0.500***	0.417***	0.434***	<u>0.800</u>		
EED	0.878	0.647	0.404***	0.124	0.316**	0.366**	<u>0.804</u>	
INT	0.893	0.679	0.626***	0.290**	0.322**	0.621***	0.611***	<u>0.824</u>

\*\*\*Sig. at 1%; \*\*Sig. at 5%

### Hypothesis Testing

#### Direct Effects

SEM approach was used to test how individual factors; attitude towards behavior, entrepreneurial motivation, entrepreneurial resources and perceived behavioral control hypothetically influence entrepreneurial intention. The same approach was used to test how the moderator; entrepreneurship education hypothetically affect the dependent

variable; entrepreneurial intention. Table 4 presents the standard and unstandardized coefficients of variables. The C.R presented in Table 4 specifies that all constructs were statistically significant at 1%. The coefficients were all positive showing a positive direction for all direct paths estimated.

H1 predicted that “attitude towards behavior has a direct effect on entrepreneurial intentions of undergraduate students”. It was realized from the analysis carried out that attitude towards behavior has a direct significant impact on entrepreneurial intention by a margin of about 24.9%.

H2 predicted that “entrepreneurial motivation has a direct effect on entrepreneurial intention of undergraduate students”. From Table 4, results confirmed that there is a direct positive impact of entrepreneurial motivation on entrepreneurial intention. This shows that prestige and social status, rewards and satisfaction, job security and employment creation inspire undergraduate students’ entrepreneurial intention at a margin of about 44.7%.

H3 hypothesized that “entrepreneurial resources have a direct effect on entrepreneurial intention of undergraduate students”. The construct analysis showed that entrepreneurial resources have a direct significant impact on students’ entrepreneurial intentions by a significant margin of about 61.0%.

Similarly, H4 hypothesized that “perceived behavioral control has a direct influence on entrepreneurial intention of undergraduate students”. It was found out that perceived behavioral control has a direct positive impact on entrepreneurial intention by a margin of about 34.7%.

Table 4: Path Estimation

Paths			Unstd. Estimates	S. E.	C. R.
INT	<---	EED	.652	.108	6.037***
INT	<---	ATT	.249	.055	4.527***
INT	<---	ATTxEED	.329	.059	5.576***
INT	<---	MOT	.447	.083	5.386***
INT	<---	MOTxEED	.371	.061	6.082***
INT	<---	RES	.610	.198	3.081***
INT	<---	RESxEED	.631	.128	4.930***
INT	<---	PBC	.347	.043	8.070***
INT	<---	PBCxEED	.199	.091	2.186**
INT	<---	Age	-.084	.062	-1.355
INT	<---	Gender	.039	.035	1.114

\*\*\*Sig. at 1%; \*\*Sig at 5%

H5 hypothesized that “entrepreneurship education has a direct impact on entrepreneurial intention of undergraduate students”. From Table 4, it was realized that entrepreneurship education has a direct positive effect on entrepreneurial intention of undergraduate agriculture science students by a margin of about 65.2%.

From the analysis presented, age as a control variable had a negative effect on entrepreneurial intention. The coefficient of -0.084 was however statistically insignificant at 5% level of significance (C.R. = -1.355). Similarly, although gender had a positive effect on students’ entrepreneurial intentions, the coefficient 0.039 of was statistically insignificant at 5% level of significance (C.R. = 1.114).

### Moderation Analysis

With the calculation of the interaction terms, the Z-scores of the individual variables were used. There were four independent variables in the study, which were; attitude towards behavior, entrepreneurial motivation, entrepreneurial resources, and perceived behavioral control. The moderating variable was entrepreneurship education, which was expected to moderate the effect of each of the four independent variables. From the analysis presented in Table 4, all the four independent variables and the moderator had a significant positive effect on entrepreneurial intentions among students. Results also indicate that entrepreneurship education had a significant positive moderating effect on the relationships between all four independent variables and the dependent variable.

H6 predicted that “entrepreneurship education moderates the effect of attitude toward behavior on entrepreneurial intention”. Results showed that students’ attitude towards behavior has a greater influence on entrepreneurial intentions when students have high entrepreneurship education (ATTx $EED$ ). Therefore, H6 is accepted.

Similarly, entrepreneurial motivation has a greater influence on entrepreneurial intentions, when students have high entrepreneurship education (MOTx $EED$ ). Therefore, H7 which predicted that “entrepreneurship education moderates the effect of entrepreneurial motivation on entrepreneurial intention of undergraduate students” is accepted.

Results further showed that entrepreneurial resources have a greater influence on entrepreneurial intentions when students have high entrepreneurship education (RESx $EED$ ). Therefore, H8 which predicted that “entrepreneurship education moderates the effect of entrepreneurial resources on entrepreneurial intention of undergraduate students” is accepted.

Finally, it was identified that perceived behavioral control has a greater influence on entrepreneurial intentions when students have high entrepreneurship education (PBCx $EED$ ). Therefore, H9 which predicted that “entrepreneurship education moderates the effect of attitude toward behavior on entrepreneurial intention of undergraduate students is accepted.

## Discussion

The purpose of the study is to test the influence of entrepreneurship education on entrepreneurial intentions and to test whether entrepreneurship education moderates the effect of individual factors on entrepreneurial intention of undergraduate students.

Results showed that all individual factors have a direct positive impact on the entrepreneurial intention of undergraduate students. First and foremost, students have a positive attitude towards entrepreneurship and that they have plans to engage in entrepreneurial activities after graduation. This result is consistent with that of Ajzen (1991); Kolvereid (1996); Tkachev et al. (1999); Mwiya (2014) and Mohammed (2017). The result is an indication that students have a positive attitude towards entrepreneurship and that they are likely to pursue entrepreneurship if not immediately after graduation but some years later. It also implies that unemployment will be reduced in the near future especially among graduates.

Secondly, entrepreneurial motivation has a direct positive influence on entrepreneurial intention of undergraduate students. This result is consistent with McClelland (1961), Choo & Wong (2006), Olugbolo (2017) and Kim-Soon et al. (2018). It can be concluded that undergraduate students understand that unemployment rate is high and therefore attention needs to be given to self-employment. Again, undergraduate students understand that self-employment activity is more rewarding and fulfilling than organizational employment.

Furthermore, results revealed that entrepreneurial resource has a direct positive influence on entrepreneurial intention among undergraduate students. In the works of Aragon-Sanchez (2017), he found that resources influence entrepreneurial intention through attitude towards behavior and perceived behavioral control. Also, Sandhu et al. (2011) found a positive impact of resources on entrepreneurial intention. Considering the current results of this study, it informs policymakers and the government to institute effective and efficient measures to acquire resources especially, financial resources readily available to graduates with entrepreneurial intent or ambition. This will boost undergraduate students' entrepreneurial ambition.

Perceived behavioral control was found to have a positive direct response towards entrepreneurial intention among undergraduate students. Autio et al. (2001), Ajzen (1991), Tkachev et al. (1999) and Karali (2013) found the same results when they tested perceived behavioral control effects on entrepreneurial intention among undergraduate students. The indication of the result is that undergraduate students have the competences and are confident to succeed should they start and manage a new business.

Lastly, entrepreneurship education equally tested a direct positive impact on entrepreneurial intentions among undergraduate students. Several studies have found some positive results on this topic, like, Gorman et al. (1997), Henderson and Robertson (2000), Galloway & Brown (2002), Wongnaa & Seyram (2014) and Zhang et al. (2014). On the dimension of entrepreneurship education, the result shows that entrepreneurship education has developed the skills and knowledge needed to start a business. There is also

an indication that entrepreneurship education has been successful in teaching students about startup business.

### **Theoretical and Practical Implications**

First, using entrepreneurship education as a moderator, the results of the study contribute to finding a comprehensive intentions theory. Therefore, this work makes an important contribution to the ongoing discussion of finding antecedents of entrepreneurial intentions among undergraduate students. Also, the research provides insights into developing better mechanisms and schemes to support the study of entrepreneurship and self-employment initiatives. The results of this work show that if the antecedents of entrepreneurial intentions are intensified, it will encourage more students to take interest in self-employment initiatives. The present research upholds that undergraduate students have an interest in self-employment initiatives. Moreover, their intentions are being influenced by their attitudes, motivation, resource, and abilities. Therefore, students who are interested in taking a step in self-employment initiatives should be encouraged in diverse ways.

Lastly, the study contributes to literature for being the first to test the influence of individual factors (attitude towards behavior, entrepreneurial motivation, entrepreneurial resource and perceived behavioral control) on entrepreneurial intention; and using entrepreneurship education as a moderator. Although past studies indicated a positive and significant relationship among the constructs, however, finding a direct effect was rare.

### **Limitations and Future Research**

The study was limited to one group of students from only one institution. This is a limitation because students with different academic backgrounds from different institutions may form intentions to start a business that is influenced by different factors. Since there are different academic disciplines, responses may differ on whether students are entrepreneurially inclined or not; whether the same factors can influence their intentions of new business; whether they find entrepreneurship attractive or not. Therefore, the results cannot be generalized to students from other academic fields from other institutions. In this regard, it is recommended that future studies include students from different academic backgrounds and institutions to test the hypothesis of the study.

### **Conclusion**

The study supports the ongoing discussion on finding antecedents of entrepreneurial intentions among undergraduate students by presenting a conceptual model. The results showed that individual factors (attitude towards behavior, entrepreneurial motivation, entrepreneurial resource, and perceived behavioral control) and entrepreneurship education have a positive direct effect on entrepreneurial intentions among undergraduate students. Finally, entrepreneurship education moderates the effects of individual factors on entrepreneurial intentions among undergraduate students in a positive direction.

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