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**Article**

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## MANAGEMENT | RESEARCH ARTICLE

# Robustness of personal initiative in moderating entrepreneurial intentions and actions of disabled students

Dakung Reuel Johnmark<sup>1\*</sup>, John C. Munene<sup>2</sup> and Waswa Balunywa<sup>2</sup>

**Abstract:** Entrepreneurship is vital in the areas of innovation, job creation, nations' economic and societal advancement. In view of that, personal initiative is seen to be important in moderating the relationship between intention and entrepreneurial action. This study focuses on investigating the moderating role of personal initiative on intention and entrepreneurial action relationship of disabled students. The study followed a descriptive survey where quantitative approach was employed. A total number of 250 questionnaires were administered to disabled students across the tertiary institutions (Universities, Polytechnics and colleges) in Plateau State and Abuja-Nigeria. Analysis of data involved the use of statistical package for social sciences (SPSS version 22.0). Hypotheses were tested using structural equation model. Results revealed that pedagogy significantly and positively influences entrepreneurial actions. Also, personal initiative (proactiveness, resilience and innovation) moderates the relationship between intention and entrepreneurial actions of disabled students.

**Subjects:** Arts & Humanities; Social Sciences; Technology

**Keywords:** entrepreneurship; entrepreneurial action; entrepreneurship education; intention; personal initiative

### ABOUT THE AUTHORS

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### PUBLIC INTEREST STATEMENT

Entrepreneurship is vital in the areas of job creation and nations' economic advancement. Due to its relevance, entrepreneurship has become a dynamic research field with focus majorly in areas of family business, social entrepreneurship, international entrepreneurship, entrepreneurship education, etc. Scholars have buttressed the importance of psychological perspective, with individuals being the major objects of entrepreneurship. This has brought changes to entrepreneurship research around the years 1980–2005 although at some point in time entrepreneurship research had given up on psychology's usefulness for understanding entrepreneurship. In view of that, personal initiative (being the focus of our study) is seen to be important in moderating the relationship between intention and entrepreneurial action. From a total number of 250 questionnaires administered to disabled students across the tertiary institutions in Plateau State and Abuja-Nigeria, the result revealed that personal initiative moderates the relationship between intention and entrepreneurial actions of disabled students.



Dakung Reuel Johnmark

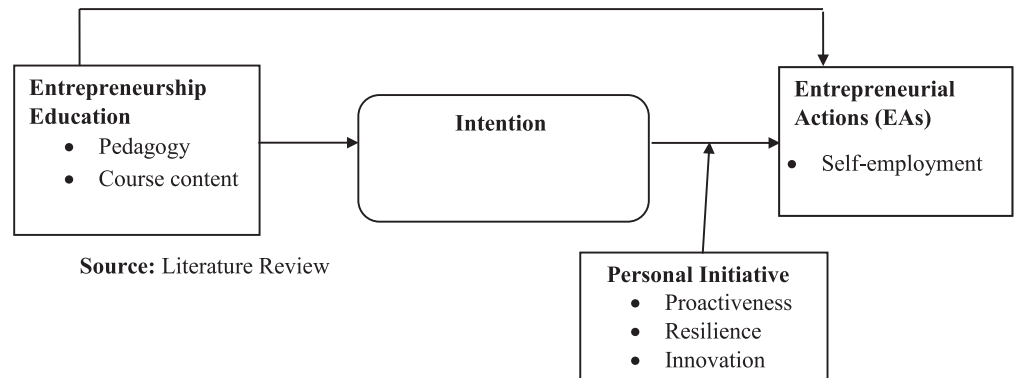
## 1. Introduction

Entrepreneurship is vital in the areas of innovation, job creation, nations' economic and societal advancement (Gelrach, 2014; van Praag & Versloot, 2007). Due to its relevance, entrepreneurship has become a dynamic and differentiated research field with focus majorly in areas of family business, small business, social entrepreneurship, international/regional entrepreneurship, developmental entrepreneurship and entrepreneurship education (Frese & Gielnik, 2014). Such dynamism is also reflected in the three key phases of entrepreneurship (prelaunch or opportunity identification, the launch or development and execution and the post launch phase) identified by Baron (2007), which depends largely on the initiatives in which the entrepreneur employs to start and manage the new venture. This goes to show that, psychological concept of personal initiative plays a crucial role in each of these phases, although the individual entrepreneur is most important in these phases (Hambrick, 2007). Additionally, the scholars credited to be the fathers in the field of entrepreneurship research, Schumpeter (1934) and later McClelland (1965) buttressed the importance of psychological perspective, with individuals being the major objects of entrepreneurship. This has brought changes to the mainstream of entrepreneurship research around the years 1980–2005 although at some point in time entrepreneurship research had given up on psychology's usefulness for understanding entrepreneurship. Today, equating psychological research with personality effects in entrepreneurship has found a personality approach rewarding (Aldrich & Wiedenmayer, 1993; Frese, 2009; Gartner, 1985). Hence, since 1996 when the theory of personal initiative was developed by Frese and colleagues, considerable body of literatures have addressed the concept of personal initiative, focusing much attention on entrepreneurship education as a trigger in the process of venture formation, job creation and employment among students and graduates from tertiary institutions (Dakung & Katura, 2014; Dakung & Munene, 2016; Kuratko, 2005; Zhou, Tao, Zhong, & Wang, 2012).

Today's realities indicate that there is no government of any country that can absolutely provide jobs to absorb all graduates from her tertiary institutions. This means that, there is the need for a change in the mindset of graduates from the *look for a job syndrome* to *create a job mentality* in order to actualize their educational aspirations. Scholars (Jiang & Sun, 2015; Nuan & Xin, 2012) advocated that tertiary education students or graduates should demonstrate a high sense of responsibility in order to take advantage of the entrepreneurial revolution. This is in tandem with Covey (2004)'s position who opined that proactive personality should be associated with responsibility (entrepreneurial action). Also empirical evidence reveals that effects of entrepreneurial intention and action depend on individual's personal initiative, supporting the claim that such actions (showing a higher degree of active performance) is a central determinant of successful entrepreneurship. To drive home their arguments, a training intervention programme was developed to promote entrepreneurs' personal initiative (Glaub, Frese, Fischer, & Hoppe, 2014; Krauss, Frese, Friedrich, & Unger, 2005) and their findings showed that changes in personal initiative led to higher business success over a period of one year. Against this backdrop, developing personal initiative is a necessity rather than a luxury for tertiary education students (Prabhu, 2013).

However to date, applications of the theory of personal initiative in the business start-up decisions of students in the tertiary institutions across the world have been limited particularly in explaining the moderating role of personal initiative on the relationship between intention and entrepreneurial actions among disabled students. Nineteen years after the appearance of personal initiative (PI) theory, few studies have applied PI in predicting entrepreneurial actions (EAs) of students (Gielnik et al., 2015; Russell & Faulkner, 2004; Sasi & Sendil, 2000). However, those studies are mainly in developed societies, none in Nigeria that focuses on intention-EAs relationship especially among disabled students. The scarcity of studies including the PI as a moderator on intention-EAs relationship is somewhat surprising. More so, entrepreneurship is about actions rather than mere intentions, and the level to which entrepreneurial intention translates into action depends on an individual's personal initiative (Frese & Fay, 2001; Gielnik et al., 2015). Also, the existence of a sizable intention-action gap would point to the importance of studying the moderating role of personal initiative rather than mere intention (as a regulation mechanism) for predicting and explaining EAs.

Figure 1. Conceptual model and hypothesized relationships.



## 2. Theoretical framework

In this study, the framework relevant to understanding the robustness of Personal Initiative in moderating entrepreneurial intentions and actions of disabled students is dominated by the **Theory of Personal Initiative**. This theory (Frese & Fay, 2001), is based on the fundamental idea that human beings are not only influenced by their environment but also influence the very same (Tornau & Frese, 2012). It is seen as a behaviour syndrome that results in an individual taking an active and self-starting approach to work goals/tasks and persisting in overcoming barriers/setbacks and one of the consequences of such an active approach is that the environment is changed by the individual (if ever so slightly). This is in contrast to a passive approach, which is characterized by doing what one is told to do, lacking the ability to adjust easily to misfortune or change (not being resilient) and reacting to environmental demands (Frese & Fay, 2001; Frese, Kring, Soose, & Zempel, 1996). Showing initiative involves spotting and acting on opportunities by keeping one's minds open to new ideas and new possibilities that other people have not noticed. We notice here that a person is innovative and in control of relevant and important issues at work and business, and it pays off to have such control (DeShon & Gillespie, 2005). Also, personal initiative is characterized by its self-starting nature, its proactive approach, and being persistent and resilient in overcoming difficulties/barriers that arise in pursuit of a goal. Frese (2009) further stated that PI behaviour is a central feature/construct in entrepreneurship; therefore, increasing PI leads to actively pursuing entrepreneurial tasks which in turn improves entrepreneurial success and growth of the business. Initiative has also become increasingly important in today's businesses and many entrepreneurs want employees who are innovative and can take action without waiting for someone to tell them what to do. After all, this type of flexibility and resilience is what pulls entrepreneurs to innovate, and to overcome competition. The weakness of this theory is that it neglects the aspect of action regulatory mechanism like intention in goal attainment (Gollwitzer & Brandstätter, 1997).

Figure 1 is a conceptual framework highlighting inter-variable relationships in the study. Entrepreneurial action is the dependent (criterion) variable. It is hypothesized that entrepreneurship education and intention (independent variables) explain changes in entrepreneurial action. However, intention and entrepreneurial action are moderated by personal initiative. The relationship is shown by the model provided in Figure 1.

## 3. Literature review and research hypotheses

### 3.1. Entrepreneurial actions

In recent times, scholars in the fields of entrepreneurship, psychology and sociology are focusing attention on the concept/construct of action. This is because action plays a central role in entrepreneurship. Entrepreneurship occurs because entrepreneurs take actions to pursue business opportunities (Bird & Schjoedt, 2009; Shane, Locke, & Collins, 2003). Action is important because starting a new business requires continuous actions to gather resources and to set-up viable business structures (Gartner, 1985). Entrepreneurs who initiate start-up activities and are active in the process of

starting a new business are more likely to successfully launch a business (Carter, Gartner, & Reynolds, 1996; Kessler & Frank, 2009; Lichtenstein, Dooley, & Lumpkin, 2006; Newbert, 2005). In view of the central role of action in entrepreneurship, an important question discussed in literatures is about the best method to train students' entrepreneurial action (Edelman, Manolova, & Brush, 2008; Neck & Greene, 2011) because entrepreneurship is about actions and the extent to which students' entrepreneurial intentions translate into action defines the relevance of action research. Moreover, the existence of a sizeable action gap would point to the importance of studying additional factors for predicting and explaining students' entrepreneurial behaviour/action (Kautonen, van Gelderen, & Fink, 2013).

The variability of findings suggests that many intention—behaviour studies concern single acts such as taking medicine, using contraceptives, exercising, or voting (Armitage & Conner, 2001; Sheeran, 2002). In contrast, starting a new venture is a complex mid-term goal that requires considerable effort to complete, and involves multiple actions that may be performed in any number of sequences (Liao, Welsch, & Tan, 2005; Newbert, 2005). Action principles facilitate taking action to accomplish tasks because they provide specific knowledge of what to do and how to do something. This knowledge is an important antecedent of taking action (Frese & Zapf, 1994). It is also pertinent to note that action principles are not derived from individual experiences but from theory and scientific evidence about how to be successful in entrepreneurship. These give students direction and show them an optimal approach to entrepreneurial tasks (Gielnik et al., 2015). This implies that the role of actions/behaviours could be as straightforward in new venture creation as it is in other research domains. The classic case is the hobbyist who gradually discovers that a business can be made out of the hobby. Similarly, effectuation theory (Sarasvathy, 2001) posits that means-driven individuals can take enterprising action without necessarily having the ultimate goal of an independently owned business in mind. Hence, this study contributes to the creation of a body of evidence on the role of action in the business start-up context by investigating whether disabled students with intentions to take steps to start a business in a defined upcoming periods (1–10 years) will actually take subsequent action over those periods.

### **3.2. Entrepreneurship education—Entrepreneurial actions relationship**

Entrepreneurship education refers to the scope of curricular, lectures or courses that provides students with entrepreneurial competencies, skills and knowledge in pursuing entrepreneurial career (Ekpoh & Edet, 2011; Ooi, Selvarajah, & Meyer, 2011; Van Clouse, 1990). Stemming from Engagement Learning (Kearsley & Schneiderman, 1999), entrepreneurship education is a source of entrepreneurial intention that triggers the actions to become future entrepreneurs among learners. Education is among the fundamental factors that contribute to students' intention formation towards entrepreneurship and quality entrepreneurial education leads to higher level of students' entrepreneurial actions. In addition, entrepreneurship courses give confidence and courage to the course participants (Dyer, 1994; Luthje & Franke, 2003; Souitaris, Zerbini, & Al-Laham, 2007). Other contextual factors within learning environment which facilitate access of students' (in our case disabled students) entrepreneurial behaviour have been emphasized by scholars. They include institutional settings, course objective, audience, experience on the part of the trainers and teaching facilities (Luthje & Franke, 2003).

Since studies have empirically proved that entrepreneurship education is an effective means in inspiring/shaping students' intentions towards entrepreneurial career as well as increasing their venturing rate, learners who had undergone entrepreneurship education have high chances of becoming entrepreneurs (Byabashaija, Katono, & Isabalija, 2010; Gelard & Saleh, 2011; Izedonmi & Okafor, 2010; Matlay, 2008; Ooi et al., 2011; Zhou et al., 2012). The point of emphasis here is that for entrepreneurship education programme to be effective, the educators must design effective learning styles with strong theoretical base that will accommodate all learners (disabled students inclusive). This has become pertinent because one of the main obstacles regarding the development of the field of entrepreneurship education is the rarity of grounded theoretical bases upon which to build pedagogical models and methods (Fayolle, Gailly, & Lassas-Clerc, 2006; Kuratko, 2005).

In addition to the course content, EE pedagogies that support learner over group activities should be unstructured, give a novel solution to problems and also reflect the chaotic and ambiguous character of entrepreneurial experience (Solomon, 2007). This means that doing so, will have a better chance of triggering their attitudes and actions of self-employment. Hence, it is tempting to state that active-based pedagogy in entrepreneurship courses is more likely to influence students' entrepreneurial actions in a positive manner compared to lecture-based pedagogy (see Gielnik et al., 2015). Drawing from the Engagement Learning Theory (Kearsley & Schneiderman, 1999) and the empirical studies reviewed, we hence hypothesize as thus:

H1a: There is a significant positive relationship between pedagogy and entrepreneurial actions of disabled students.

H1b: There is a significant positive relationship between course content and entrepreneurial actions of disabled students.

### **3.3. Mediating role of intention**

Entrepreneurship education and change in entrepreneurial intention have significant relationship. Participation in entrepreneurship education (EE) has positively increased students' intention and eventual increase in their entrepreneurial action (Elfving, Brännback, & Carsrud, 2009; Dell, 2008; Gielnik et al., 2015; Tam, 2009). Action mechanisms are seen to be stepping stones to entrepreneurial actions therefore, increase in the level of entrepreneurial initiative among students increase positive actions towards entrepreneurship (Movahedi & Fathi, 2011). The mediating role of intention is crucial in the EA study. Davidsson (1995) has noted that in recent years the strongest theoretical contributions to entrepreneurship research have been made by studies investigating action-related mediators that elucidate the causal mechanisms affecting entrepreneurship. In view of that Gielnik et al. (2015) integrated short- and long-term training outcomes to show that intention has a mediating function linking the action-based entrepreneurship training with entrepreneurial action.

Understanding how action regulators mediate the relationship between EE and EAs accounts for increase in students' intentions as a result of EE (Souitaris et al., 2007). To them entrepreneurship education has been found to be more than just educating people to start up new ventures. It is about equipping/changing the mindset of students with knowledge, skills and competencies required for results. It is also a tool that is available to increase an individual's key intentions towards entrepreneurship/self-employment (Souitaris et al., 2007). In addition, EE changes students' intention over time, which in turn has positive impact on their EAs. Also, the objective of EE (pedagogy) is to change students' intention and eventual actions to make them understand entrepreneurship.

In view of that, when tertiary institutions offer inclusive entrepreneurship education, it will help students (in our case the disabled) in the creation and development of their entrepreneurial intentions. So applying the appropriate pedagogy has positive effects on students' intentions and knowledge and eventual entrepreneurial actions (Byabashajja et al., 2010; Gielnik et al., 2015; Keat, Selvarajah, & Meyer, 2011; Peterman & Kennedy, 2003). Anchoring on the theoretical framework of the engagement learning theory (Kearsley & Schneiderman, 1999), we advance our argument that by adopting the appropriate teaching methods that will accommodate both the normal and disabled students, it will enhance their intentions towards entrepreneurship that will result to EA. Based on the theoretical perspective and literature review, the following hypotheses are formed.

H2a: Intention mediates the relation between pedagogy and entrepreneurial actions of the disabled students.

H2b: Intention mediates the relation between course content and entrepreneurial actions of the disabled students.



### **3.4. Moderating role of personal initiative between intention and entrepreneurial action**

Fostering positive mindset towards entrepreneurship is high on the policy agenda of several economies and entrepreneurial behaviour/action is a function of entrepreneurial initiative (Ajzen, 1991; Sasi & Sendil, 2000). Since entrepreneurial initiative influences entrepreneurial behaviour, the predictive power can be enhanced. Being initiative is the key to becoming a successful entrepreneur. In view of that, it offers the field of entrepreneurship a rich construct that combines not only the creative use of financial resources, but also numerous non-financial resources that leads the would be entrepreneurs to successfully start their business (Sasi & Sendil, 2000).

From the theory of personal initiative (Frese et al., 1996), we developed the construct/concept of initiative. Personal initiative could also mean innovation, resourcefulness, creativity, dedication, vision, resilience and optimism. It is through times of upheaval that entrepreneurs are often initiative by spotting opportunities in the environment and using their creativity to bring about innovation. Thus, initiative is a key attribute for an entrepreneur (Russell & Faulkner, 2004). However, the nature of the relationship between entrepreneurial initiative and other relevant factors in entrepreneurship has not fully been made explicit or empirically testable to date. For this study we shall be focusing on: proactiveness, resilience, innovation and their respective moderating roles on the relationships between intention and entrepreneurial action.

### **3.5. Proactiveness**

Individuals with proactive personality identify opportunities and act on them, show initiative, take action, and persevere until meaningful change occurs (Bateman & Crant, 1993). Proactive personality refers to individuals' disposition towards engaging in active role orientations, such as initiating change and influencing their environment. Thus, individuals can directly and intentionally change their current circumstances by choosing vocations for which they are best suited (Bateman & Crant, 1993). Other studies also proved that proactive people strongly believe in their abilities, innovative and they identify opportunities, act on them, show initiative, and persevere until meaningful change occurs (Crant, 2000).

The effects of a proactive disposition on entrepreneurial behaviours and the results suggested that the level of proactivity was significantly associated with starting the business (Becherer & Maurer, 1999). In a similar development Kim, Hon and Crant's (2009) results confirmed the fact that proactive personality ultimately manifests itself in individual outcomes of starting a venture. Although in a different setting and earlier than the study they conducted in 2009, Crant (1996) wanted to find out if proactive disposition towards behaviour intuitively appeared to be related to entrepreneurship. The results confirmed that proactive personality was positively associated with entrepreneurial actions. This could also be applicable to the case of disabled entrepreneurs. For instance, the entrepreneurial actions of disabled persons (Helen Keller—deaf and blind, Louis Braille—blind, Aristotle—physical impairment, Henry Wood/Ellen Price—motor impairment, Agnes Nakande—deaf and mute entrepreneur, Cobhams Asuquo—blind musician) are believed to be influenced by their proactive personalities. More and more disabled persons are seen today trying to express greater desires to become entrepreneurs in order to escape from unemployment. This implies that individuals' intentionally and direct action of choosing vocations for which they are most suited depends on their proactiveness. Thus, based on the personal initiative theoretical perspective (behaviours associated with proactiveness) that is consistent with the entrepreneurship theoretical domain (that entrepreneurs may possess certain personality dimensions), the following hypothesis is proposed:

H3a: Proactiveness significantly moderates the relationship between intention and entrepreneurial actions of the disabled students.

### 3.6. Resilience

Resilience has not received so much attention in entrepreneurship research, especially with respect to the individual unit of analysis (disabled students) of this study. A broad framework of individual differences is needed to understand resilient outcomes in response to adverse conditions (Loh, 2013). Hence, those who are able to take action in the face of adversity—like the disabled business people—their positive reactions add to resilience and productive action. World renowned disabled personalities like: Helen Keller (deaf and blind), Louis Braille (blind), Aristotle (physical impairment), Henry Wood/Ellen Price (motor impairment) and Samuel Johnson (motor impairment) are able to create ventures, provide jobs and impact on the world due to their resilience and self-enhancement (Westphal & Bonanno, 2007).

Rooted from personal initiative theory, we argue that when taking initiative of the intending goals to be achieved, it becomes obvious for the disabled entrepreneur to keep striving to reach the goal. Hence, resilience which emerges from relatively ordinary processes that result from unique and unexpected dynamics can be learned over time and with experience (Masten, 2001; Sutcliffe & Vogus, 2003). Resilient individuals take advantage of opportunities around them to engage in activities (in our case entrepreneurship) specifically designed to alleviate problems even within the context of discrimination and stigmatization and lack of meaningful employment (Baron & Markman, 2000). It is worth noting here that the notion of resilience has a central role in entrepreneurship research and entrepreneurs are likely to remain optimistic in the face of adversity and setbacks. Agreeing with that assertion, intending entrepreneurs (Markman, Baron, & Balkin, 2005) with strong resilience with the intention of starting businesses in a midst of discrimination and stigmatization may discover ways to circumvent constraints or change them through their actions. By implication, resilience is a precursor to their entrepreneurial actions. Furthermore, among failed entrepreneurs who are more resilient are the ones likely to start again should another business opportunity appears (Hayward, 2010). Indeed, besides entrepreneurial actions being affected by perceptions of action mechanisms, one's tendency to act upon perceived opportunities is also critical and depends on resilience (Krueger, Reilly, & Carsrud, 2000). This is obvious since the personal disposition to act on one's decisions is an integrated element of well-formed actions. Here, we see a connection between intention and EA moderated by resilient. Therefore, from the empirical studies and the theoretical perspectives, we hypothesize that:

H3b: Resilience significantly moderates the relationship between intention and entrepreneurial actions of the disabled students.

### 3.7. Innovation

As stated earlier, understanding the factors that trigger entrepreneurial actions has occupied much of the entrepreneurship literature. To shed further light on triggers of entrepreneurial actions, scholars have also turned their attention to cognitive dimensions of entrepreneurship. In this realm, studies have highlighted the influence of knowledge structures that people use to make assessments, judgements or decisions involving opportunity evaluation and venture creation (Mitchell et al., 2002) on entrepreneurial intention and action. The propositions on self-setting which is based on ideas developed by a person and rationality in decision-making advanced by both theories of Personal Initiative (Frese, Kring, Soose, & Zemple, 1996) and Action Regulation Theory (Frese & Zapf, 1994; Hacker, 1985), respectively, reflects individual innovativeness. Hence, an innovative entrepreneur recognizes or discovers an opportunity to create something new (e.g. a new product or service, new market, new production or raw material, or new way of organizing existing technologies), and then uses various means to exploit or develop this opportunity (Baron & Ward, 2004). Building on our identified theory, the existing findings of entrepreneurial intention—action and innovation literature, Figure 1 illustrates our proposed model on the link between innovation and disabled students' entrepreneurial actions moderated by personal initiative. Advancing our argument from Schumpeter's (1934) view, we wish to state here that the entrepreneurial intention-action among the disabled students depends on the extent to which they perceive themselves as innovative. Innovation has been featured as playing a key role in entrepreneurial process (Hills, Shrader, &



Lumpkin, 1999), and has a broad term that has received different conceptualizations in diverse fields, such as art, music, science, education, advertising and management (El-Murad & West, 1999).

In entrepreneurship studies, the view of creativity/innovation (the production of novel and useful ideas) is often adopted, since novel and useful ideas are the lifeblood of entrepreneurship. Entrepreneurs are believed to have mental frameworks that endorse them to think outside the box when it comes to opportunity recognition. Similarly, they tend to be more proficient than others at object or pattern recognition. By that, they are able to produce a large number of unusual and novel ideas (Baron & Ward, 2004; Sternberg, 2004). They also apply conceptual combinations, analogical reasoning, abstraction, problem formulation and other processes in order to come up with new ideas (Ward, 2004). Not surprising, innovation has therefore been indicated as a trigger of entrepreneurial intention-action. From their own perspective, Gorman, Hanlon, and King (1997); Feldman and Bolino (2000) and Sternberg (2004) proposed that individuals with a strong innovation anchor and the capacity to think outside the box are motivated to become self-employed. Additionally, improvisation, being a construct that is associated with innovation/creativity, accounts for a significant amount of variance in entrepreneurial actions. High innovation/creativity scores yield a strong positive effect on entrepreneurial actions, and that individual's innovativeness should be incorporated in models of entrepreneurial intention-behaviour (Hmieleski & Corbett, 2006). On the basis of these findings, we posit that the more disabled students perceive themselves as innovative, the higher their entrepreneurial action. From the aforementioned studies on the innovation—EA relationship and in line with the theories of Personal Initiative and Action Regulation, the following proposition is made:

H3: Innovation significantly moderates the relationship between intention and entrepreneurial actions of the disabled students.

## 4. Methodology

### 4.1. Research universe and sample

This research was conducted on students with disabilities (crippled, blind, deaf and albinos) in the tertiary institutions in Plateau State and Abuja-Nigeria. A total of 211 responses were received out of 250 questionnaires administered; 5 of them were not included into the research for various reasons and 206 questionnaires were evaluated for research purposes. Questionnaire respond rate was therefore 82.4%.

### 4.2. Construct measurements

The constructs/variables used in this research are categorical in nature and have irregular distributional properties. In view of that, they are measured using scales that had already been tested by scholars in the literature. Depending on the construct, responses are expected based on a specified conventional way(s). **Entrepreneurial Actions:** A total of 15 statements as of “Among the various career options, I would be anything but an entrepreneur”, “Being an entrepreneur would give me great satisfaction”, “Being an entrepreneur implies more advantages than disadvantages to me” were used in a simplified scale derived, modified and validated by Liñán and Chen's (in press) and Ajzen (2002) from Entrepreneurship Intentions Questionnaire (EIs Questionnaire) measures. Scale reliability, cronbach alpha value, was calculated as 0.940. The scales of this construct were measured by utilizing a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). **Entrepreneurship Education:** Measures for entrepreneurship education were derived from Liñán and Chen's (in press). Scale reliability, cronbach alpha value, was calculated as 0.953 and 0.952 for pedagogy and course content, respectively. A total of 20 statement items (both for pedagogy and course content) such as: “I experienced action-based entrepreneurship training from the lectures”, “My lecturers teach me how to go about achieving business goals”, “The method of teaching enhances my skills to deal with business risks”, “Entrepreneurship course enhances my ability to develop networks”, “The syllabus provides an optimal approach towards entrepreneurial tasks”, “The course enhances my skills to deal with the risks and uncertainties” were utilized. **Intention:** A total of 10 statements such as: “I am sure I would be successful if I become an entrepreneur”, “My professional

goal is to be an entrepreneur, I am ready to do anything to be an entrepreneur”, “I intend to start my own business within the next one year”, “I intend to start my own business within the next two years” were used in a scale developed by Ajzen (1991) and Liñán and Chen (2009). All the scales were measured by utilizing a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree) based on previously published studies. Scale reliability, cronbach alpha value, was calculated as 0.879.

For **Personal Initiative**, we developed a 30-item measure for this study based on a similar measure utilized in a different context which was shown to have good construct validity. (i) *Proactiveness* was measured using Frese, Fay, Hilburger, and Leng (1997) selected-item measure. We modified the scale to suit our study since it was used in other countries (Germany and Italy) and on different set of respondents. Responses were indicated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), with a total of 10 items as: “I excel at identifying opportunities” and “No matter what the odds, if I believe in something I will make it happen”. Scale reliability was calculated as 0.932. (ii) *Variable of resilience* was measured by using indicator of resilience adopted from Brief Resilience Coping Scale (BRCS). Scale reliability, cronbach alpha value, was calculated as 0.947. This was measured on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree) (Sinclair & Wallston, 2004), with a total of 10 statement items such as: “I am able to depend on myself more than anyone else”, “I usually take things in my stride”, “I am determined” and “I can get through difficult times because I have experienced difficulty before”. (iii) *For Innovation*, we utilized an adapted measure based on the ones previously employed by Tierney, Farmer, and Graen (1999). A total of 10 items utilized are: “I hope to generate novel way of establishing/operating business”, “Innovation is supported and rewarded in business”, “I have new and better ideas of marketing to customers”, and “I will serve as a good role model for innovation”. Responses were indicated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Scale reliability, cronbach alpha value, was calculated as 0.944.

The Kaiser-Meyer-Olkin (KMO) and Bartlett’s tests show that the KMO statistics vary from 0 to 1 and it is normally used in testing the adequacy of the samples. The rule of the thumb is that the KMO must be greater than 0.7 to be adequate. From Table 1, it can be seen that the KMO values for Entrepreneurship Education, action regulators, personal initiative and entrepreneurial actions are 0.902, 0.836, 0.885 and 0.865, respectively, which shows that the sample is adequate and factor analysis is appropriate for the data. To proceed with the factor analysis we need to check further if there are relationships between the variables and that the original correlation matrix is not an identity matrix. Bartlett’s test of sphericity is then used to conduct this test. On checking the result, it is seen that the Bartlett’s test is highly significant (0.000) with  $p < 0.001$ . This shows that the R-Matrix is not an identity matrix and factor analysis is appropriate.

**Table 1. The rotated component matrix for the variables**

No.	Variable	KMO	Bartlett’s test			No. of factor
			X	Df	Sig	
1	Entrepreneurship education	0.902	1,838.164	190	0.000	2
2	Action regulators	0.836	1,421.597	231	0.000	2
3	Personal initiative	0.885	2,698.087	435	0.000	3
4	Entrepreneurial action	0.865	1,012.907	105	0.000	1

## 5. Results

### 5.1. Demographic characteristics

Demographic characteristics of tertiary institution students with disabilities participated in this study (frequency and % distribution) are provided in Table 2.

As indicated in Table 2, 59.2% of the participants were males while 40.8% were females. Participants were dominantly (44.7%) at the ages between 21 and 26 years. With regard to the disability category, majority (45.1%) of the respondents were crippled and 63.1% of them acquired their disabilities later in life. Finally, majority of the respondents (93.7%) were single.

### 5.2. Means, standard deviations and correlation coefficients of research variables

Perception rates of participants for entrepreneurship education (pedagogy and course content) were fairly high at 3.76 and 3.78, respectively (Table 3). Intention had the lowest mean of 3.59. Among the personal initiative perceptions, while innovation had the highest mean (3.98), resilience had closer mean of 3.80 followed by proactiveness with a mean value of 3.68. Entrepreneurial Actions (EAs) mean of participators revealed higher mean of 3.98. Except for EAs, all standard deviations were less than 1, implying that the mean is a good representation of the moderating role of personal initiative in the intention-entrepreneurship action relationship.

**Table 2. Demographic characteristics, frequencies and per cent distributions**

Characteristics	F	%
<b>Gender</b>		
Male	122	59.2
Female	84	40.8
<b>Total</b>	<b>206</b>	<b>100</b>
<b>Disability category</b>		
Crippled	93	45.1
Blind	55	26.7
Deaf	37	17.9
Albinism	21	10.3
<b>Total</b>	<b>206</b>	<b>100</b>
<b>Marital status</b>		
Single	193	93.7
Married	13	6.3
<b>Total</b>	<b>206</b>	<b>100</b>
<b>Age</b>		
16–20 years	73	34.9
21–26 years	92	44.7
27–30 years	30	14.5
31 years & above	11	5.9
<b>Total</b>	<b>206</b>	<b>100</b>
<b>Acquisition of disability</b>		
At birth	72	36.9
Later in life	130	63.1
<b>Total</b>	<b>206</b>	<b>100</b>

**Table 3. Means, standard deviations and correlation coefficients of research variables**

Variable	Mean	SD	1	2	3	4	5	6	7
Pedagogy	3.76	0.81	1						
Course content	3.78	0.97	0.492*	1					
Intention	3.59	0.78	-0.588	-0.649	1				
Proactiveness	3.68	0.68	0.546*	0.651*	0.685*	1			
Resilience	3.80	0.82	0.611*	0.333**	0.380*	0.304*	1		
Innovation	3.98	0.73	0.443*	0.332*	0.446*	0.447**	0.591*	1	
Entrepreneurial actions (EAs)	3.98	1.03	0.360**	-0.388	0.548**	0.245*	0.431*	0.502*	1

\*Correlation is significant at the 0.05 level.

\*\*Correlation is significant at the 0.01 level.

## 6. Discussion and conclusion

The robustness of the concept of personal initiative (proactiveness, resilience and innovation) was investigated by testing its moderating role on the relationship between intention and entrepreneurial actions of disabled students in the Nigerian tertiary institutions. Also, we established the relationships between entrepreneurial education (pedagogy and course content) and entrepreneurial actions. Table 4 and Figure 2 provide the hypotheses results of the influence of entrepreneurial education (pedagogy and course content), intention and personal initiative (proactiveness, resilience and innovation) on entrepreneurial actions of disabled students. Pedagogy towards entrepreneurship is positively related ( $\beta = 0.36^{**}$ ,  $p < 0.01$ ) to entrepreneurial action. This finding confirms our hypothesis 1 that there is a significant positive relationship between pedagogy and entrepreneurial actions of the disabled students. The result supports the findings of scholars (Fayolle et al., 2006; Kuratko, 2005; Luthje & Franke, 2003; Ooi et al., 2011; Solomon, 2007; Zhou et al., 2012) which revealed a very strong influence of pedagogy on entrepreneurial actions. In addition, the results for H3a, b and c are accepted since they reveal significant positive moderating effects of proactiveness ( $\beta = 0.24^*$ ;  $p < 0.05$ ), resilience ( $\beta = 0.43^*$ ;  $p < 0.05$ ) and innovation ( $\beta = 0.50^{**}$ ;  $p < 0.01$ ) on the relationship between intention and entrepreneurial actions of disabled students. This result is in tandem with the previous findings of scholars (Becherer & Maurer, 1999; Crant, 2000; Hills et al., 1999; Hmieleski & Corbett, 2006; Kim et al., 2009; Krueger et al., 2000; Markman et al., 2005). Importantly, intentions of the disabled students to start business largely depends on their personal initiatives (proactiveness, resilience and innovation), confirming our Hypothesis 2 that the translation of disabled students' intention to venture into business depends on their personal initiatives.

Understanding the robustness of personal initiative in moderating the relationship between intention and entrepreneurial actions of disabled students is crucial. This is anchored largely on recognition of the impact of entrepreneurship activities particularly on job creation of graduates as well as

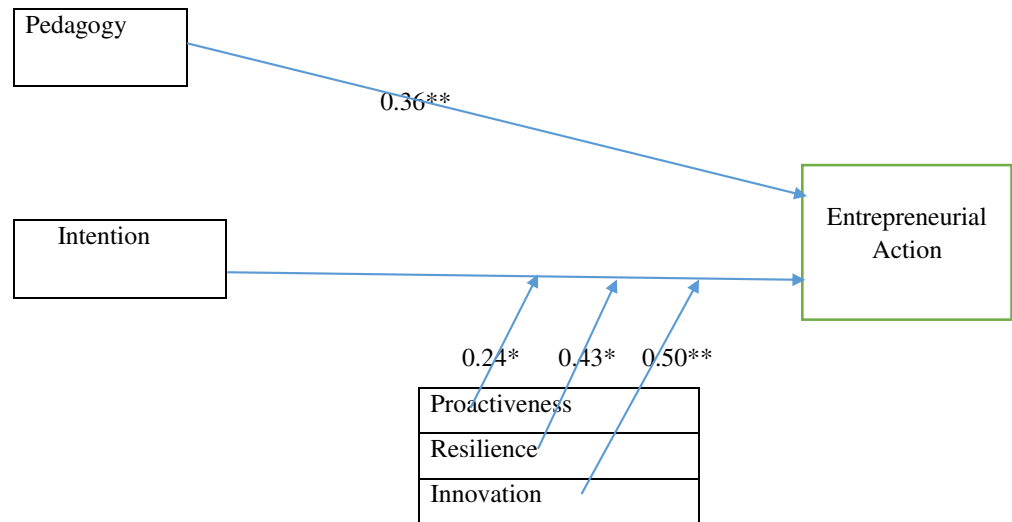
**Table 4. Results of tests of hypotheses test**

	Hypotheses	Path coefficient	p-value	Decision
H1a	PDG → EA	0.36**	0.00	Accepted
H1b	CC → EA	-0.38*	0.01	Rejected
H2a	Mediating role of intention between PDG and EA	-0.58	0.20	Rejected
H2b	Mediating role of intention between CC and EA	-0.64	0.13	Rejected
H3a	Moderating role of proactiveness between intention and EA	0.24*	0.04	Accepted
H3b	Moderating role of resilience between intention and EA	0.43*	0.03	Accepted
H3c	Moderating role of innovation between intention and EA	0.50**	0.00	Accepted

\*Correlation is significant at the 0.05 level.

\*\*Correlation is significant at the 0.01 level.

**Figure 2. Supported research model.**



the economic growth of countries across the world and Nigeria in particular. Hence, the major result from our findings revealed that personal initiative (proactiveness, resilience and innovation) moderates the relationship between intention and entrepreneurial action of the disabled students.

### 7. Theoretical implications

This study focuses on how the theory of personal initiative contributes to theory development in the field of entrepreneurship by empirically investigating personal initiative (proactiveness, resilience and innovation) in moderating the relationship between intention and entrepreneurial action of the disabled students. The notable theoretical implication of this study is its contribution to the ongoing entrepreneurial action debate. From the foregoing, we observed that understanding how intention predicts entrepreneurial action of disabled students depends on their personal initiatives (proactiveness, resilience and innovation). Hence, there ought to be emphasis on disabled students' personal initiatives in the teaching of entrepreneurship programmes as a more effective way by higher educational institutions of learning (HEIs) in Nigeria. This will go a long way in influencing the entrepreneurial actions and also encourage their venture creation activities on campuses and after their graduation. Secondly, the theoretical implication relates to the importance attached to pedagogy (being a variable of entrepreneurship education) in triggering entrepreneurial action. Empirical evidence (Fayolle et al., 2006; Kuratko, 2005; Luthje & Franke, 2003; Ooi et al., 2011; Solomon, 2007; Zhou et al., 2012) has suggested that pedagogy predicts entrepreneurial action (EA).

### 8. Methodological implications

One major methodological implication is the role of quantitative method approach in predicting entrepreneurial action. This study built on prior works in the area of EAs by applying quantitative data to predict the moderating role of personal initiative on the relationship between intention and entrepreneurial action of disabled students. This will provide terminological and conceptual clarity and coherence (Tashakkori & Teddlie, 1998).

### 9. Managerial and policy implications

Majorly, the managerial implication of this study focuses on the application personal initiative on the relationship between intention and entrepreneurial actions. In this twenty-first century, tertiary institutions in Nigeria should employ and train lecturers who are resourceful and have the skills/competence in teaching entrepreneurship that will enhance the personal initiatives and entrepreneurial intentions—actions of disabled students in starting a venture. Another managerial implication relates to providing an enabling environment that fosters lifelong learning for disabled students by the Nigerian tertiary institutions.



## 10. Limitations of the study

The study is restricted to Plateau State and Abuja—Nigeria. Further research could be conducted to cover all the States in the North-Central region of Nigeria. Also, this study employed the cross-sectional approach. A longitudinal approach should be employed to study the trend over a period of at least three (3) years. Finally, just focusing on personal initiative as a moderating variable on the relationship between entrepreneurial intention and action may not be sufficient enough in explaining the phenomenon. In view of that, there will be need to explore other factors that may contribute in influencing entrepreneurship intentions-actions relationship of disabled students that were not part of this study.

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