

# Self-Efficacy and Entrepreneurial Intentions of Technical College Electronics Students in South-East Nigeria

OGBUANYA<sup>1</sup>, Theresa C., OKEKE<sup>2</sup>, Chinedu I.O.&OZOAGU<sup>3</sup>, Fidelis

<sup>1</sup>: Senior fellow, School of Education Studies, Faculty of Education, University of the Free State, Bloemfontein, South Africa

<sup>2</sup>: Head & Host, School of Education Studies, Faculty of Education, University of the Free State, Bloemfontein, South Africa

<sup>3</sup>:Department of Industrial Technical Education, Faculty of Vocational and Technical Education, University of Nigeria, Nsukka

Corresponding author: Prof. T.C. Ogbuanya. Email: [Chinyere.ogbuanya@unn.edu.ng](mailto:Chinyere.ogbuanya@unn.edu.ng)

## ABSTRACT

This study explored the relationship between self-efficacy and entrepreneurial intentions of technical college electronics students in South-east Nigeria. The design of this study was correlation survey research. The sample consists of 220 students of RTVE works made up of 187 males and 33 females. Three instruments were adapted by the researchers for this study and these are Self-efficacy Scale (SES), Entrepreneurial Self-efficacy Scale (ESES) and Entrepreneurial Intention Questionnaire (EIQ). The data collected were analyzed using mean to answer the research questions while multiple regressions were used in testing the hypotheses. The results revealed a low positive relationship between self-efficacy and entrepreneurial intentions of technical college electronics students. There is a moderate positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students. There is no difference in the perceived level of entrepreneurial intentions of male and female technical college electronics students. Self-efficacy significantly relates to the entrepreneurial intentions of technical college electronics students. Entrepreneurial self-efficacy significantly relates to the entrepreneurial intentions of technical college electronics students. Based on these findings, some educational implications were highlighted and recommendations made.

**Keywords:** Electronics Students; Entrepreneurial Intentions; Self-Efficacy; Technical College

## 1 INTRODUCTION

Growth, development and sustainability of entrepreneurship require self-efficacy and entrepreneurial intention especially in electronic technology business. Self-efficacy is a person's judgment about being able to perform a particular activity. It reflects how confident students are about performing specific tasks. Self-efficacy is specific to the task being attempted. Self-efficacy is defined as an individual's belief (or confidence) about his or her abilities to mobilize motivation, cognitive resources and courses of action needed to successfully execute a specific task within a given context (Bandura, 1997; Mohd, Yahya & Kamaruddin, 2012; Stajkovic & Luthans, 1998). Shane, Locke and Collins (2003) defined self-efficacy as task-specific self-confidence. It is a motivational construct that has been shown to influence people's choice of activities, goal levels, persistence, and performance in a variety of contexts (Zhao, Seibert & Hills, 2005). In the context of this study self-efficacy is the technical college electronics students' self-confidence towards their ability to successfully perform specific tasks/activities in electronics technology business. It is believed that high self-efficacy is one of the most important factors influencing the choices of future engagement by young people. People avoid careers and environments of which they believe they exceed their capacities, but undertake vocations that they judge themselves capable of handling (Markman, Balkin & Baron, 2002). According to Bandura (1997), beliefs about one's competence to successfully perform a task can affect motivation, interest and achievement.

Self-efficacy theory is an important component of Bandura's social cognitive theory (SCT), which suggests high inter-relation between individual's behaviour, environment and cognitive factors. To Bandura, self-regulation strongly depends on perception of self-efficacy. Perceived self-efficacy is theorized to influence performance accomplishments both directly and indirectly through its influences on self-set goals (Zimmerman, Bandura & Martnez-Pons in Ogunleye & Osagu, 2014). Electronics students in technical colleges in South-Eastern Nigeria might have high or low perception of self-efficacy in setting up electrical technology workshops after graduation.

Self-efficacy can stimulate individual's risk-taking propensity. Krueger (2005) postulated that high levels of self-efficacy are associated with strategic risk-taking while Krueger (2000) argued that self-efficacy is a critical antecedent of entrepreneurial intent. Individuals with high self-efficacy have more intrinsic interests (Orji & Ogbuanya, 2020) in entrepreneurial tasks and are more willing to make effort and show persistence when faced with obstacles and setbacks. Chen, Greene and Crick, (1998) measured self-efficacy in dimensions such as marketing, innovation, management, risk-taking, and financial control. Self-efficacy is the foundational concept of entrepreneurial self-efficacy. Entrepreneurial self-efficacy is defined as a construct measuring a person's belief in his/her ability to successfully launch an entrepreneurial venture (McGee, Peterson, Mueller & Sequeira, 2009). Therefore, entrepreneurial self-efficacy in the context of this study is defined as the level of confidence in electronics student's perceived capabilities to successfully performing the roles and tasks of an entrepreneur in a new RTVE venture after graduation. Entrepreneurial research on self-efficacy affirmed that it is an important factor to clarify entrepreneurial intentions and behaviours, as people need to believe in their capacity to succeed in starting and running a new business before they do so (Boyd & Vozikis, 1994; Neck, Neck, Manz & Godwin, 1999). Thus, determining the level of self-efficacy of electronics students in technical colleges and their level of entrepreneurial self-efficacy will be very important in determining their self-employment possibility in RTVE works in future. Cox, Mueller and Moss (2002) in their study also shows that students who have high self-efficacy perform better than those who show low self-efficacy in entrepreneurial tasks.

The self-efficacy of women towards entrepreneurial task is presumed to be lower than that of men. Cox et al. (2002) found out that men have higher self-efficacy in entrepreneurial tasks than women. Not only does research show that women's intentions for launching a new business may differ from men's (Carter & Brush, 2004), but self-efficacy, attribution, work values, decision making, and motivational theories all hold promise for explaining why gender differences lead to differential self-employment choices. Several researchers have indicated that women are less likely than men to prefer occupations that have been traditionally male-dominated because of the tendency for women to have lower self-efficacy perceptions in relation to these occupations (Baughn, Cao, Le, Lim & Neupert, 2006; Hackett, Betz, Casas & Rocha-Sinh, 1992). Scherer, Brodzinski and Wieber (1990) found that men have higher self-efficacy than women in entrepreneurial orientation; however, studies by Sequeira, McGee and Mueller (2005) did not support their finding. The level of entrepreneurial intentions of male and female electronics students in technical colleges in Nigeria is yet to be found out. Self-efficacy impacts one's perceived level of control, how much stress, self-blame and depression one experiences while coping with circumstances, and the level of accomplishment one realizes (Markman et al. 2002).

Individual's entrepreneurial intentions may be the important variables to predict their entrepreneurial behaviors. Markman et al. (2002) in their study affirms that what motivate individuals to demonstrate entrepreneurial behaviour is their self-efficacy belief, rather than their objective ability. Zhao et al.'s (2005) findings provided evidence that individuals choose to become entrepreneurs (or at least formulate intentions to do so) because they are high in entrepreneurial self-efficacy, the belief that they can succeed in this role. Chen et al. (1998) called for further investigation about the patterns of students' self-efficacy in relation to student's entrepreneurial intention. An intention reflects an individual's willingness or plan to engage in a particular behaviour. A study by Krueger (2000) points out that there are indications of a long-term interest to start a business before the actual entrepreneurial behaviour. In this respect, by understanding the intention towards planned behaviour, the behaviour can better be predicted. The ultimate purpose of intention research is the prediction of behaviour. However, indeed relatively little is known about young technical college electronics student view on entrepreneurship.

This study focuses on latent entrepreneurship which is an individual's future intention to engage in entrepreneurship (Ogbuanya, Chukwu & Orji 2020). Krueger et al. (2000) defines entrepreneurial intention as a commitment to starting a new business. This is accepted as a more encompassing concept than merely owning a business; since intentions have been found to be immediate antecedent of actual behaviour; intention models predict behaviour better than either individual (e.g. personality) or situational (e.g. employment status) variables, and predictive power is critical to improve post hoc explanations of entrepreneurial behaviour (Urban, Van Vuuren & Owen, 2008). For this study the definition accepted for use is the one put forward by Drost (2010) who defined entrepreneurship intention as one's intent to engage in entrepreneurship and one's intention to start one's own business or become self-employed, driven by desire for autonomy and expectation of economic gain. Recognizing that starting a business is an intentional act holds substantial implications for this study because intentions models offer an opportunity to increase one's entrepreneurial ability to explain and predict entrepreneurial activity. Entrepreneurial ability is a pre-requisite for any individual who aims at becoming enterprising and self-reliant in radio, television, electronics devices (e.g. computers, mobile phones) and circuits works and even other trades. Being entrepreneurial according to Rae (2007) refers to having the ability to identify and utilize ideas and

opportunities for the purpose of making profit. In other words, being entrepreneurial refers to having quality business vision, opportunity, mission, strategies and resources for developing RTVE ventures by technical college electronics graduates.

Technical colleges are post primary schools where students learn skills in various occupations. Technical colleges are regarded as principal vocational institutions in Nigeria that give full vocational training intended to prepare students for entry into various occupations as operative artisans, craftsmen and technicians (Okoro, 2006; Orji 2015; Orji & Ogbuanya 2018). The Nigerian national policy on education states that the students completing technical college programmes shall have the option of securing employment at the end of the whole course or after completing one or two modules of employable skills or set up their own business and become self-employed and be able to employ others (Federal Republic of Nigeria, 2004). That means that, technical colleges are institutions in Nigeria where vocational courses are offered by students in order to acquire technical and enterprising skills in various trades such as auto-mechanic, electrical installation, woodwork, plumbing, carpentry and joinery, painting and decoration, welding and fabrication and electronics trade (Olewe, Doherty, Orji, & Idowu 2021). Electronics is one of the trades studied in technical colleges. It is a vocational trade offered by students of both sexes in technical colleges that exposes them to practical skills. National Board for Technical Education (NBTE, 2003) specified that electrical and electronics craftsmen are expected to test, diagnose service, install and completely repair any fault on electrical and electronics appliances. In the report of National Business and Technical Examination Board (NABTEB (2004), the aim of electrical and electronics maintenance practice is to give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant. This means that, its objective is to prepare the vocational students towards self-employment and creation of new businesses, inculcating in them the vocational skills and entrepreneurship competence.

In line with Nigeria's vision 2020, 20, the number of private and public initiatives to train and educate people to be more entrepreneurial has increased in Nigeria. One of such initiative is the introduction of entrepreneurship training and small business management in the curricula of technical colleges (FRN, 2004). This is in response to the increasing interest from students about entrepreneurial careers and awareness from the public authority on the importance of entrepreneurship to economic development. The main aim of entrepreneurship in technical college is to create business and self-employment attitude among the students in order for them to have a career option after graduation (Haan, 2006; Ohanu & Orji 2013). In Nigeria, both latent and actual entrepreneurship is very low compared to international standard. There has been lack of entrepreneurship intention among the technical college students in Nigeria (Audu, Kamin & Balash, 2013). For no apparent reason, most students in technical colleges in Nigeria lack the self-confidence that they can venture into self-employment after graduation without receiving inducement from relatives or government financial support. This is demonstrated in the way and manner the students fail to utilize the skills acquired in their special trades to set up workshops after graduation rather they join the bandwagon of those seeking for white collar jobs which are not readily available and also not easy to come by. This attitude may be as a result of perceived low self-efficacy which manifests in low entrepreneurial intention. Low self-efficacy may be a factor responsible for low entrepreneurial intentions among electronics students in technical colleges. Low entrepreneurial intention can cause lack of interest for an individual to engage in self-employment. Unemployment is a serious problem in Nigeria (Okorie, 2000) and for an economy; this concept means wasted workforce and the loss of the potential for production of goods and services. Unemployment among the electronics graduates may force them to live below the poverty line and also become ready to tools for societal vices.

National Bureau of Statistics (NBS), (2013) notes that Nigeria is faced with the high unemployment rate of 25%. Unemployment is high among technical college graduates (Okoye, 2013). The weak participation of electronics graduates in entrepreneurship activities becomes a source of concern in the light of the high rate of technical college graduate unemployment in Nigeria. Dike (2009) pointed out that the growing body of unemployed young school graduates in Nigeria places additional burden on limited government budget that already has a large number of demands on it. Therefore, forming the habit of thinking and planning to venture into entrepreneurship activities by technical college electronics students in future will be a viable career option. This can be achieved by inculcating and emphasizing entrepreneurship elements that can increase self-efficacy and entrepreneurial intentions of the students while in school. Technical college electronics students' entrepreneurial intention and eventual development of entrepreneurship activities will help to reduce crime, income inequality and pull them out of poverty into economic prosperity, hence the study. Several studies have been conducted on the relationship between self-efficacy and entrepreneurial intentions of students. The various studies appear to be inconclusive. To the best of our knowledge, there is no research study yet in Nigeria targeted at finding the relationship between the self-efficacy

and entrepreneurial intentions of technical college students. This study is therefore, designed to fill the gap. The problem is therefore posed as question: what is the relationship between self-efficacy and entrepreneurial intentions of technical college electronics students in South East Nigeria? Based on the above worries this study explored the relationship between self-efficacy and entrepreneurial intentions of technical college electronics students in south-east Nigeria.

### **1.1 Research Questions**

The following questions were answered in the study:

1. What is the relationship between self-efficacy and entrepreneurial intentions of technical college electronics students?
2. What is the relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students?
3. What is the difference in the level of entrepreneurial intentions of male and female technical college electronics students?

### **1.2 Hypothesis**

The following null hypotheses formulated were tested in this study at 0.05 level of significance:

1. Self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students
2. Entrepreneurial Self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students

## **2 Methods**

### **2.1 Design**

The design of this study was correlation survey research. Nworgu (2015) described this as one that seeks to establish what relationship exists between two or more variables. According to Osuala (2004), survey design is appropriate for studies dealing with people's opinions, beliefs, attitude, motivation and behaviour. This design was suitable for the study since it sought to obtain data about the opinion of students. The rationales for the use of survey design were to enable the researchers obtain easily interpretable responses concerning the existing opinions and relationships between self-efficacy and entrepreneurial intentions of technical college electronics students in South Eastern zone of Nigeria.

### **2.2 Study Area**

The study was carried out in South Eastern zone of Nigeria. This zone consists of five states namely: Abia, Anambra, Ebonyi, Enugu and Imo states.

### **2.3 Population**

The population for this study comprised of the entire 329 National Technical Certificate (NTC) III students studying RTVE in all the sixteen approved technical colleges in South Eastern states of Nigeria. The number of males is 296, representing 90% and the number of females is 33, representing 10%. The population distribution according to technical college, sex and number of students studying RTVE was obtained from the Head of RTVE works' class register through the principal in the respective schools. The choice of NTC III is guided by the assumption that the students would have completed the entrepreneurship training and small business management module as specified in NBTE module specifications and are also now at the stage when they will be considering various career routes after graduation.

### **2.4 Sample and Sampling**

The participants consist of 220 students of RTVE works made up of 187 males and 33 females. Out of the 16 approved and functional technical colleges in South-East, only 7 technical colleges have both male and female students studying RTVE works at NTC III. The rest have only male students studying RTVE works at NTC III. Therefore, the study adopted purposive sampling technique to select the 7 technical colleges with male and female students. This was done because gender was one of the variables investigated. The technical colleges selected are: FSTC, Ohanso; GTC, Ohafia; FSTC, Awka; GTC, Abakaliki; GTC, Enugu; GTC, Owerri; and GTC, Okporo. The sample respondents are outlined as follows: FSTC, Ohanso has 25 RTVE students (20 males and 5 females); GTC,

Ohafia has 18 RTVE students (16 males and 2 females); FSTC, Awka has 28 RTVE students (23 males and 5 females); GTC, Abakaliki has 25 RTVE students (21 males and 4 females); GTC, Enugu has 70 RTVE students (62 males and 8 females); GTC, Owerri has 30 RTVE students (25 males and 5 females) and GTC, Okporo has 24 RTVE students (20 males and 4 females).

## **2.5 Instruments**

The self-efficacy scale (SES) items were adapted from Schwarzer and Jerusalem (2004) general self-efficacy scale. This instrument contains 30 items. It is a four (4) point scale meant to seek information on the student's beliefs that he/she can handle situations so as to successfully attain his/her goals. The range of response consists of Very true of me (4), True of me (3), Untrue of me (2) and very untrue of me (1) point.

The entrepreneurial self-efficacy scale (ESES) items were adapted from Chen et al. (1998); Chen, Gully and Eden (2001) and Forbes (2005) entrepreneurial self-efficacy scales. This instrument has 40 items. This scale elicited information on the student's judgement of his/her ability to successfully performing the roles and tasks of an entrepreneur in RTVE trade. In each statement, the students were to indicate their level of agreement or disagreement on the responses. The response category consists of Strongly agree (4), Agree (3), Disagree (2) and strongly disagree (1).

The entrepreneurial intention questionnaire (EIQ) items were adapted from Linan and Chen (2006) entrepreneurial intention questionnaire. The instrument has 28 items. Each item is based on the student's intention to become an entrepreneur or be self-employed in RTVE trade after graduation. In each statement, the students were to indicate their level of agreement or disagreement on the responses using response options in the range of Very great extent (4), Great extent (3), Low extent (2) and Very low extent (1).

## **2.6 Validation**

Validation of the instrument was to ensure that the items in the instruments yielded the information they were designed to yield. The initial draft copies of the questionnaires were subjected to face validation by seven experts. These include three very knowledgeable senior lecturers of the department of Industrial Technical Education, University of Nigeria, Nsukka; one senior lecturer in the department of Educational Foundations, University of Nigeria, Nsukka; one senior lecturer in the department of Vocational and Technology Education, Enugu State University of Science and Technology; the head of RTVE works in Government Technical College, Enugu and one successful entrepreneur in electronics related businesses. The senior lecturers are judged experts in vocational and entrepreneurship education research, measurement and evaluation. The experts were requested to ascertain the suitability and the extent to which the items measure the psychological abilities and construct intentions behaviour. Each validator was served with the instruments, the title, and the purpose of the study, the statement of the problem, research questions and hypotheses which were attached to the instruments to guide the validators. They were appealed to reword, delete or add items as they consider appropriate and to make general comments or suggestions for improving the instruments towards meeting the objectives of the study. Their corrections and comments were used to modify the questionnaires. The final versions of the instruments were structured based on their corrections.

## **2.7 Reliability**

In order to ensure the reliability of the instrument, trial testing was carried out in Rivers state. Rivers state is in South-South zone of Nigeria which presents an area different from the area of study. Twenty-seven copies of the three set of questionnaire instruments were administered to the respondents comprising of all the 23 male and 4 female NTC III students who are studying Radio, Television and Electronics Devices and Circuits works in Government Technical College, Port-Harcourt, in Rivers state. The data obtained through the trial testing was used to determine the internal consistency of the items. This was achieved through the use of Cronbach's alpha method. The following coefficients were obtained from the seven set of instruments: 0.71 (student's self-efficacy), 0.95 (student's entrepreneurial self-efficacy), and 0.82 (student's entrepreneurial intentions).

## **2.8 Data Collection**

In order to gain access into the technical colleges selected for the study from the five South Eastern states, permission was obtained from the respective principal of each Federal Science and Technical College and Government Technical College involved in the study. The researchers physically visited all the schools selected for the study. During the visit, the researchers appointed and trained a willing staff of each technical college on how to administer the questionnaires as a research assistant. The research assistant introduced the researchers to the students in their classroom and also helped the researchers to administer the instruments personally after which the completed copies were collected immediately. This was to avoid a high rate of loss of the instruments as is common

with the respondents not to return or submit the completed questionnaire immediately. A total of 220 questionnaires were distributed and they were all correctly filled and retrieved giving a return rate of 100%.

**2.9 Data Analysis**

The data collected were analyzed using mean to answer the research questions. Decisions were taken based on the weighted cut-off point of 2.50 on the assigned values of the response categories for answering the research questions. Any item whose mean is 2.50 and above was judged as high level while any item whose mean is less than 2.50 was judged as low level. Correlations coefficient was used to analyze data for research questions 8 and 9 so as to determine the existing relationship among the key variables and multiple regressions were used in testing the hypotheses at probability of  $\leq 0.05$ . The null hypotheses of no significant difference was accepted for any item whose p-value was greater than 0.05 level of significance while it was rejected for any item whose p-value was less than 0.05 level of significance. All computations were done using the Statistical Package for Social Sciences (SPSS) version 20.0.

**3 RESULTS**

**Research Question 1:** What is the relationship between self-efficacy and entrepreneurial intentions of technical college electronics students?

**Table 1:** Pearson’s Product Moment Correlation Analysis of Self-efficacy and entrepreneurial intentions of technical college electronics students

<b>Variable</b>	<b>X</b>	<b>SD</b>	<b>N</b>	<b>r</b>	<b>R<sup>2</sup></b>
Self-efficacy	94.06	11.18	220	0.25	0.06
Entrepreneurial intentions	93.84	7.37			

R<sup>2</sup> = coefficient of determination

Results in Table 1 showed that the correlation coefficient between self-efficacy and entrepreneurial intentions of technical college electronics students was 0.25. This means there was a low positive correlation between self-efficacy and entrepreneurial intentions of technical college electronics students. The coefficient of determination associated with 0.25 is 0.06. The coefficient of determination (0.06) means that 6% of self-efficacy accounted for technical college electronics students’ entrepreneurial intentions. This result also shows that there was a low positive relationship between self-efficacy and entrepreneurial intentions of technical college electronics students.

**Research Question 2:** What is the relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students?

**Table 2:** Pearson’s Product Moment Correlation Analysis of Entrepreneurial Self-efficacy and entrepreneurial intentions of technical college electronics students

<b>Variable</b>	<b>X</b>	<b>SD</b>	<b>N</b>	<b>r</b>	<b>R<sup>2</sup></b>
Entrepreneurial self-efficacy	131.35	14.23	220	0.60	0.36
Entrepreneurial intentions	94.06	11.18			

R<sup>2</sup> = coefficient of determination

Results in table 2 showed that the correlation between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students was 0.60. This means there is moderate positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students. The coefficient of determination associated with 0.60 is 0.36. The coefficient of determination (0.36) means that 36% of entrepreneurial self-efficacy accounted for technical college electronics students’ entrepreneurial intentions. This result also shows that there was a moderate positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students.

**Research Question 3:** What is the difference in the level of entrepreneurial intentions of male and female technical college electronics students?

**Table 3:** Mean and standard deviation of respondents on the difference between the level of entrepreneurial intentions of male and female technical college electronics students

<b>S/NO</b>	<b>Gender</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Decision</b>
My professional goal is becoming an entrepreneur	Male	3.33	0.88	GE
	Female	3.27	1.01	GE
I will make every effort to start and run my own RTVE business	Male	3.56	0.70	GE
	Female	3.33	0.96	GE
I have got the strong intention to start a RTVE firm some day	Male	3.43	0.75	GE
	Female	3.21	1.02	GE
If I had the opportunity and resources, I'd like to start a RTVE firm	Male	3.37	0.79	GE
	Female	3.33	0.82	GE
I am determined to create a new RTVE business venture in the future	Male	3.50	0.70	GE
	Female	3.39	0.90	GE
I am very much interested in setting up my own RTVE business than getting a paid job	Male	3.36	0.86	GE
	Female	3.18	1.07	GE
I am working towards owning my own RTVE business	Male	3.51	0.70	GE
	Female	3.18	1.07	GE
I intend to start my own business within the next two years after graduation	Male	3.11	0.89	GE
	Female	3.06	1.06	GE
I intend to start my own business within the next five years after graduation	Male	2.82	1.08	GE
	Female	2.45	1.33	LE
I prefer to be self-employed after graduation	Male	3.33	0.90	GE
	Female	3.30	1.02	GE
It never came to my mind to start up a business	Male	2.11	1.14	LE
	Female	2.39	1.09	LE
I have thought seriously to start my own business after completing my study	Male	3.47	0.76	GE
	Female	3.27	0.94	GE
I am prepared to do anything to be an entrepreneur	Male	3.18	0.94	GE
	Female	2.85	1.12	GE
I want to be my own boss	Male	3.55	0.79	GE
	Female	3.79	0.55	GE
I want to use the skills learned at school to develop my private enterprise after graduation	Male	3.74	0.56	GE
	Female	3.70	0.64	GE
I want to be self-employed and provide employment to others	Male	3.71	0.58	GE
	Female	3.73	0.67	GE
I want to set up a RTVE business after my schooling for my own satisfaction and growth	Male	3.63	0.59	GE
	Female	3.39	0.93	GE
I want to become an entrepreneur to increase my prestige and status	Male	3.44	0.81	GE
	Female	3.33	0.99	GE
I want to explore existing RTVE opportunities in the market place	Male	3.45	0.71	GE
	Female	3.24	0.90	GE
I want to become an entrepreneur to realize my dream	Male	3.44	0.78	GE
	Female	3.27	1.10	GE
I want to be self-employed to put my business idea into practice	Male	3.61	0.62	GE
	Female	3.45	0.83	GE
I want to be an entrepreneur to take advantage of my creative talent	Male	3.60	0.68	GE
	Female	3.27	1.04	GE
I want to be an entrepreneur to earn a reasonable living	Male	3.52	0.76	GE
	Female	3.42	0.94	GE
I want to be self-employed to enjoy job security	Male	3.27	0.91	GE
	Female	3.09	1.07	GE

I want to be in the forefront of technological ideas	Male	3.70	0.58	GE
	Female	3.45	0.83	GE
I think that founding a new venture is the only way to succeed in life	Male	3.09	1.00	GE
	Female	2.94	1.03	GE
I would dedicate my life to establishing a new RTVE venture even if my parents were strongly against it	Male	3.31	0.83	GE
	Female	2.97	1.10	GE
Even if I launch new RTVE ventures and fail many times, I will keep on trying until I succeed	Male	3.51	0.78	GE
	Female	3.39	1.06	GE
<b>Cluster Mean</b>	<b>Male</b>	<b>3.38</b>	<b>0.35</b>	<b>GE</b>
	<b>Female</b>	<b>3.24</b>	<b>0.59</b>	<b>GE</b>

**Key:** N= Number of respondents, X= mean, SD= Standard Deviation, Dec. = Decision; GE= Great extent; LE= low extent

Results presented in Table 3 showed the mean and standard deviations of respondents on the difference between the level of entrepreneurial intentions of male and female technical college electronics students in South-East, Nigeria. Results showed that the male respondents had a cluster mean rating of 3.38 while the female respondents had a cluster mean rating of 3.24. Since the mean ratings of both male and female respondents are approximately equal, it shows that there is no difference in the level of entrepreneurial intentions of male and female technical college electronics students in South-East, Nigeria.

**Hypothesis 1:** Self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria.

**Table 4:** Regression Analysis of Self-efficacy and Entrepreneurial intentions of technical college electronics students

Model	Sum of squares	df	Mean square	F	Sig.
Regression	1664.62	1	1664.62	14.13	0.00
Residual	25689.61	218	117.84		
Total	27354.23	219			

$\alpha = 0.05$

In order to test hypothesis 1 ( $H_{01}$ ), regression analysis was used. The result in Table 4 shows that an F-ratio of 14.13 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 is less than 0.05 level of significance set as bench mark for testing the hypothesis and it was found to be significant. The null hypothesis which stated that self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria is therefore rejected and inference drawn is that, self-efficacy significantly relate to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria.

**Hypothesis 2:** Entrepreneurial self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria.

**Table 5:** Regression Analysis of Entrepreneurial self-efficacy and Entrepreneurial intentions of technical college electronics students

Model	Sum of squares	df	Mean square	F	Sig.
Regression	9949.70	1	9949.70	124.63	0.00
Residual	17404.53	218	79.84		
Total	27354.23	219			

$\alpha = 0.05$

In order to test hypothesis 2 ( $H_{02}$ ), regression analysis was used. The result in Table 5 shows that an F-ratio of 124.63 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 is less

than 0.05 level of significance for testing the hypothesis and the result was found to be significant. The null hypothesis which stated that entrepreneurial self-efficacy does not significantly relate to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria is therefore rejected. Therefore, entrepreneurial self-efficacy significantly relates to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria.

#### 4 DISCUSSION

The finding revealed a low positive relationship between self-efficacy and entrepreneurial intentions of technical college electronics students in South-East, Nigeria. The finding is supported by Boyd and Vozikis' (1994) proposition that self-efficacy influences the development of entrepreneurial intentions among students and hence the probability of venture creation. They argued that few students form intentions about engaging in entrepreneurial activities if they believe there is a high probability of failure. However, a person will have the intention to create a new venture, or act upon an existing entrepreneurial intention, only when self-efficacy is high in relation to the perceived requirements of a specific opportunity (Mueller & Dato-on, 2011; Boyd & Vozikis, 1994). The finding is also supported by Borchers and Park (2010) who found self-efficacy to be a key psychological attribute in understanding an individual's decision to be an entrepreneur. Thus, it is appropriate to assume that self-efficacy is linked with entrepreneurial intentions. Since there is a low positive relationship between self-efficacy and entrepreneurial intentions of technical college electronics students, effort will be intensified through educational policy and programmes to enhance the students' self-efficacy in relation to their entrepreneurial intentions in order for them to pursue an entrepreneurial career after graduation. This is because the important role that self-efficacy plays in the intention to select an entrepreneurial career cannot be neglected.

The finding revealed that there is a moderate positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions of technical college electronics students in South-East, Nigeria. The finding is supported by statement from Zhao et al., (2005) that individuals choose to become entrepreneurs (or at least formulate intentions to do so) because they are high in entrepreneurial self-efficacy, the belief that they can succeed in this role. The finding agrees with Golightly (2007), who suggested that entrepreneurial self-efficacy may influence entrepreneurial intention and performance of students. The finding is in line with the report of the study done by Brown, Lent and Larkin (1989) in which they demonstrated that globally, entrepreneurial self-efficacy perceptions had effect on entrepreneurial intentions. Secondary/Nigerian technical college students are at the ideal stage for fostering their attitude toward entrepreneurship and enhancing their entrepreneurial knowledge and abilities is a worthwhile exercise which can motivate them to pursue entrepreneurial career after graduation.

Finding from this study revealed that there is no difference in the perceived level of entrepreneurial intentions of male and female technical college electronics students in South-East, Nigeria. This result implies that both male and female electronics students perceive themselves equally in the level of their intentions to set up RTVE workshops after graduation. Many studies show that males have more entrepreneurial intentions and have more interest to start businesses than their female counterparts (Mazzarol, Voley, Doss & Thein 1999; Phan, Wong & Wang, 2002). The findings of this study, however, did not support this assertion and is line with the result of studies by Sequeira, McGee and Mueller (2005) which did not support the assertion too. Rather the finding is in agreement with the result of the study done by Seyi, Nurdan and Serkan (2012) which found that there was no significant difference between male and female vocational high school pupils and their entrepreneurial intentions. The finding is also supported by one of the results of the study done by Campo (2011) which did not provide evidence to consider gender as a moderator in the relationship between self-efficacy and the development of individual intention to become entrepreneurs. That is men and women reported equal intentions to become entrepreneurs predicted from their self-efficacy. However, there is little understanding of some of the factors that affect student's intentions of becoming entrepreneurs as many lack the necessary intentions and capabilities that is required to foster entrepreneurial activities. Similarly, little is known about differences in entrepreneurial intentions among technical college electronics students who share different gender-role orientations and self-efficacy.

The finding revealed that self-efficacy significantly relates to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria. The finding is in line with the report of the study done by Owoseni (2014) which stated that there was a significant relationship between self-efficacy and entrepreneurial intentions of students. The finding also agrees with the result of the study done by Lent, Brown, and Hackett (1994) which found that self-efficacy was significantly related to career interests, career choice goals (intentions), and occupational performance. Besides, Lent et al. (1994) also found that self-efficacy is the sole mediator between a person's abilities and his or her career interests. The finding is supported by Bandura (1977, 1997, and 2001) who argues that self-efficacy is a critical antecedent of entrepreneurial intentions since the probability of initiating an

activity can be explained by the extent to which an individual believes in his/her capacity to carry out a specific behaviour. These findings above taken together can be interpreted as meaning that self-efficacy may be used to predict the intended career-related entrepreneurial intentions and behaviour of technical college electronics students in South East Nigeria.

The finding revealed that entrepreneurial self-efficacy significantly relates to the entrepreneurial intentions of technical college electronics students in South-East, Nigeria. This finding is supported by empirical studies done by Chen et al., (1998) and Zhao et al., (2005) which found a significant relationship between entrepreneurial self-efficacy and entrepreneurial intentions. Chen et al., (1998) further reported that those who perceive themselves as lacking entrepreneurial skills and abilities avoid all entrepreneurial activities. Furthermore, researchers emphasized the critical importance of entrepreneurial self-efficacy for students at the age of adolescents (middle/high school/technical college level in Nigeria) because students with higher entrepreneurial self-efficacy more likely intend to step into entrepreneurship (Wilson et al., 2007). Therefore, entrepreneurial self-efficacy is a useful variable for assessing technical college electronics students' convictions that they can execute the necessary entrepreneurial behaviour to produce the desired result; a new venture in RTVE works after graduation.

## **5 EDUCATIONAL IMPLICATIONS**

Entrepreneurial self-efficacy can be useful as applied tools for developing entrepreneurial learning and intentions of students. If the psychological constructs increase from low to medium and finally to high level, it is guaranteed that the technical college electronics students can have high capacity and intention for becoming successful entrepreneurs in RTVE works. The implication that arises is that investigators and school practitioners should pay more attention to technical college students' beliefs about their self-efficacy and other constructs abilities due to the fact that they are critical determinants of students' entrepreneurial intentions. It is therefore, hoped that these findings will serve as resource materials for self-efficacy and entrepreneurial intentions development and exploration to school authorities, psychologists, counsellors, governments, parents and others who are concerned with the future career of technical college graduates. The implication is that the result is important for theory development because it is a step in the effort to link self-efficacy and entrepreneurial intentions of students. Any tool that can be used to explain the self-efficacy and entrepreneurial intentions of students requires further investigation.

The study lend support to social cognitive theory which assumes that the environment plays a pivotal role in influencing student's behaviour, while their efficacy beliefs play a regulatory role within the social, psychological and contextual network where personal agency operates. From the result of this study, self-efficacy shows a significant role in determining the goals and career aspirations of students and is crucial in developing entrepreneurial intentions and an important contributor to entrepreneurial success (Bandura, 2001). It can also be a potential input for improving educational policy. These psychological factors can be regulated by education and relevant policy instruments. For instance, technical college electronics students can be supported by government and technical college management for creating their own business and promote their self-efficacy and entrepreneurial self-efficacy to make them acquire more successful entrepreneurial competencies by taking a series of measures such as entrepreneurial education and entrepreneurial skill training, developing appropriate risk-taking propensity, making an encouraging and supporting atmosphere, setting up entrepreneurial funds and incubating entrepreneurship of technical college students. By this education and supporting policies, individual/psychological status of technical college students and social environment are expected to be changed to promote technical college electronics student's entrepreneurial intentions, reaching the goal of promoting employment by entrepreneurship.

## **6 CONCLUSION**

This study was motivated by the fact that entrepreneurs aid the economy of a nation. Now the desire was to better understand the ways and means to encourage it among technical college electronics students so that there can be a vibrant pipeline of entrepreneurs among them. In conclusion this research has successfully determined the relationship between self-efficacy and the entrepreneurial intentions of technical college electronics students in South-East, Nigeria. Overall, the researchers found that technical college electronics students have high self-efficacy and some other psychological variables examined in the study. This will indirectly increase their entrepreneurial intentions and these intentions need to be attracted so that upon graduation they will be sufficiently motivated to start small scale Radio, Television and Electronics devices and Circuits workshops. This will help them avert the frustrations of prolonged unemployment and poverty which is currently and negatively affecting young school leavers in Nigeria.

## 7 RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. The social cognitive theory of self-efficacy construct needs to be incorporated into the curriculum and workshops for training technical college electronics students so as enhance their level of self-efficacy.
2. It is recommended that the six psychological constructs examined in this study should be promoted and enhanced to higher levels by the teacher and parent through verbal persuasion and vicarious experience (role modelling) during any interaction with the technical college electronics students.
3. Government should also provide enabling study environment for students through adequate funding of technical colleges where these constructs can be taught to electronics students.
4. Nigerian students, especially technical college electronics students should be exposed to career guidance to build higher entrepreneurship intentions. Greater efforts should be placed in enhancing the attractiveness of entrepreneurship within the educational system through functional vocational career guidance for technical college students.
5. The male and female technical college students should be motivated through conferences, seminars and workshops on the need to understand that gender is not a mediator on entrepreneurial intentions and entrepreneurial success especially for electronics students. Through these seminars teachers and parents should emphasize the importance for students to understand that building sufficient confidence in their area of specialty and taking calculated risks is the key for a successful business career. And that whether male or female, every student must work hard to achieve success in his/her social, educational and moral development in the society.

## REFERENCES

- Audu, R., Kamin, Y. B. and Balash, F. (2013). Technical vocational education: as a veritable tool for eradicating youth unemployment. *Journal of Humanities and social sciences*, 8(2), 10-17.
- Bandura, A. (1977). Self-efficacy: towards a unifying theory of behavioural change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman & Co.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 1-36.
- Bandura, A. (2012). Psychologists and their theories for students (Ed.) Kristine Krapp, Detroit Gale, 2005. *Gale virtual reference library web*, 1: 36-66
- Baughn, C., Cao, J., Le, L., Lim, V. and Neupert, K. (2006). Normative, social and cognitive predictors of entrepreneurial interest in china, Vietnam and the Philippines. *Journal of Developmental Entrepreneurship*, 11(1), 57-77.
- Borchers, A. and Park, S. H. (2010). Understanding entrepreneurial mindset: A study of entrepreneurial self-efficacy, locus of control and intent to start a business. *The Journal of Engineering Entrepreneurship*, 1(1), 51-62.
- Boyd, N. G. and Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 18(2), 63-77.
- Brockner, J., Higgins, E. T. and Low, M. B. (2004). Regulatory focus theory and the entrepreneurial process. *Journal of Business Venturing*, 19: 203-220.
- Campo, J. L. M. (2011). Analysis of the influence of self-efficacy on entrepreneurial intentions. *Prospect*, 9(2), 14-21.
- Carter, N. M. and Brush, C. G. (2004). Gender: demographic characteristics of the entrepreneur. In W. B., Gartner, K. B., Shaver, N. M., Carter and P. D., Reynolds (Eds.), *Handbook of Entrepreneurial Dynamics* (pp. 12-25). California: Sage Publications.
- Chen, G., Gully, M. S. and Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4(1), 62-83.
- Chen, C. C., Greene, P. G. and Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13(4), 295-316.
- Cox, L. W., Mueller, S. L., and Moss, S. E. (2002). The impact of entrepreneurship education on entrepreneurial self-efficacy. *International Journal of Entrepreneurship Education*, 1(2), 229-247.
- Drost, E. A. (2010). Entrepreneurship intentions of business students: Implication for education: advances in management. Los Angeles ca 90032, USA. *Economic Review*, 3(7), 519-535.
- Dike, V. E. (2009). Addressing youth unemployment and poverty in Nigeria: A call for action, not rhetoric. *Journal of Sustainable Development in Africa*, 11(3), 129-151
- Federal Republic of Nigeria. (2004). *National policy on education*, 4<sup>th</sup> edition. Lagos: NERDC press.

- Forbes, D. P. (2005). The effects of strategic decision making on entrepreneurial self-efficacy. *Entrepreneurship Theory and Practice*, 29(5), 599–626.
- Golightly, T. R. (2007). *Defining the components of academic self-efficacy in MAVAJO American Indian high school student*. Retrieved on 4<sup>th</sup> October 2010 from <http://contentdm.lib.byn.edu/ETD/image/etd1592.pdf>.
- Haan, H. C. (2006). *Training for work in the informal micro-enterprise sector. Fresh evidence from sub-Saharan Africa*. Dordrecht, The Netherlands: Springer.
- Hackett, G., Betz, N., Casas, J. and Rocha-Sinh, I. (1992). Gender, ethnicity and social cognitive factors predicting achievement. *Journal of Counselling Psychology*, 39, 527-538.
- Krueger, N. F. (2005): *Handbook of entrepreneurship research: An interdisciplinary survey and introduction (Eds)*. Springer.
- Krueger, N. F. (2000). The cognitive infrastructure of opportunity emergence. *Entrepreneurship Theory and Practice*, 24(3), 5-23.
- Lent, R., Brown, S. and Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122.
- Liñán, F. and Rodríguez, J. C. (2004): Entrepreneurial attitudes of Andalusian university students. *44th ERSA Conference, Porto (Portugal)*, 25-29 August.
- Markman, G. D., Balkin, D. B. and Baron, R. A. (2002). Investors and new venture formation: The effects of general self efficacy and regretful thinking. *Entrepreneurship Theory and Practice*, 27(2), 149-165.
- Mazzarol, T., Volery, T., Doss, N. and Thein, V. (1999). Factors influencing small business start up. *International Journal of Entrepreneurial Behaviour and Research*, 5(2), 48-63
- McGee, J., Peterson, M., Mueller, S., Sequeira, J. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship Theory and Practice*, 965-988
- Mohd, R., Yahya, K. K., and Kamaruddin, B. H. (2012). The moderating effect of environment on the relationship between self efficacy and entrepreneurial orientation among Malay SMEs in manufacturing industry. *Cambridge Business and Economics Conference, United Kingdom*.
- Mueller, S. L. and Dato-on, M. C. (2008). Gender role orientation as a determinant of entrepreneurial self efficacy. *Journal of Development Entrepreneurship*, 13(1), 3-20.
- NABTEB. (2004). *Syllabus for engineering trade for the national technical certificate examination level*. Benin City: National Business and Technical Examination Board.
- National Board for Technical Education. (2003). National technical certificate (NTC) and advanced national technical certificate (ANTC) programmes in radio, television and electronics devices and circuits works curriculum and module specifications.
- Nworgu, B. G. (2015). *Educational Research. Basic issues and methodology*. (Third Edition). Nsukka, Nigeria: University Trust Publishers.
- Ogunleye, A. J. and Osagu, J. C. (2014). Self-efficacy, tolerance for ambiguity, and need for achievement as predictors of entrepreneurial orientation among entrepreneurs in Ekiti State, Nigeria. *European Journal of Business and Management*, 6(17), 240-250.
- Ogbuanya, T. C., Chukwu, C., & Orji, C. T. (2020). Apprenticeship System and Labour Supply of Electrical Installation Artisans in Enugu State, Nigeria. *Journal of Technical Education and Training*, 12(2), 1-11.
- Olelewe, C. J., Doherty, F.V., Orji, C. T., & Idowu Aneyo (2021). Effects of Innovative Pedagogy Integration in Electrical Installation and Maintenance Works in Technical Colleges in Enugu and Lagos States. *International Journal of Electrical Engineering Education*. DOI: 10.1177/0020720921997051
- Okorie, J. U. (2000). *Developing Nigeria workforce*. Calabar: Environs Publishers.
- Okoro, M. O. (2006). *Principles and methods of vocational and technical education*. Nsukka: University Trust Publishers.
- Okoye, K. R. E. (2013). Technology and vocational education and training as intervention mechanism for global competitiveness and wealth creation. *A lead paper presented at the Annual Faculty Conference of the Faculty of Education, University of Nigeria, Nsukka*. Held at the Faculty of Education New Lecture Theatre.
- Orji, C. T., (2015). Effect of problem based instructional strategy on achievement of students in electronic work in technical colleges in Enugu State. *Master's Thesis, University of Nigeria, Nsukka*.
- Orji, C. T., & Ogbuanya, T. C. (2020). Mediating Roles of Ability Beliefs and Intrinsic Motivation in Problem-based Learning and Practical Skills Engagement Relations among Electrical/Electronic Education Undergraduates. *Innovation in Education and Teaching International*. <https://doi.org/10.1080/14703297.2020.1813188>.

- Orji, C. T., & Ogbuanya, T. C. (2018). Effectiveness of Problem-based and Lecture-based Learning Environments on Students' Achievements in Electronic Works in Technical Colleges in Nigeria. *International Journal of Electrical Engineering Education*, 55(4): pp. 334-353, DOI: 10.1177/0020720918773983.
- Osuala, E. C. (2004). *Foundations of vocational education*. Enugu: Cheston Agency Ltd.
- Osuala, E. C. (2004). *Principles and practice of small business management in Nigeria: A didactic approach*. Enugu: Cheston Agency Ltd.
- Owoseni, O. O. (2014). The influence of some personality factors on entrepreneurial intentions. *International Journal of Business and Social Science*, 5(1), 278-284.
- Phan, P. H., Wong, P. K. and Wang, C. K. (2002). Antecedents to entrepreneurship among University Students in Singapore: Beliefs, Attitudes and Background. *Entrepreneurship Theory and Practice*, 10(2), 151-174.
- Rae, D. (2007). *Entrepreneurship: from opportunity to action*. New York: Palgrave Macmillan.
- Schwarzer, R. and Jerusalem, M. (2004). General self-efficacy scale. In S. Salek (Ed.). *Compendium of quality of life instruments* (Vol.6, section 2A:1) [CD-ROM]. Cardiff, Wales: *Centre for socioeconomic Research, Cardiff University*. Haslemere, England: Euromed Communications [CD-ROM publication, without page numbers].
- Scherer, R. S., Brodzinski, J. and Wiebe, F. A. (1990). Entrepreneurship career selection and gender: A socialisation approach. *Journal of Small Business Management*, 28(2), 37-44.
- Seyi, T., Nurdan, C. and Serkan, D. C. (2012). Evaluating entrepreneurship intentions of vocational high school pupils based on self-efficacy concept. *Procedia Social and Behavioural Science*, 8th International Strategic Management Conference, 58: 934-943.
- Sequeira, I. M., McGee, J. E., and Mueller, S. L. (2005). An empirical study of the effect of network ties and self efficacy in entrepreneurial intentions and nascent behaviour. *In proceedings of southern management association on teaching. Charleston, South Carolina*.
- Shane, S., Locke, E., and Collins, C. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 257-279.
- Stajkovic, A. D., and Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124: 240-261
- Urban, B., Van Vuuren, J. J. and Owen, R. (2008). Antecedents to entrepreneurial intentions: Testing for measurement invariance for cultural values, attitudes and self-efficacy beliefs across ethnic groups. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 6(1), 1-9.
- Wilson, F., Kickul, J. and Marlino, D. (2007). Gender, entrepreneurial self-efficacy and entrepreneurial career intentions: Implication for entrepreneurship education. *Entrepreneurship Theory and Practice*, 31(3), 387-406.
- Zhao, H., Seibert, S. E. and Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265-1272.