International Journal of Research and Review
Volume 11; Issue: 11; November 2024
Website: www.ijrrjournal.com
Research Paper *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

Differential Gender Effect of Technical and Vocational Education Students' Human Capital on Long-term Economic Growth in Nigeria

AIGBODUWA, Stephen Ayemwenre[1], OGBEBOR, Samuel Osamede[2], ENESI, Festus[3]

[1]Department of Building and Architectural Technology, School of Technical Education, Federal College of Education (Technical) Ekiadolor, Benin, Edo State, Nigeria.
[2]Department of Vocational and Technical Education, Faculty of Education, Ambrose Alli University (AAU), Ekpoma, Edo State, Nigeria.
[3]Department of Building, Ambrose Alli University (AAU), Ekpoma, Edo State, Nigeria.

Corresponding Author: AIGBODUWA, Stephen Ayemwenre

DOI: https://doi.org/10.52403/ijrr.20241116

ABSTRACT

From a gender view point, this study examines the relationship between the human capital of technical and vocational education students and the fundamental principles of long-term economic growth in Nigeria. The study used a correlational survey research approach. The study was directed by four research questions, and four null hypotheses were developed. The population for the study consisted of all 400 level undergraduate students (N = 286) of technical and vocational education in Federal and State-owned Universities in South-South geopolitical zone of Nigeria. The population was of a manageable size, thus there was no sampling. Data was gathered via a questionnaire. Three research experts- two from Ambrose Alli University in Ekpoma, the Department of Vocational and Technical Education, and one from the Measurement and Evaluation University of Benin in Benin City, Edo State validated the instrument. The instrument's dependability was assessed using Cronbach alpha reliability, and a reliability coefficient of 0.85 was found. In order to address these inquiries, bivariate correlation was utilized. Multiple regression analysis and analysis of variance were used to examine the hypotheses. The results showed that, fundamental values and both general and particular human capital were positively correlated long-term growth. Students in technical and vocational education, whether male and female, encounter nearly the same kinds of human capital overall.

Keywords: *Technical and vocational education, Differential gender effect, Human capital, Long-term economic growth.*

INTRODUCTION

Sustainability, as defined by the World Environmental Education Congress and as described by Edokpolor and Owenvbiugie (2017), is the capacity to satisfy individual needs without endangering the capacity of future generations to satisfy their own needs. In the context of economics, growth is a particular process that enhances people's living conditions, sense of self, and level of freedom in an effort to improve the quality of their lives (Todaro & Smith, 2011). Integrating these two concepts, long-term growth is characterized by the ongoing and gradual expansion of a specific economy together with improvements in the social,

economic, and political conditions of present and future generations (Kurya & Hassan, 2007).

Perhaps for this reason, Hardi (1997) contended that long-term growth is a process of continuous evolution in which individuals take steps to build a society that meets their current needs without endangering the capacity of future generations to do the same. In line with these conceptual clarifications, long-termed economic growth that fosters self-sufficiency, economic competitiveness, and a higher standard of living characterizes the long-term growth of the Nigerian economy (Ekpenyong & Edokpolor, 2015). Sen (1999) underlined that if a person is unable to make their own judgments or is forced to live in abject poverty and ignorance, they are never really free. Consequently, education and training for skill development (such as technical and vocational education) are unavoidable if the SDGs are to be fully achieved by the present and future generations.

In Nigeria, postsecondary education in technical and vocational education (TVE) is crucial to the country's competitiveness both at home and abroad. As the cornerstone of industries like manufacturing and telecommunications, it is vital to the operation of the modern global economy. As the world becomes increasingly interconnected and reliant on technological advancements, there is an increasing need for postsecondary institutions to provide technical and vocational education that is both flexible and well-structured. This global tendency is also present in Nigeria, a country well-known for its abundant natural resources and growing populace, because it knows how important it is to produce qualified people in technical and vocational education to support both economic growth and technological innovation, Nigeria's government has promoted technical and vocational education (Okeke, 2019). But as we've tried to teach technical and vocational education courses in the classroom, we've noticed that students' interests in the kinds of real-world learning activities that will help them become entrepreneurs and lifelong learners after graduation vary depending on their gender.

The word "gender" is generally used to characterize a social construct that creates and differentiates status and roles between men and women, particularly with regard to how each gender contributes to, engages with, and is compensated by the economy and most social institutions, according to Ametefe and Ametefe (2007). Given their apparent disinterest in participating in hands-on learning activities, it is plausible that women represent a smaller percentage of students worldwide in technical and vocational education programs. It is disheartening to observe how little enthusiasm women show in participating in hands-on learning, even though more women than males are studying technical and vocational education.

Indeed, as demonstrated by Carter and Silva (2010), women continue to lag behind men in every aspect of the career ladder, beginning with their entry-level positions. Several studies have found that women's poor standing in the workforce is mostly caused by disparities in the accumulation of human capital, with women who have the same educational attainment as males typically achieving similar incomes or career position (Kuépié, 2016). Women's substantial reproductive contribution reduces their productivity in the workplace and investment in human capital (Edokpolor, 2019).

Due to the fact that few women hold positions as vice chancellors, rectors, provosts, business owners, top executives, or business owners, gender discrepancies among students studying technical and vocational education are an issue not only in Nigeria but globally (Morley, 2013). One strategy to promote gender neutrality in technical and vocational education is, of course, to have female instructors who will vocally persuade female students or who will give them good support and feedback. However, as male academics typically

dominate technical and vocational education (TVE), this currently poses a serious difficulty.

To truly achieve this goal, "invisible barriers" that prevent women from pursuing entrepreneurship and lifelong learning activities must be addressed via technical and vocational education and training (TVET) and higher education. This is more indicative of the gender differences in the human capital of students majoring in technical and vocational education, which contributed to the long-standing belief that women had less opportunity to advance the cause of long-term growth.

Human capital theory (Becker, 1993) and social feminist theory (Johnsen & McMahon, 2005) served as the study's theoretical foundations. Given the mounting amount of evidence (e.g., Omotayo, 2015; Sanyaolu & Lawal, 2017; Osoba & Tella, 2017) that links human capital to the Nigerian economy's ability to grow sustainably. The conventional definition of human capital is the knowledge and skills of individuals (Organization for Economic Co-operation and Growth, as referenced in Edokpolor, 2019). Put another way, it refers to a person's productive attributes and characteristics. Returns are a type of capital that comes from deliberate investment, and knowledge and skills acquired through education and training are what make people successful (Schultz, 1961). Investments in formal and informal education and training, according to Psacharopoulos and Woodhall (1985), boost productivity by giving people the information, abilities, motivation, and attitudes needed for social and economic advancement. Two primary categories have been established for general and specific human capital (Ribbens & Houle, 2003). Perepeikin, Perepelkina, and Morozova (2016) state that a person's knowledge and skills, which are adaptable to a range of tasks, comprise their overall human capital. This kind of human capital is usually measured by variables including age, previous work experience, formal education, and past entrepreneurial experience (Gimeno, Folta, Cooper, and Woo, 1997). Therefore, it could be very beneficial to students' career preparation to have the opportunity to participate in hands-on learning activities through the study of TVE, such as feasibility studies, technical layout, simulation exercises, role playing, teaching practice exercises, industrial training experiences, field trips, and case studies.

On the other hand, "specific human capital" is defined as skills and knowledge relevant to finishing a single task (Seghers, Manigart & Vanacker, 2012). This type of human capital is commonly measured using items such as cognitive ability and past knowledge (Shane & Venkataraman, 2000). Of course, prior experience with TVE, fault tracing, materials, accessories, taking risks, and negotiating contracts could potentially be very helpful in encouraging students to pursue academic and entrepreneurial careers after graduation, providing them with access to basic survival necessities such as food, shelter, and medical care. Men and women can produce distinct human capital because of their disparate experiences, according to the study's authors, and this can affect the long-term expansion of the Nigerian economy. Men and women have different information and skills, and these differences have a big influence on whether or not they desire to pursue lifelong learning and entrepreneurship. This implies that by using certain knowledge and abilities they have acquired, students can participate in entrepreneurial and lifelong learning activities.

Statement of the problem

Similar to all other UN members, Nigeria also ratified the 17-goal, 169-objective, and 230-indicator UN 2030 Agenda for Long-term Growth in September 2015. Particular emphasis was placed on the agenda's goals 4 and 5, which stressed the need of attaining gender equality, empowering all women and girls, and guaranteeing inclusive and equitable quality education. As per the

Federal Republic of Nigeria (FRN, 2017), the attainment of Goal 4 of the agenda requires the following: the acquisition of basic and advanced skills; greater and more equitable access to technical and vocational education and training as well as higher education; lifelong learning; and the values, knowledge, and abilities needed to perform well and participate in society. Goal 5 seeks to end all types of violence and discrimination against women and girls, including harmful practices, violence committed by intimate partners, sexual violence, and harmful customs like female genital mutilation and child marriage. This will enable women and girls to realize their full potential. Furthermore, the FRN noted that Goal 5 of the agenda seeks to guarantee women's equal participation in political, economic, and public life as well as their improved access to paid employment, sexual and reproductive health, and reproductive rights. It also aims to ensure that women receive proper recognition for their unpaid work, have meaningful decision-making power in both the public and private spheres, and have full access to productive resources. These aforementioned goals provide context for the necessity for the current research, which attempts to investigate the relationship between students' human capital in technical and vocational education (TVE) and the long-term growth of the Nigerian economy from a gendered standpoint.

Purpose of the study

The general purpose of the study is to investigate the relationship between Technical and vocational education (TVE) students' human capital and core values of long-term growth from a perspective of gender in the federal and state-owned universities in south-south zone of Nigeria.

Specifically, the study determined;

1. In terms of gender, TVE students encounter various forms of general human capital.
2. There are distinct forms of gender-specific human capital among TVE students.
3. The general human capital disparity effect on the long-term growth of the Nigerian economy among TVE students by gender.
4. The impact of gender differences in human capital among TVE students on the long-term economic growth of Nigeria.

Research questions

The following research questions guided the study:

Do male and female technical and vocational education students experience different types of general human capital?

Do male and female technical and vocational education students experience different types of specific human capital?

Do differences in both male and female technical and vocational education students' general human capital have a differential effect on long-term growth of Nigerian economy?

Do differences in both male and female technical and vocational education students' specific human capital have a differential effect on long-term growth of Nigerian economy?

Hypotheses

The following null hypotheses were tested at .05 level of significance:

Male and female technical and vocational education students experience different types of general human capital.

Male and female technical and vocational education students possess different types of specific human capital.

Differences in both male and female technical and vocational education students' general human capital have a significant impact on core values of long-term economic growth.

Differences in both male and female technical and vocational education students' specific human capital have a significant

impact on core values of long-term economic growth**.**

Method of Study

To accomplish the particular goals of the study, a cross-sectional survey design that makes use of a correlational survey research methodology was utilized. a sample of 286 technical and vocational education students from federal and state universities in the geopolitical zone of southern and southern Nigeria (213 males and 73 females). Because of the author's institution's location and the availability of a sufficient number of study participants, this geopolitical zone in Nigeria was chosen for the research. Since the population was of a manageable size, no sampling techniques were employed. The instrument for data collection was a self-constructed questionnaire adapted from (Edokpolor, 2019) to suit the study. The instrument consists of eight items of general human capital, five items of specific human capital, and three items of core values of long-term economic development, totaling 16 items. The instrument was validated by three research experts, two from the Department of Vocational and technical education, Ambrose Alli University, Ekpoma and one in Measurement and Evaluation University of Benin, Benin City, both in Edo state. The instrument covers types of general human capital, types of specific human capital, and core values of long-term economic growth. The instrument used had 4-point scale of 1 (very low extent) to 4 (very high extent), which was administered on 40 TVE students to determine its reliability. The result showed that the instrument was reliable with Cronbach's alpha coefficient of $\alpha = .85$. The bivariate correlation, analysis of variance, and multiple regressions were applied for the data analysis.

Data analysis

The results of the data analyzed are presented in Tables 1 to 5

Table 1: ***Mean, Standard Deviation, and Bivariate Correlation of the Study Variables***

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	FS	3.31	.331	1														
2	PEE	3.69	.432	.492**	1													
3	SE	3.94	.571	.351**	.209**	1												
4	RP	3.49	.446	.293**	.148**	.421**	1											
5	TPE	3.29	.586	.347**	.267**	.061	.169**	1										
6	ITE	3.94	.356	.297**	.243**	.001	.028	.396**	1									
7	TV	3.65	.547	.296**	.198**	.127**	.071	.141*	.338**	1								
8	CS	3.39	.562	.265**	.049	.282**	.189**	.057	.274**	.399**	1							
9	PKTVE	3.31	.850	.097	.189**	.215**	.119*	.072	-102*	-.054	-019	1						
10	PKFT	2.95	.987	.076	.217**	.168**	.051	.026	-.110*	-.076	-.096	.876**	1					
11	PKM	2.72	1.097	.118*	.138**	.292**	.187**	-.009	-.169**	-.033	.026	.814**	.752**	1				

12	PKA	2.30	1.093	.116*	.136**	.185**	-.008	-.159**	-.031	-.031**	.027**	.816**	.750**	.831**	1			
13	PKRT	2.32	1.131	.058	.108*	.225**	.169**	.044	-.096	-.037	-.018	.790**	.746**	.843**	.863**	1		
14	PKNC	2.36	1.092	.089	.150**	.154**	.079	-.099	-.028	-.028	.010	.756**	.776**	.704**	.754**	.842**	1	
15	CVLG	2,24	.957	.042	.122*	.131*	.116*	.073	-.022	0.33	.019	.711**	.682**	.741**	.778**	.771**	770**	1

Note. N = 286, **FS** = feasibility study; **EIEE** = Project Estimate Exercise**; SE** = simulation exercise; **RP** = Role-playing; **TPE** = Teaching Practices Exercise**; ITE** = Industrial Training Experience**; TV** = Training Visit**; CS** = Case Studies; **PKTVE** = Prior Knowledge of TVE**; PKFT** = Prior Knowledge of Fault Tracing; **PKM** = Prior Knowledge of Material**; PKA** = Prior Knowledge of Accessories; **PKRT** = Prior Knowledge of Risk Taking; **PKNC** = Prior Knowledge of Negotiating Contract**; CVLG** = Core Values of Long-term Growth.

Table 1's findings revealed that while students majoring in TVE general human capital ranged from 3.29 to 3.94, their specialized human capital ranged from 2.32 to 2.95. The overall mean response of students studying TVE to a question about the fundamental principles of long-term economic growth is 2.24. The correlation coefficient between variables, which ranged from.001 to.876, was also displayed in the table.

Testing of the hypotheses

The hypotheses data testing was carried out using analysis of variance and multiple regression statistics.

Hypothesis 1: Male and female technical and vocational education students experience different types of general human capital.

Table 2. ***Summary of Analysis Of Variance on General Human Capital Based on Gender***

General Human Capital									
		Male (n =213)		**Female (n = 73)**					
		M	**SD**	**M**	**SD**	**SS/MS**	**F**	**P**	**Decision**
1	Feasibility study	3.91	.487	3.97	.228	1.313	12.672	.000	Sig.
2	Installation estimate exercise	3.61	.578	3.78	.464	1.431	5.672	.018	Sig.
3	Simulation exercise	3.20	.694	3.52	.517	3.272	9.890	.003	Sig.
4	Role-playing	3.27	.632	3.37	.503	1.486	5.032	.020	Sig.
5	Teaching practices exercise	3.38	.717	3.43	.524	.741	2.214	.137	Ns
6	Industrial training experience	3.38	.579	3.53	.506	1.988	5.782	.017	Sig.
7	Training visit	3.32	.654	3.39	.484	.179	.610	.438	Ns
8	Case studies	3.08	.682	3.32	.467	1.337	4.273	.034	Sig.

Note. ***df*** **= 284, SS = sum of squares; MS = mean of squares; Sig. = significant;** ***ns*** **= not significant.**

Table 2's findings revealed that while two types of general human capital are not statistically significant, six types are statistically different between male and female students of TVE (F = 4.273-12.672; p =.000-.034). As a result, this study partially supports Hypothesis 1.

Hypothesis 2: Male and female technical and vocational education students possess different types of specific human capital.

Table 3. ***Summary of Analysis Of Variance on Specific Human Capital Based on Gender***

Specific Human Capital									
		Male (n =213)		**Female (n = 73)**					
		M	**SD**	**M**	**SD**	**SS/MS**	**F**	**P**	**Decision**
9	Prior knowledge of TVE	3.28	.672	2.50	.731	55.756	111.152	.000	Sig.
10	Prior knowledge of fault tracing	3.19	.723	2.22	.940	76.808	99.331	.000	Sig.
11	Prior knowledge of material	3.19	.823	1.95	.987	114.563	128.763	.000	Sig.

12	Prior knowledge of accessories	3.07	.872	1.87	.1047	115.896	116.726	.000	Sig.
13	Prior knowledge of risk taking	3.23	.850	2.40	.982	105.125	115.173	.000	Ns
14	Prior knowledge of negotiating contract	3.19	.881	2.02	.921	104.724	114.261	.000	Sig.

Note. *df* = 284, SS = sum of squares; MS = mean of squares; Sig. = significant.

According to the findings in Table 3 (F = 99.33 - 128.763; P =.000), there are substantial differences between male and female TVE students in regard to the six forms of particular human capital. Additionally, the table shows that male students have different human capital than female students. As a result, Hypothesis 2 is confirmed.

Hypothesis 3: Differences in both male and female technical and vocational education students' general human capital have a significant impact on core values of long-term economic growth.

Table 4. ***Multiple Regression of General Human Capital on Core Values of Long-term Economic Growth.***

		General Human Capital									
		Male[a]					Female[b]				
		B	SE	B	T	Sig	B	SE	B	T	Sig
(Constant)		.615	.451				.400	1.035		.386	.700
1	FS	.049	.158	.033	.311	.758	-.167	.203	-.051	-.826	.406
2	PEE	-.087	.141	-.079	-.667	.492	.346	.102	.201	3.472	.002
3	SE	.023	.109	.024	.223	.824	.402	.096	.273	4.160	.000
4	RP	-.143	.126	-.122	-1.228	.221	.187	.093	.134	2.158	.034
5	TPE	.273	.114	.279	2.506	.013	.037	.092	.023	.387	.678
6	ITE	.197	.110	.196	1.778	.076	-.132	.094	-.086	-1.436	.161
7	TV	.127	.133	.116	1.064	.287	-.074	.091	-.047	-.786	.432
8	CS	.349	.110	.323	3.157	.003	-.201	.102	-.123	-1.973	.060

Note. FS = feasibility study; **PEE** = Project Estimate Exercise; **SE** = Simulation exercise; **RP** = Role-playing; **TPE** = Teaching Practices Exercise; **ITE** = Industrial Training Experience; **TV** = Training Visit; **CS** = Case Studies. [a]R^2 = .456; adjusted R^2 = .420; F (8.99) = 10.214 (P = .000). [b]R^2 = .196; adjusted R^2 = .171; F (8,259) = 7.851 (P = .000).

According to the results shown in Table 4, both male and female students studying TVE were statistically significant in the overall model; male students had a F (8, 99) value of 10.214 and female students had a F (8, 259) value of 7.851. The corrected R2 showed 46.2% and 20.3% for male and female students, respectively, indicating that male students are more likely than female students to experience modifications or deviations from the fundamental principles of long-term economic growth. The Table revealed, however, that male and female students significantly differed in four forms of general human capital, while male and female students significantly differed in just one category of general human capital.

***Hypothesis 4*:** Differences in both male and female technical and vocational education students' specific human capital have a significant impact on core values of long-term economic growth.

Table 5. ***Multiple Regression of Specific Human Capital on Core Values of Long-term Economic Growth.***

		General Human Capital									
		Male[a]					Female[b]				
		B	SE	B	T	Sig	B	SE	B	T	Sig
(Constant)		.327	.218		1.507	.133	.840	.128		6.568	.000
9	PKTVE	.186	.092	.175	2.013	.048	-.160	.120	-.132	-1.241	.216
10	PKFT	.209	.097	.204	2.193	.048	.083	.076	.104	1.123	.264

11	PKM	.129	.086	.147	1.441	.032	.123	.062	.162	2.017	.046
12	PKA	.172	.087	.204	1.942	.153	.262	.060	.362	4.396	.000
13	PKRT	.211	.079	.253	2.702	.056	.246	.055	.317	4.431	.000
14	PKNC	.210	.079	.254	2.605	.009	.247	.056	.318	4.432	.000

Note. **PKTVE** = Prior Knowledge of TVE; **PKFT** = Prior Knowledge of Fault Tracing; **PKM** = Prior Knowledge of Material; **PKA** = Prior Knowledge of Accessories; **PKRT** = Prior Knowledge of Risk Taking; **PKNC** = Prior Knowledge of Negotiating Contract; **CVLG** = Core Values of Long-term Growth. [a] R^2 = .6650; adjusted R^2 = .662; F (6, 103) = 40.879 (p = .000). [b]R^2 = .541; adjusted R^2 = .521; F (6, 264) = 61.201 (p = .000).

According to the findings shown in Table 5, there was a statistically significant relationship between the possessed specific human capital and the fundamental principles of long-term economic growth for both male and female TVE students (F (6, 103) = 40.879, p .001) and female TVE students (F (6, 264) = 61.201, p .001). The adjusted R2 of male students (65.4%) is larger than that of female students (54.7%), indicating that changes or variances in core values of long-term economic growth, driven by particular human capital, are more likely to occur in male students than in female students. Male students did, however, exhibit statistically significant disparities in four distinct human capital types, but female students did as well in four distinct human capital types.

DISCUSSION OF FINDING

This study aims to investigate the relationship between students pursuing an education in TVE and the long-term growth of the Nigerian economy, with a particular focus on gender issues. Along with the study of long-term economic growth, the research study backs the principles of the human capital and social feminist theories. Through the use of descriptive statistics such as mean, standard deviations, and bivariate correlation, the study found a positive relationship between higher levels of both general and specialized human capital and long-termed economic growth. These results align with most research that identified a relationship between human capital and the Nigerian economy's ability to grow steadily (Ekperiware, Olatayo, & Egbetokun, 2017; Idenyi, Eze, & Ogbonna, 2016; Osoba & Tella, 2017; Edokpolor, 2019). Additionally, the inquiry was designed to evaluate four hypotheses. The development of hypothesis 1 sought to ascertain whether different types of general human capital are encountered by male and female students of TVE.

Hypothesis 2 was designed to investigate whether there are differences in the categories of general human capital between male and female students studying TVE. Hypothesis 3 was also established to investigate if differences between male and female students' general human capital in TVE will have a substantial impact on long-term economic growth. More research was done on Hypothesis 4 to see if differences in human capital between male and female students studying TVE would have a significant effect on long-term economic growth.

Hypothesis 1 partially validates the study's findings since male and female students studying TVE gain almost similar kinds of general human capital. Because of this, the evidence supporting this conclusion is scant; yet, it is nonetheless consistent with the central claim of social feminism, which holds that "women and men have different experiential backgrounds and different ways of thinking" (Carter & Williams, 2003). Furthermore, a social feminism tenet that maintains that although men and women acquire distinct types of general human capital, neither type is intrinsically superior to the other in terms of exposure to learning experiences is supported by the finding from Hypothesis 1 that male and female students acquire nearly identical types of general human capital (Fischer, Reuber & Dyke, 1993).

The study's results were better explained by the second hypothesis, which holds that male students studying TVE possess greater levels of specialized human capital than their female counterparts. This result is in line with liberal feminism's general tenets, which are often contrasted with social feminism's claim that women have been denied access to essential resources (like social networks and role models) that would have enabled them to develop higher levels of human capital (like creativity, innovation, and problem-solving abilities). The abolition of these discriminatory practices will provide women studying TVE with equal opportunities to contribute to Nigeria's long-term growth (Carter & Williams, 2003).

The third hypothesis states that there is a greater likelihood of changes or deviations from the basic principles of long-term growth brought about by general human capital among male students of TVE than among female students. This study adds credence to the general social feminism thesis that women and men have different thought processes and life experiences (Carter & Williams, 2003). It also supports the social feminist theory, which holds that specific occupational socialization processes are what lead to gender disparities, as stated by Carter & Williams (2003) and Johnsen & McMahon (2005). As to Becker (1964), individuals (including those enrolled in TVE) who possess a higher level of general human capital through both formal and informal education are bound to achieve better outcomes. Since these students use their specialized knowledge and skills to engage in entrepreneurship and lifelong learning activities, it is possible that they would significantly contribute to long-term growth. According to this study, male students studying technical and vocational education have higher levels of general human capital than their female counterparts.

Hypothesis 4 provided support for the study's conclusions, indicating that male students studying TVE are more likely than female students to encounter changes or deviations from the core principles of long-term growth due to the unique human capital. Anandhita and Ariansyah (2018) previously asserted that women's substantial reproductive contributions reduce their productivity and human capital investment at work. According to Basavaraja, Kumar, and Practice (2017), this is the reason why women continue to lag behind males in every step of their careers, beginning with their entry-level positions. Male students studying TVE may be more likely than female students to pursue careers in education and entrepreneurship following graduation since men and women have varying levels due to the fact that TVE students utilized specific skills and knowledge they have acquired to promote quality standard of living, self-esteem, and freedom from social servitude.

CONCLUSION

It appears that human capital and the core ideas of long-term economic growth are strongly correlated, based on the study's findings. The study found that when it came to the development of specific human capital, male and female students studying TVE differed significantly. The survey also found that there are disparities in the basic ideas of long-term development between male and female students studying TVE, with the former gaining more general and specialized human capital.

It follows that implementing conventional teaching methods would help students gain greater access to real-world experiences. It would be advantageous to give equal opportunities for real-life participation to male and female students studying TVE, so they can be exposed to prior knowledge of entrepreneurial experience. Furthermore, by concentrating TVE on apprenticeship programs, both male and female students will receive the knowledge and abilities required to support Nigeria's goal of long-term economic growth**.**

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

1. Stakeholders must pool their resources and invest in TVE to ensure the deployment of standard teaching methodologies that would increase students' access to practical experience.
2. Therefore, it would be imperative that all relevant parties collaborate to fund apprenticeship programs that would equally provide male and female TVE students with the knowledge and skills they need to support Nigeria's long-term growth agenda.
3. In order to expose students to prior knowledge of entrepreneurial experience, it would be imperative that all stakeholders work together to address gender variations among the specific human capital of TVE students. This can be done by giving them equal opportunities to participate in real-life learning activities.

Declaration by Authors
Acknowledgement: None
Source of Funding: None
Conflict of Interest: No conflicts of interest declared.

REFERENCES

1. Ametefe, G. T. D., & Ametefe, M. D. (2007). Re-positioning women education for national Tdevelopment in the 21st century. Journal of Research Development, 8, 68–72. Retrieved from http://globalacademicgroup.com/journals/nard/Gilbert.pdf
2. Anandhita, V. H., & Ariansyah, K. (2018). Gender inequality on the internet access and use in Indonesia: evidence and implications. 2018 International Conference on ICT for Rural Development (IC-ICTRuDev),
3. Basavaraja, M., Sampath Kumar, B. J. J.O.I. S. T. & Practice. (2017). Gender disparities in the use of ICT: a survey of students in urban schools. *5*(4), 39-48.
4. Becker, G. (1964). Human capital: A theoretical and empirical analysis with special reference to education. Chicago, IL: University of Chicago Press.
5. Becker, G. S. (1993). Human capital: A theoretical and empirical analysis with specific reference to education. Chicago, IL: University of Chicago Press.
6. Buchholtz, A. K., Ribbens, B. A., & Houle, I. T. (2003). The role of human capital in post-acquisition CEO departure. Academy of Management Journal, 46, 506–514.
7. Carter, N. M., & Silva, C. (2010). Women in management: Delusions of progress. Harvard Business Review, 88, 19–21.
8. Carter, N. M., & Williams, M. L. (2003). Comparing social feminism and liberal feminism: The case of new firm growth. In J. E. Butler (Ed.), New perspectives on women entrepreneurs (pp. 25– 50). Greenwich, CT: Information Age Publishing.
9. Edokpolor, J. E. (2019). Gender differential effect of business education student's human capital on sustainable economic development. Journal of Educational Research and Practice, 9 (1) 40-54.
10. Edokpolor, J. E., & Owenvbiugie, R. (2017). Technical and vocational education and trainingskills:An antidote for job creation and sustainable development of Nigeria economy. *Problems of Education in the 21st Century*, 75, 535-548
11. Ekpenyong, L. E., & Edokpolor, E. J. (2015). Winning the war against unemployment and poverty in Nigeria: Is there a role for TVET-private sector partnership? The Nigerian Vocational Association Journal, 20, 125–132.
12. Ekperiware, M. C., Olatayo, T. O., & Egbetokun, A. (2017). Human capital and sustainable development in Nigeria: How can economic growth suffice environmental degradation? (Economics Discussion Papers, No. 2017-29). Kiel, Germany: Kiel Institute for the World Economy.
13. Federal Republic of Nigeria (FRN). (2017). Nigeria sustainable development goals (SDGs) indicators baseline report 2016. Retrieved from http://www.ng.undp.org/content/dam/nigeria/docs/SDGs/Nigeria%20SDGs%20Indicators%20 Baseline%20Report%202016.pdf
14. Fischer, E. M., Reuber, A. R., & Dyke, L. S. (1993). A theoretical overview and extension of research on sex, gender, and entrepreneurship. Journal of Business Venturing, 8, 151–168.

15. Gimeno, J., Folta, T., Cooper, A., & Woo, C. (1997). Survival of the fittest: Entrepreneurial human capital and the persistence of underperforming firms. Administrative Science Quarterly, 42, 750–783.
16. Hardi, P. A. (1997). Assessing sustainable development: Principles in practice. Manitoba, Canada: International Institute for Sustainable Development. Retrieved from https://www.iisd.org/pdf/bellagio.pdf
17. Idenyi, O. S., Eze, O. R., & Ogbonna, O. S. (2016). Analysis of the relationship between human capital development and economic growth in Nigeria. European Journal of Accounting, Auditing and Finance Research, 4, 56–71.
18. Johnsen, G. J., & McMahon, R. (2005). Owner-manager gender, financial performance and business growth amongst SMEs from Australia's business longitudinal survey. International Small Business Journal, 23, 115–142.
19. Kuépié, M. (2016). Determinants of labour market gender inequalities in Cameroon, Senegal and Mali: The role of human capital and fertility burden. Canadian Journal of Development Studies, 37, 66–82. doi: 10.1080/02255189.2016.1122580
20. Kurya, U. L., & Hassan, B. (2007). Technical and vocational education for productive and sustainable development in Nigeria. Proceedings of the 20th Annual Conference of the Nigeria Association of Teachers of Technology (NATT), Kaduna, Nigeria.
21. Morley, L. (2013). Women and higher education leadership: Absences and aspirations. London, United Kingdom: Leadership Foundation for Higher Education.
22. Okeke, P. O. (2019). Technical and Vocational Education in Nigeria: Issues and challenges. *Journal of Education and Practice,* 10(70), 85-91.
23. Omotayo, O. A. (2015). Impact of human capital development on economic growth in Nigeria. International Journal of Recent Research in Commerce Economics and Management, 2, 151– 164.
24. Osoba, A. M., & Tella, S. A. (2017). Human capital variables and economic growth in Nigeria: An interactive effect. EuroEconomica, 36, 1. Retrieved from http://journals.univdanubius.ro/index.php/euroeconomica/article/view/3332/4054
25. Perepelkin, V. A; Perepelkina, V. E; & Morozova, S. E. (2016). Evolution of the concept of human capital in economic science. *International Journal of Environment & Science Education*, 11(15), 7649-7658.
26. Psacharopoulos, G., & Woodhall, M. (1985). Education for development: An analysis of investment choices. Oxford, United Kingdom: Oxford University Press. Retrieved from http://documents.worldbank.org/curated/en/477701468137718173/pdf/multi-page.pdf
27. Schultz, T. W. (1961) Education and economic growth. In N. B. Henry (Ed.). Social forces influencing American education. Chicago, IL: University of Chicago Press.
28. Seghers, A., Manigart, S., & Vanacker, T. (2012). The impact of human and social capital on entrepreneurs' knowledge of finance alternatives. *Journal of small Business management*, 50(1),63-86.
29. Sen, A. (1999). Development as freedom. Oxford, United Kingdom: Oxford University Press.
30. Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of Management Review, 25, 217–226.
31. Todaro, M. P., & Smith S. C. (2011). Economic development. Harlow, England: Pearson Education Inc
32. World Environmental Education Congress. (2015). Summary report. Presented at the 8th World Environmental Education Congress, Gothenburg Sweden. Retrieved from http://weec2015.org/wp-content/uploads/2015/08/WEEC2015-Summary-Report.pdf.

How to cite this article: AIGBODUWA, Stephen Ayemwenre, OGBEBOR, Samuel Osamede, ENESI, Festus. Differential gender effect of technical and vocational education students' human capital on long-term economic growth in Nigeria. *International Journal of Research and Review*. 2024; 11(11): 187-197. DOI: *https://doi.org/10.52403/ijrr.20241116*

******