HOUSEHOLD SOCIO-ECONOMIC CHARACTERISTICS AND CHILD'S EDUCATIONAL ATTAINMENT IN NIGERIA: THE ORDERED LOGIT APPROACH

Tochukwu G. Onyechi & Joseph I. Amuka
Department of Economics, Faculty of the Social Sciences
University of Nigeria, Nsukka

Abstract - This study evaluated the effect of household socioeconomic characteristics on a child's educational attainment in Nigeria. The study employed the ordered logistic regression model to address the following research questions: i) how does child attributes like age, disability status, access to health insurance and involvement in child labour affect a child's educational attainment? ii) What are the effects of household characteristics like wealth status, household size and headship of household on a child's educational attainment? The study utilised secondary data which were collected from the UNICEF Multiple Indicator Cluster Survey 2021 for Nigeria. The result revealed that the effects of age on educational attainment decline as children get older. Also, engaging in child labour reduces the possibility of a child attaining primary education but not secondary and tertiary education. Children's access to health insurance, religion, wealth index, residing in a rural area, having a large household size, and having a female-headed household all had a positive effect on the probability of a child attaining primary education but a negative effect on the probability of attaining secondary education. This shows that the effect of socio-economic characteristics of households is felt at higher levels of education than at lower levels of education. This may be explained partly by the basic education policy that supports free education for children in primary and lower secondary educational levels. Following these findings, the study recommends that children should not be allowed to engage in income earning activities and population reduction policies should be implemented to reduce household sizes in Nigeria.

Keywords: Children, Education, Ordered Logit, Socio-economic

Introduction

Prior to the introduction of western education in Nigeria, Nigeria had religious and indigenous forms of education. Religious education was prominent in the Muslim dominated northern part, who taught their children the Quran and Arabic language. These religious educations do not include basic literacy and numeracy skills (Andrew, 2022; United Nations International Children Emergency Fund, 2022). The southern part of the country adopted the traditional mode of learning. This method involved the transfer of survival skills like farming, craftsmanship, and other skills to children according to the needs of society (Andrew, 2022). By 1840, the British through their colonization agenda, introduced western education. Since then, western education has continued to

evolve and spread throughout the country, alongside other informal education methods.

Western education is a crucial aspect of child development. It improves the quality of an individual's life because reading, writing, critical thinking and other relevant skills that an individual needs to survive and to increase their earning potentials, are believed to be developed through exposure to western education. Education has been observed to be a huge human capital investment (Olaniyan, 2011) and normally begins in childhood. Investment in education guarantees, to a large extent, a higher future earning potential for children and higher social status and wellbeing. Despite the observed relevance of education to the development of children, children in Nigeria with similar global educational practices where there are different stages of learning (primary, secondary, and tertiary levels) also encounter unwholesome experiences that result in the child's education being truncated before the attainment of the highest educational level.

Over the years, several education programs have been initiated and implemented in Nigeria, especially, at the primary school level. There was "Universal Basic Education (UBE), introduced in the early 2000's. This educational program is remarkable and has been tagged as the broadest education program in Nigeria (UNICEF, 2022). This program has continued to offer free primary education to children aged between 5 and 11 who are enrolled in public primary schools. Even though this program has over the years boosted primary school enrolment, the number of out-of-school children is considerably high, as the United Nations Educational Scientific and Cultural Organisation [UNESCO (2022)] reported that 20 million Nigerians are out of school. In fact, UNICEF (2022) reported that one out of every five out-of-school children in the world is in Nigeria. This statistic is not only pathetic but also spells doom for a country whose public primary education is compulsory and free. Moreover, a huge number of children have been observed not to have access to basic education, even though basic education is a fundamental right of children (Adeleke & Alabede, 2022; UNICEF, 2022).

Nigeria is reported to have the worst number of out of school children globally (UNICEF, 2022). With a global statistic of about 64 million out of primary school children in 2020, Nigeria's out of school children accounts for about 10.1 million children, who for one reason or the other do not have access to primary school education. Consequently, the hope for achievement of Sustainable

Development Goals (SDG) 4, which is to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all," by the year 2030 appears bleak. There are a myriad of factors that could result in a child not attaining the highest level of education. Some of these factors, which are currently gaining relevance in development literature, could be deliberate or systemic (where children do not have access to education).

Statement of the Problem

Very few studies have been carried out on the effects of socio-economic characteristics on a child's educational attainment in Nigeria while these have been considered in studies in other countries, like Bangladesh in Farah (2016), Ghana by Bruce and Attom (2021), and Ethiopia by Gobena (2018). Factors like a child's age, engagement in child labour, access to health insurance, religion practiced by the household, as well as other household characteristics such as size and headship of the household, are important household characteristics that need to be evaluated in studies on child educational attainment in Nigeria. It is important to note at this point that most studies on educational attainment in Nigeria ignore the ordinal nature of the variable while employing logistic regression. The few studies that employed regression analysis used the multinomial logistic model, which is inappropriate for an ordinal dependent variable. This oversight results in the generation of inefficient regression estimates.

Following these, this study proposes to fill these huge gaps that have been identified in the literature by first casting its nets wide to capture both child attributes and household socio-economic attributes. Secondly, this study employs the ordered logistic regression model to ensure that the regression estimates are unbiased and efficient. This study also uses Nigeria's Multiple Indicators Cluster Survey 2021 round 6, which is the most recent household survey as opposed to Nigeria's Demographic and Health Survey used by previous studies.

Literature Review

To lend theoretical support to this study, the ecological theory of child development, which was developed by Urie Bronfenbrenner, is considered. The theory explains that a child's environment, consisting of family, society and culture, is critical to a child's development. The study used five environmental systems to show how a child's development depends on the systems of

relationships within the child's environment. These systems are: i) the microsystem, which is the system closest to the child, such as family; ii) the mesosystem, which acts as a connecting factor between the child and the microsystem, such as the bond between the parent and the child; iii) the exosystem, which is the larger society; iv) the macrosystem; and v) the chronosystem. Extant literature have tried to discover the reasons for the low participation of children in education with most findings pointing towards household characteristics and child attributes. It is a well-known cliché that family is the smallest unit of life, and so most life-changing decisions like the choice to attend school are taken at the family level. The family composition and structure thus play a huge role in the determination of the life choices of children found within households. These suppositions are backed by studies that have tried to evaluate the effects of different household characteristics on children's school participation rates.

Just like Currie and Goodman (2020) argued that family background is a primary determining factor in the educational achievement of children. Following similar line of thought, Olaniyan (2011) found strong evidence of a delay in school enrolment for children in Nigeria. He also argues that family income status and parents educational background played critical roles in the determination of the school enrolment rate for children in Nigeria. The study also revealed that mothers' education had a greater influence on female children than male children, while male children with educated fathers participated more than their female counterparts. The findings of the study by Kainuwa and Yusuf (2013) demonstrated that parents who are learned and educationally exposed have a higher proclivity towards advancing their children's education given that the household socio-economic status is fairly stable.

A similar outcome is also observed in other countries like Bangladesh, New Zealand, and China, as seen in Farah (2016), McLeod et al. (2018), and Li and Qui (2018), respectively. According to Adeleke and Alabede (2022), the geographical location of the household is a very important factor in the determination of school participation for children. Their findings revealed that most households that are residents in the northern part of Nigeria, like Sokoto, Plateau, Zamfara, Yobe and Taraba, had very low participation in education as compared to their counterparts in the southern part of the country. Thus, geographical locations with a better and improved socio-economic status are

observed to have higher child educational attainment than those areas with lower socio-economic status.

In addition to these, the study conducted by Abdu-Raheem (2015) on the effects of a parent's socioeconomic status and a child's educational achievement confirmed the earlier submission that there could be a positive relationship between them. Okuneye and Obasan (2014) argued that, aside from individual and household characteristics, government expenditure on education is key to fostering a child's educational achievement in Nigeria. Olarenwanju and Olurinola (2019) found that socio-demographic factors such as age, wealth, nature of dwelling, and other well-being indicators such as sources of drinking water and water treatment decisions have a significant effect on individual's educational attainment. Machebe and Ifelunni (2014) asserted that the health status of students are significant in influencing the educational achievement of 180 selected secondary students in Nigeria.

Methods

This study adopted a special form of logistic model known as an ordered or cumulative Logistic model. The ordered Logit model is used when the response or dependent variable is ordinal. This implies that there are more than two categories of the response or dependent variable, which are ordered. This method is appropriate for this study because using the multinomial logistic regression which treats the ordered variable as though it were just nominal leads to inefficiency. This is because, even though the parameters may be unbiased, the coefficient may be insignificant. In ordered Logit, an underlying score is estimated as a linear function of the independent variables and a set of cut-points (Stata.com). The probability of observing outcome i corresponds to the probability that the estimated linear function, plus random error, is within the range of the cut-points estimated for the outcome (Stata.com):

$$pr(outcome_j = i) = \Pr(k_{i-1} < B_1 x_{1j} + B_2 x_{2j} + \cdots B_k x_{kj} + u_j \leq k_i$$

u_j is assumed to be logistically distributed in ordered logit. In either case, we estimate the coefficients $B_1, B_2 \ldots B_k$ together with the cut-point $k_1, k_2, \ldots k_{k-1}$, where k is the number of possible outcomes. Following this model, the ordered logit model for this study is thus expressed as:

In P (educational attainment = no education) = Pr ($3_{no\ education-1} < B_1 cage + B_2 childsagesq + B_3 HHsize + B_4 HHwealthindex + B_5 HHhead + +B_7 fsinsur + B_8 location + B_9 fsdisability + B_{10} Clabour + u_j \leq 3_{primary}$

Where cage is child's age, HH size is the household size, HH wealth index is the household wealth index, HH head is the household head, fs insurance is the child's health insurance, C labour is child labour and fs disability is child disability. The data for the estimation of the above model is sourced from Nigeria's UNICEF Multi Indicator Cluster Survey (MICS round 6). Nigeria's MICS round 6 was published in 2021. Nigeria's MICS 2021 sample frame was drawn from its 2006 population and housing survey. It is a survey of 41532 households carried out with the multi-stage, stratified sampling approach. A total of 39632 household were successfully interviewed. Questionnaires were completed for 22706 children aged 5-17. Two (fs.sav and hh.sav) out of the eight distinct files contained in the MICS round 6 survey were merged using Stata version 15. The fs.sav file contains information about children who are aged between5-17 while the hh.sav file contains information about the household. The econometric analysis for this study was carried out using Stata 15 econometric software.

Results

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Cage	17937	9.063	2.865	5	14
Clabour	17937	.175	.38	0	1
Fselevel	17937	.893	.728	0	4
Fsdisability	17937	.167	.373	0	1
Location	17937	.303	.46	0	1
HHSEX	17937	.852	.355	0	1
Hhsize	17937	6.696	3.196	2	31
windex5	17937	2.693	1.351	1	5

Cagesq	17937	90.355	54.094	25	196
Fsinsurance	17937	1.973	.163	1	2

The descriptive statistics that are presented in table 4.1 shows that the minimum age in the sample is 5 years old while the maximum age in the sample selected for the study is 17 years old. The mean value of 9.063 shows that mean age of children selected for the study is 9 years old. The minimum wealth index is 1 while the maximum is 5. The mean value 2.7 shows that the mean wealth index is the third category. The minimum number of individuals in a household is 2 while the maximum number is 31. The mean value of household size is 6 per household. It is important to note that discussing the mean of categorical variable are unnecessary even though they provide valuable information about the composition of the variable.

Ordered Logistic regression result
Ordered logistic regression

fselevel	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cage	.274	.042	6.49	0	.191	.357	***
0b.clabour	0	.	.	.	.	.	
1.clabour	-.407	.043	-9.38	0	-.493	-.322	***
1b.fsinsurance	0	.	.	.	.	.	
2.fsinsurance	-.241	.095	-2.54	.011	-.427	-.055	**
0b.fsdisability	0	.	.	.	.	.	
1.fsdisability	-.198	.042	-4.68	0	-.281	-.115	***
0b.location	0	.	.	.	.	.	
1.location	-.038	.04	-0.95	.343	-.116	.04	
Hhsize	-.052	.005	-10.00	0	-.062	-.042	***
0b.HHSEX	0	.	.	.	.	.	
1.HHSEX	-.373	.045	-8.25	0	-.462	-.285	***
Cagesq	.011	.002	4.99	0	.007	.016	***
1b.windex5	0	.	.	.	.	.	
2.windex5	.966	.047	20.57	0	.873	1.058	***
3.windex5	1.53	.05	30.80	0	1.433	1.628	***
4.windex5	1.887	.055	34.03	0	1.779	1.996	***
5.windex5	2.316	.065	35.88	0	2.19	2.443	***
cut1	2.274	.217	.b	.b	1.848	2.7	
cut2	6.023	.223	.b	.b	5.586	6.461	

cut3	8.474	.224	.b	.b	8.035	8.913
cut4	14.164	.74	.b	.b	12.713	15.614

Mean dependent var	0.893	SD dependent var	0.728
Pseudo r-squared	0.226	Number of obs	17937.000
Chi-square	8601.287	Prob > chi2	0.000
Akaike crit. (AIC)	29517.280	Bayesian crit. (BIC)	29641.994

*** p<.01, ** p<.05, * p<.1*

From the regression result shown in table 4.1, educational attainment is the response variable. Cut point 1, 2 3 and 4 are the estimated value of the dependent variable when all predictors assume the value zero. It implies that socio-economic conditions that have a value less than -2.274 on the dependent variable would be classified as no educational attainment. Those with value between 2.274 and 6.023 on the dependent variable are classified as primary educational attainment. Socio-economic conditions with a value between 6.023 and 8.474 are classified as having junior secondary educational status. Those with values between 8.474 and 14.164 the dependent variables are classified as senior secondary educational status and tertiary education for values higher than 14.164. The coefficient of the explanatory variables was the same across the four categories of the dependent variable. As a consequence, the study lays more emphasis on marginal effects to see how each of the predictors explains the response variable in all the categories.

Table 4.2 Marginal effects of ordered logistic model   of child's educational attainment

Average marginal effects　　　　　　　　Number of obs　 =　 17,937
Model VCE　: OIM
dy/dx w.r.t. : cage 1.clabour 2.fsinsurance 1.fsdisability 1.location hhsize
1.HHSEX cagesq 2.windex5 3.windex5 4.windex5 5.windex5
1._predict : Pr(fselevel==0), predict(pr outcome(0))
2._predict : Pr(fselevel==1), predict(pr outcome(1))
3._predict : Pr(fselevel==2), predict(pr outcome(2))

4._predict : Pr(fselevel==3), predict(pr outcome(3))
5._predict : Pr(fselevel==4), predict(pr outcome(4))

	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
cage						
_predict						
1	-0.040	0.006	-6.610	0.000	-0.052	-0.028
2	0.013	0.002	7.100	0.000	0.009	0.016
3	0.021	0.003	6.310	0.000	0.014	0.027
4	0.006	0.001	6.270	0.000	0.004	0.009
5	0.000	0.000	1.380	0.167	-0.000	0.000
0.clabour		(base		outcome)		
1.clabour						
_predict						
1	0.061	0.007	9.210	0.000	0.048	0.073
2	-0.022	0.003	-8.020	0.000	-0.027	-0.017
3	-0.030	0.003	-9.680	0.000	-0.036	-0.024
4	-0.009	0.001	-9.700	0.000	-0.010	-0.007
5	-0.000	0.000	-1.400	0.161	-0.000	0.000
1.fsinsurance		(base		outcome)		
2.fsinsurance						
_predict						
1	0.034	0.013	2.610	0.009	0.008	0.060
2	-0.009	0.003	-3.190	0.001	-0.015	-0.004
3	-0.019	0.008	-2.480	0.013	-0.033	-0.004
4	-0.006	0.003	-2.320	0.020	-0.011	-0.001
5	-0.000	0.000	-1.200	0.229	-0.000	0.000
0.fsdisability		(base		outcome)		
1.fsdisability						
_predict						
1	0.029	0.006	4.610	0.000	0.017	0.042
2	-0.010	0.002	-4.260	0.000	-0.015	-0.005
3	-0.015	0.003	-4.740	0.000	-0.021	-0.009
4	-0.004	0.001	-4.880	0.000	-0.006	-0.003
5	-0.000	0.000	-1.360	0.173	-0.000	0.000
0.location		(base		outcome)		
1.location						
_predict						
1	0.005	0.006	0.950	0.343	-0.006	0.017
2	-0.002	0.002	-0.940	0.347	-0.005	0.002
3	-0.003	0.003	-0.950	0.342	-0.009	0.003
4	-0.001	0.001	-0.950	0.343	-0.003	0.001
5	-0.000	0.000	-0.790	0.431	-0.000	0.000
hhsize						
_predict						
1	0.008	0.001	10.060	0.000	0.006	0.009
2	-0.002	0.000	-9.670	0.000	-0.003	-0.002
3	-0.004	0.000	-9.960	0.000	-0.005	-0.003
4	-0.001	0.000	-9.370	0.000	-0.001	-0.001
5	-0.000	0.000	-1.400	0.161	-0.000	0.000
0.HHSEX		(base		outcome)		
1.HHSEX						

_predict						
1	0.053	0.006	8.510	0.000	0.041	0.065
2	-0.014	0.001	-10.060	0.000	-0.017	-0.011
3	-0.029	0.004	-7.950	0.000	-0.037	-0.022
4	-0.010	0.001	-7.340	0.000	-0.012	-0.007
5	-0.000	0.000	-1.390	0.164	-0.000	0.000
cagesq						
_predict						
1	-0.002	0.000	-4.930	0.000	-0.002	-0.001
2	0.001	0.000	4.600	0.000	0.000	0.001
3	0.001	0.000	5.090	0.000	0.001	0.001
4	0.000	0.000	4.920	0.000	0.000	0.000
5	0.000	0.000	1.360	0.174	-0.000	0.000
1.windex5		(base		outcome)		
2.windex5						
_predict						
1	-0.167	0.008	-20.990	0.000	-0.182	-0.151
2	0.099	0.005	19.630	0.000	0.089	0.109
3	0.058	0.003	19.650	0.000	0.052	0.064
4	0.010	0.001	14.250	0.000	0.008	0.011
5	0.000	0.000	1.410	0.159	-0.000	0.000
3.windex5						
_predict						
1	-0.253	0.008	-32.170	0.000	-0.269	-0.238
2	0.128	0.005	26.100	0.000	0.118	0.137
3	0.104	0.004	29.030	0.000	0.097	0.111
4	0.021	0.001	17.670	0.000	0.019	0.023
5	0.000	0.000	1.410	0.158	-0.000	0.000
4.windex5						
_predict						
1	-0.300	0.008	-36.900	0.000	-0.316	-0.284
2	0.131	0.005	27.200	0.000	0.122	0.141
3	0.137	0.004	30.820	0.000	0.129	0.146
4	0.032	0.002	18.230	0.000	0.028	0.035
5	0.000	0.000	1.410	0.158	-0.000	0.000
5.windex5						
_predict						
1	-0.348	0.008	-41.960	0.000	-0.364	-0.331
2	0.120	0.005	23.750	0.000	0.110	0.129
3	0.179	0.006	31.040	0.000	0.168	0.190
4	0.049	0.003	17.980	0.000	0.043	0.054
5	0.000	0.000	1.410	0.158	-0.000	0.000

Note: dy/dx for factor levels is the discrete change from the base level.

The marginal effect for age shows that an increase in age reduces the probability of a child having no education by 4 percentage points. The probability of a child attaining primary education as age increases rises by 1.3 percentage points and increases by 2.1 and 0.6 percentage points for junior secondary and senior secondary respectively. For tertiary education, age has zero effect on the probability of attaining tertiary education. The values of ages square confirms

that there is an increasing effect of age on the probability of a child getting education up to senior secondary level. The marginal effect of child labour shows that a child's engagement in child labour reduces the probability of attaining primary and secondary education but not tertiary education, with the effect being more on junior secondary education. Having health insurance reduces the probability of attaining primary education more than it does without education. Also, child fiscal disability increases the probability of no education and also reduces the probability of a child attaining primary and secondary education.

However, having health insurance has a reverse effect on a child's attainment of junior and senior secondary education. Having a larger household size increases the probability of a child having education but reduces the probability of a child attaining primary, secondary education. The study further revealed that children in female-headed households had an increased probability of having no education, but it had a reductive effect on the attainment of primary and secondary education. All categories of wealth status have a reductive effect on no education but increase the probability of a child attaining primary and secondary education.

Conclusion

This study evaluated the effects of household socio-economic characteristics on a child's educational attainment. The study found that child attributes like child's age, child labour, child's access to health insurance and child's fiscal disability have a statistically significant effect on the educational attainment of children, who are aged between 5-17 years. The study also found that household socio-economic characteristics such as household size, headship of households and family wealth status have a statistically significant effect on the probability of a child getting education. These findings are important, for it revealed how childhood characteristics as well as the socio-economic characteristics of households influence a child's educational outcome. It also shows that these characteristics affect children's educational attainments at higher educational levels than at lower educational levels, except for engagement in child labour. This observed effect may be attributed to the free educational program advanced by UNICEF and UNESCO for governments of different countries to ensure that every child is educated up to junior secondary level. This program is presumed to offset, at the basic level, whatever burden socio-

economic characteristics of households may impose on the child's educational pursuit.

Recommendations

Following the research findings, this study recommends that:

1. Children who are within the age range for attaining primary education should not be allowed to engage in child labour, for such activity reduces their school participation.

2. Having a large household size should be discouraged for households by implementing population reduction policies by the government and creating awareness for households to adopt suitable family planning measures since having a large household size reduces the probability of children attaining secondary and tertiary education.

3. Households whose children do not have access to health insurance should be encouraged to get enrolled in order to boost their child's school participation in the later stages of their education.

4. Disability inclusive educational programs and opportunities should be promoted across schools in Nigeria.

5. Households that are in the lower wealth quintiles should be supported through effective poverty alleviation policies and programs to enable their children to attain higher educational levels.

6. Student loans and grants should be awarded to students to enable them to afford and access higher education.

References

Abduraheem, B. (2015). Parents' socio-economic status as predictor of secondary school students' academic performance in Ekiti State, Nigeria. *Journal of Education and Practice*, *6*(1), 123-128.

Adeleke,R & Alabede,O.(2022). Geographical determinants and hotspots of out of school children in Nigeria. *Open education studies*, 4(1), 345-355.

Andrew, E. (2022). Brief history of education in Nigeria, UNICAF on line University.

Bronfenbrenner, U. (1990). Discovering what families do In Rebuilding the Nest: A New Commitment to the American Family. Family Service America [web site].

Bruce, I & Attom, L. (2021). Household conditions and academic performance of students from the Mfantsiman Municipality in the Central Region of Ghana. *Research on Humanities and Social Sciences, 11*(24), 25-44.

Currie, J. & Goodman, J. (2020). Parental socioeconomic status, child health, and human capital In the Economics of Education Ed (Steve Bradley, Colin Green, (Second Edition), Academic Press, 239-248, https://doi.org/10.1016/B978-0-12-815391-8.00018-5.

Farah,N.(2016).How do household characteristics affect children's school dropouts? Analysis of survey data from Bangladesh. 2016 Awards for Excellence in Student Research and Creative Activity Documents 2. http://thekeep.eiu.edu/lib_awards_2016_docs/2

Gobena,G.(2018). Family socio-economic status effect on students' academic achievement at college of education and behavioral sciences, Haramaya University, Eastern Ethiopia. *Journal of Teacher Education and Educators, 7*(3), 207-222.

Kainuwa,A & Yusuf ,N (2013) Influence of socio-economic and educational background of parents on their children's education in Nigeria. *International journal of scientific and research publications, 3*(10),1-8 .

Li, Z & Qui,Z.(2018). How does family background affect children's educational achievement? Evidence from contemporary China. *Journal of Chinese sociology, 5*(13), -21. https://doi.org/10.1186/s40711-018-0083-8.

Machebe,C & Ifelunni, C.(2014). Influence of parental socio-economic status on academic achievement of students in selected schools in Nigeria: A case study of Enugu State. *Journal of Education and Practice*, 5(2), 105-110.

Mcleod,G., Horwood,J., Boden,J.,Fergusson,D. (2018). Early childhood education and later educational attainment and socioeconomic wellbeing outcomes to age 30. *New Zealand Journal of Educational Studies, 53*(3), 1-17.

Okuneye, B & Obasan K (2014).Determinants of demand for primary education in Nigeria, *International Journal of Economics and Empirical Research*, *2*(2), 44-51.

Olaniyan, O. (2011). Determinants of child schooling in Nigeria. *Africa Economic Research Consortuim, Kenya, 1-34.*

Olurinola,I. (2019). Educational attainment and health outcomes in Nigeria: A survey from NDHS (2008 & 2013). *The International Journal of Humanities and Social Studies*, 7(11), 69-82.

Stata.com (n.d) Ologit-Ordered logistic regression.

UNICEF (2022). Primary Education. United Nations International Children Emergency Fund.