

GENDER GAP IN PRIMARY SCHOOL ATTENDANCE IN NIGERIA

ABSTRACT

Gender disparity is a fundamental phenomenon in the development of societies. The study explores the gender gap in primary school attendance in Nigeria. Using data from the Nigerian Demographics Health Survey (NDHS), the individual, household and community level characteristics of children aged between 5-15 years are explored. Using a decomposition analysis to estimate the gender gap of school attendance, the findings suggest that there exist a gap in favour of male children in primary school attendance in Nigeria. Gender sensitive policies are recommended to increase the overall attendance rate in primary schools.

Keyword: Education, development, Primary school, Gender disparities, decomposition analysis.

1. INTRODUCTION

Education for all children has been a pressing issue concerning all countries. The Sustainable Development Goals (SDG) aims to provide universal primary education by 2020 to all children. Developed countries are closer to achieving the SDG education goal than developing countries (UNESCO, 2014). Despite these efforts, there are still a large number of children not attending school, especially in Sub-Saharan Africa. The bulk of the out of school children reside in Nigeria (UNICEF, 2007) and is predominately made up of the female child. This is of major concern given the widely acknowledged importance of education to economic development (Barro, 1991; Mankiw, Romer, & Weil, 1992). The Nigerian government plays a vital role to the success of economic development through education.

One of the fundamental challenges the government needs to tackle is the accessibility of education for all, irrespective of gender, tribe, disabilities, religion and other segregated groups. This will be addressed once we begin to understand what determines a child attending school. The first stage of a child attending school is the primary school level. Primary school education is the bedrock of education pursuit. It provides the opportunity of access route into post-primary education system, as well as financial benefits. The persistence of low primary school attendance could hinder the country's overall progress.

Furthermore, the disparities in gender could prevent large numbers of female children from exploring educational opportunities that could enhance their life-cycle opportunities (Al-Samarai and Reilly, 2000). This study aims to decompose the overall differential in primary

school attendance rates among male and female children into differences in the characteristics between the gender groups.

There has been no research dedicated to decomposing the gender disparities of primary school attendance in Nigeria using the Nigerian Demographic Health Survey (NDHS) 2013 data set although, other studies using other data sets in this area have been conducted (Olaniyan, 2011). The general consensus from these studies shows that there is a gap present, in favour of the male children. Specifically, Olaniyan (2000) using data from Nigeria Education Data Survey (NEDs) 2000, found a gap of 76% in net enrolment rate between male and female children.

It is necessary to differentiate between school attendance and school enrolment. In this study school attendance is the main variable of interest. School attendance has the advantage of providing some information on the tendency of students drop out and academic progress of the students, in comparison to school enrolment.

1.1 Research Question

The study seeks to answer the question: what are the gender disparities in primary school attendance in Nigeria?

1.2 Objectives of the Study

The overall objective of this study is to present substantial evidence pertaining to the gender disparities in primary school attendance in Nigeria. The study aims to highlight the gender effects of key variables influencing the school attendance of children with a focus on individual, household and community characteristics. This study also aims to suggest some policy improvements.

The structure of the paper is organised as follows. The next section (Section 2) presents literature review and conceptual framework. Section 3 is the conceptual framework. Section 4 provides a description of the data used. Section 5 is the presentation of results and discussion and Section 6 offers some policy considerations and conclusion.

2. LITERATURE REVIEW

Gender is a major issue in developing countries, due to the likelihood of discrimination against females. Klasen (2000) examines gender bias in the framework of education on economic growth and finds gender gap considerably reduces economic growth (Klasen, 2000). Studies indicate that male children are more likely to attend school in comparison to female children (Arif, Saqib, Zahid, & Khan, 1999; Gandhi Kingdon, 2002; Pal, 2004; Sathar & Lloyd, 1994)

Evidence from empirical studies suggests the presence of a strong link between parental education and their child gender schooling decision, (Benoit Dostie & Rajshri Jayaraman, 2006). Parent's education on school attendance may differ depending on the gender of the child. Glick & Shan (2000) found years of mothers' schooling to have a large and highly significant impact on female enrolment in but had no impact on male enrolment. On the other hand, years of father's schooling had a positive impact on both male and female children. The point to note here is that mother's education has a higher impact on daughters than sons. One possible explanation for this impact is embedded in the bargaining model of resource

allocation within the household. Where, educated mothers have the power to direct household resources towards daughter's education (Glick & Sahn, 2000).

Kazeem et al. (2010) extended their analysis to compare the impact of gender and parent's education on school attendance. One of the most significant findings to emerge from this study is that socioeconomic disparities in school attendance are several times larger than those of gender. The results of this research support the idea that the level of parental education is the key to the determinants of schooling (Kazeem et al., 2010).

Parental perception and inequalities in child treatment can be influenced based on their traditional and cultural beliefs. The extreme case occurs when parents believe schooling is unnecessary for girls, since the only approved roles for women in the community are wife and mother (Csapo, 1981). However, Buchmann (2000) finds that inequalities in education in Kenya are due to the perception of returns to education and household credit constraints rather than due to gender stereotypes or reliance on child labour (Buchmann, 2000). In regards to the perception of returns to education, this can occur from both the parents and child's perspectives.

There have been few studies (Lincove, 2009) dedicated to finding out the gender disparities that exist in primary schooling in Nigeria. The earliest study was conducted in the south western region of the country (Oyo State) and was further restricted to the rural parts of the state (Rahji, 2005). A more recent study (Afu et al. 2017) conducted the analysis of gender disparities in secondary schooling in Nigeria.

In order to explore the gender differentials, studies usually adopt the Oaxaca decomposition method (Al-Samarrai & Reilly, 2000; Bauer & Sinning, 2008; Jennie et al, 2015). This study adopts a probit model to access the determinants of primary schooling in Nigeria. In order to decompose the gender differentials in attendance, the decomposition technique adopted by Bauer & Sinning (2008) for non-linear models is closely followed.

As introduced above, this study seeks to answer the question of what are the gender disparities that exist in a child attending primary school in Nigeria. To the best of my knowledge, the Kazeem et al. (2010) study is the only one that has analysed the same research question, but it explores school attendance using data from thirteen years ago (2004) (Kazeem et al., 2010). The data used in this study is the NDHS 2013 household data set, to the authors' knowledge; no study has utilized this data set. This study also controls for some household and community variables (such relationship to head, availability of electricity and source of drinking water) none of which the relevant literature in Nigeria used. This study aims to fill this vacuum by providing additional empirical evidence of the gender disparities of primary school attendance in Nigeria, thereby providing relevant inputs for policy formulation and implementation.

In summary, over the years, substantial empirical analysis has been carried out across developing countries and very few studies conducted in Nigeria. In most cases, the results are in line with existing theories. Based on the literatures reviewed in this section, the gender of a child is one of the determinants of primary school attendance in Nigeria and a gap seems to exist.

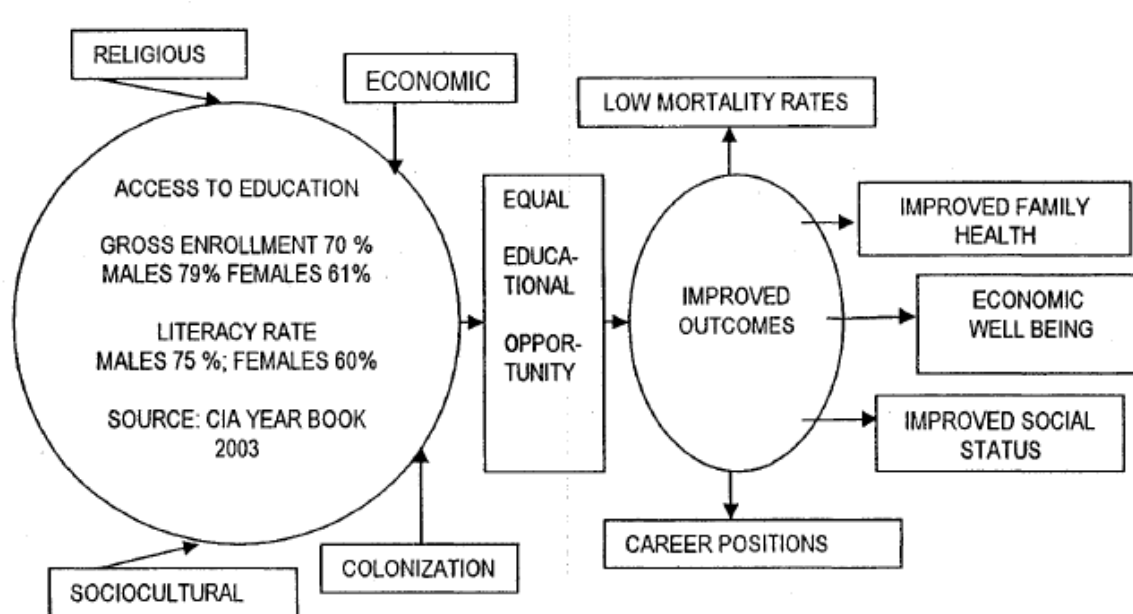
3. CONCEPTUAL FRAMEWORK

Gender is a major area of interest within the field of development economics. Male education is predominantly perceived as more beneficial compared to female, especially in the northern

parts of Nigeria. In states such as Jigawa, less than 30% of school age children attend schools, the figure dominated by male students (JSGP, 2013). The gender parity index in primary level enrolment in 2010 was 91% (UN Statistics, 2013). With all indications, gender is a very important determinant of primary education. There is a need to examine the cause of the large disparities between boys and girls schooling and identify possible solutions to the challenges. An educated girl child provides the extra advantage of educating her future family.

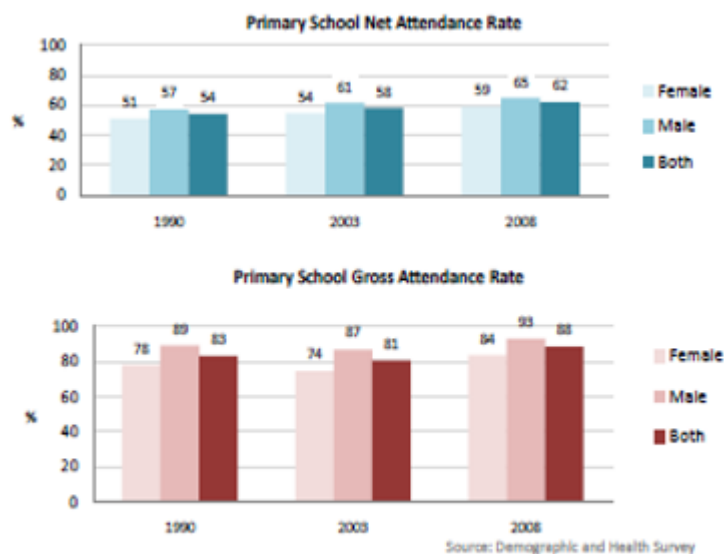
The rationale of the conceptual framework for this study is based on the evidence that the number of females that attend primary schools in Nigeria is lower than that of their male counterparts (see figure 1 & 2). Some factors that may contribute to this assumption are: socio-culture, economic, colonisation and religion.

Figure 1: The Conceptual Framework



Source: Eugene, 2007

Figure 2: Net and Gross Attendance Rate, 1990, 2003 and 2008.



Source: NDHS, 2008

The next section (Chapter 4) provides detail to variables used in this study, sampling size and method of data analysis.

4. METHODOLOGY

4.1 The Study Area

The data used in this study is from the Nigerian Demographics Health Survey (NDHS) conducted in 2013. The 2013 NDHS is the fourth Demographic and Health Survey (DHS) conducted in Nigeria since 1990. It is implemented by the National Population Commission (NPC) and has a national representation of the Nigerian population. NDHS is a household survey containing information on background characteristics of the respondents. The focus groups were women and men aged between 15-49 years in randomly selected households across Nigeria.

4.2 Sampling Technique and Sample Size Method of Data Collection

Sample data of 178,894 individuals in households in the 2013 DHS was collected. Given that this study aims to decompose the gender gap of primary school attendance, this sample size has been filtered to include only those focus group individuals aged between 5 and 15 who are defined to be in primary school. Information on the parents of the individuals was also used in the data analysis.

Households containing missing values for the variables of interest (e.g., children with no information on parents) of this study were eliminated. The overall sample size, after filtering the data, for the empirical work is 31,598 individuals.

A possible limitation of the survey data set is that it does not provide information on some community variables; such as distance to school and school quality characteristics. Another limitation might be missing values of surveys; this study tackles this problem with the use of dummy variables for the missing values.

4.3 Method of Data Analysis

The objective of this study is to explore the differentials in primary attendance rates between male and female children. A Probit model was used to extract the values needed for the decomposition analysis. This study adopts the same Probit model regression as Musa (2015) Table 1 in the appendix provides a full description of the variables used in the analysis. The descriptive statistics reported captures a nationally representative picture for Nigeria.

The decomposition analysis requires estimation of separate attendance equations for the male and female gender groups, since the pooled model imposes certain constraints. To test whether the model supports separation a chow test is used. In this approach the male equation is expressed as:

$$\overline{\Phi(X'_{mi}\hat{\beta}_m)} \quad [1]$$

And the female equation is of the following form:

$$\overline{\Phi(X'_{fi}\hat{\beta}_f)} \quad [2]$$

Where, subscripts m and f denotes male and female, respectively.

This allows the average differential in school attendance between the two gender groups to be decomposed into two parts attributed to differences in male and female attributes. The first part attributed to differences in measured characteristics and the other part attributed to differences in the estimated coefficients. These two components have been referred to as the ‘explained’ or ‘endowment’ (differences in observables) and ‘unexplained’ or ‘treatment’ components (difference in unobservable), with the ‘unexplained’ component also referred to as the ‘residual’ component. (Newell & Reilly, 2001).

The average differential in primary attendance probabilities between the two groups may be expressed as:

$$\overline{\Delta_i} = \overline{\Phi(X'_{fi}\hat{\beta}_f)} - \overline{\Phi(X'_{mi}\hat{\beta}_m)} \quad [3]$$

The Oaxaca-Blinder decomposition in its original version can be applied to linear regression models. Several studies have developed and applied Blinder–Oaxaca decompositions for models with binary dependent variables (Bauer & Sinning, 2008; Fairlie, 2005; Gomulka & Stern, 1990). An extension to limited dependent variable models has been suggested by Bauer and Sinning (2008). The decomposition technique adopted in this paper follows closely the work of Gomulka and Stern (1990). This approach is known as the ‘index number’ approach and is subject to the conventional ‘index number’ problem. ‘The ‘index number’ problem occurs where the outcomes are sensitive to the weights or coefficients used to calculate the components part’ (Al-Samarrai & Barry, 2000).

The average differential in primary attendance rates between male and female children may be decomposed into two parts as follows:

$$\overline{\Delta_i} = \left[\overline{\Phi(X'_{mi}\hat{\beta}_f)} - \overline{\Phi(X'_{mi}\hat{\beta}_m)} \right] + \left[\overline{\Phi(X'_{fi}\hat{\beta}_f)} - \overline{\Phi(X'_{mi}\hat{\beta}_f)} \right] \quad [4]$$

The first part of the right-hand side of expression (3) is the portion of the average differential, which is explained by differences in coefficients between the male and female children. This could be expressed as:

$$\hat{\Delta}_T = \overline{\Phi X'_{mi} (\hat{\beta}_f - \hat{\beta}_m)} \quad [5]$$

The second part of the expression is the portion of the average differential that is explained by the differences in individual, household and community characteristics. This could be expressed as:

$$\hat{\Delta}_E = \overline{\Phi (X'_{fi} - X'_{mi}) \hat{\beta}_f} \quad [6]$$

Equation (3) can also be re-expressed using male coefficient under such circumstances; the average differential may be expressed as:

$$\overline{\Delta}_i = \left[\overline{\Phi (X'_{fi} \hat{\beta}_f)} - \overline{\Phi (X'_{fi} \hat{\beta}_m)} \right] + \left[\overline{\Phi (X'_{fi} \hat{\beta}_m)} - \overline{\Phi (X'_{mi} \hat{\beta}_m)} \right] \quad [7]$$

After some re-arrangement the average differential may be expressed as:

$$\overline{\Delta}_i = \left[\overline{\Phi (X'_{fi} \hat{\beta}_f)} - \overline{\Phi (X'_{fi} \hat{\beta}_m)} \right] + \left[\overline{\Phi (X'_{fi} \hat{\beta}_m)} - \overline{\Phi (X'_{mi} \hat{\beta}_m)} \right] \quad [8]$$

This study adopts the decomposition analysis highlighted above to decompose the gender gap in primary school attendance rates in Nigeria.

5. RESULTS AND DISCUSSION

5.1 Results

The dependent variable and explanatory variables used for the empirics of this study are presented in Table 1. The dependent variable is a binary variable that takes the value of 1 if a child attends or attended school sometime in the last 12 months and 0 otherwise. A total of 31,598 children were observed. Column (1) shows the mean proportion of the variables. The results suggest that 62% of children attend school and 48% of the children are female. The age of the children range from 5-15 years and average age of the children in the sample is 8 years old.

Table 2 presents the marginal and impact effect from the probit regression for the two age groups of interest. Columns (1) and (2) shows the estimates for all children in the sample (5-15 years) while columns (3) and (4) presents children of 12-15 years age group. In order to observe the gender differences in school attendance, separate estimates were made for male and female children. The signs of most of the variables are as predicted.

The results presented in Table 2 shows the marginal effects by gender. In order to separate the model into male and female a Chow test was used. This test informs on whether the pooled model supports the separation. The results¹ show that the model is fit for separation at the 1% conventional level. The gender separation is important in the Nigerian context since evidence suggests the present of a gender gap, with male attending more than female (O. Olaniyan, 2011). The factors driving this gap maybe due to the expected benefits of educating sons may be greater than the expected benefits of educating daughters. The gender groups are further categorized into two age groups. The first is the overall age group (5-15 years) and the second captures children that enrolled late. Evidence shows (see Appendix) that there is a

¹ Chow test: LR chi2(45) = 97.31 Prob > chi2 = 0.0000

large number of children who enrol late, this can be observed by comparing the net enrolment rate with the gross enrolment rate. Figures that exceed 100% in the gross enrolment rate display the effect of those that enrolled after the official primary school age or before.

The decomposition analysis is presented in Table 3. The top panel shows the primary school attendance rates based on averaging the actual weighted data. The actual primary school attendance gaps between male and female are statistically significant. The estimates reported reflect a national representation of Nigeria for male and female children. The actual gap in primary school attendance between male and female children is estimated at 4.7 percentage points. This suggests that the gender gap in attendance is due to influences of factors such as wealth of the family.

Finally, the study conducts robustness checks. The results are corrected for heteroscedasticity, with adjustment based on the White (1980) procedure; this is evident in the standard errors reported. The estimation for school attendance with inclusion and exclusion of variables provides insight into the robustness of the model. The robustness of the model is observed based on how well the model fits with the changes. With the inclusion of more controls, the magnitude of all the variables tends to decrease except gender. Overall, the model is robust and fit, as all variables remain statistically significant at the 1% level.

5.2 Discussion

The results obtained from this study can be compared to previous studies of gender disparities in school attendance in Nigeria. Olaniyan (2011) found that female children benefit more from household income than male. In this study the benefits of household income across gender vary depending on age groups. For children all age group category the effect is roughly the same, i.e., both male and female children from poor households are roughly 12% points more likely to attend school than children from the poorest households, *ceteris paribus*. Whereas, in the narrow age category (12-15 years) male are more likely to attend than female if the child is from a poor household, compared to the poorest household.

Furthermore, the education of parents in this study is found to be highly significant for both mother's and father's education on both boy's and girl's education, however, Rahji's (2005) study differs. He found a clear effect of father's education on both genders, but no significant effect of mothers' education on likelihood of boys' attending and a significant effect of mothers' education for girls. The difference may be due to the fact that Rahji's (2005) study was conducted in one state of the country, whereas this study represents the entire country.

From the results, gender column indicates that female in the 12-15 group are more likely to attend if the head of the household is their grandparent. Column (4) of table 3 shows that they are 48 percentage points more likely to attend than those who live with their parents. Chernichovsky (1985) found similar results in rural Botswana. The explanation for this may be that females residing with their grandparents are not involved in household chores which could restrict their attendance. .

The results from the decomposition analysis (Table 4) suggest that there exist a gender gap in school attendance. The positive sign indicates an expansion in the gap and contraction is indicated by a negative sign. In this case the sign is positive; hence the raw gap between male and female children in school attendance is 4.7 percentage points. The results are insensitive to the index number problem, meaning, regardless of which gender coefficient is used to compute the index number, the 'treatment and 'endowment' effect do not change as much. The table indicates that a higher percentage Gender differences in outcome is largely attributed to gender differences in coefficients 'treatment' rather than characteristics

‘endowment’. This implies that the gender disparities observed may be due to the way females are treated in the household compared to males.

6. CONCLUSION

This study explored the gender disparities in primary school attendance in Nigeria. Data was used from the 2013 Nigeria Demographics Health Survey (DHS) 2013 to contribute to the existing empirical literature on Education system in Nigeria.

The estimated results are generally in line with findings from the literature on what determines school attendance. The empirical strategy adopted was the decomposition analysis. There exists a gender gap in primary school attendance.

The main contribution of this study is the findings from the use of the recent dataset, from the NDHS 2013. The key finding is there exists a 4.7 percentage points raw gap between male and female children in schooling. Therefore, this study both updates and contributes to the previous Nigerian literature on the determinants of primary school attendance. The findings could be relevant to other developing countries experiencing similar issues as Nigeria.

This study does not take into account the school characteristics, due to data availability. However, the demand factors explored in this study, are sufficient enough to draw out education policy implications for Nigeria. Improvement in data availability and accuracy would be desirable to examine role of gender disparities in child labour supply decision and school characteristics such as distance to school, quality of school and students test scores. Another limitation of this study is the possibility of omitted variable bias, the use of Panel data would have assisted to overcome this problem.

Further studies might find it interesting to analyse the rural-urban disparities in primary school attendance rate. Another interesting aspect to explore might be the integration of child labour decisions and the perception of education from both parents and children. The use of panel data to analyse the school attendance in Nigeria over time, could also be examined in future studies.

To develop effective policies it is necessary to understand why children do not attend school or what determines why a child attends school. One of the determinants that emerged from this study is gender. The main policy implication that emerged from this study is the need to design gender sensitive education programs which encourage girl child education, particularly for children that fall under the poor wealth index.

The estimated results are generally in line with findings from the literature on what determines school attendance. The empirical strategy adopted was the decomposition analysis. It showed that gender disparities exist in primary school attendance, in favour of male child. The objective of this study was a focus on gender differences in primary school attendance in Nigeria. The estimates from the Probit model were used to decompose the total gender differential in the probabilities into ‘endowment’ and ‘treatment’ components. There is presence of gender disparities in attendance with boys more likely to attend school than girls. The main contribution of this study is the findings from the use of the dataset from the NDHS 2013.

7. REFERENCES

Afu, M. O., Gbobo, V. F., Ukofia, I. F., Itakure, Z. S. (2017). Effect of Gender Imbalance in The Enrolment of Students in Public Secondary Schools in Gwagwalada Area Council,

Federal Capital Territory, Abuja, Nigeria. *International Journal of Scientific Research in Education*, 10(2), 200-211. Retrieved from <http://www.ijre.com>

Al-Samarrai, S., & Reilly, B. (2000). Urban and rural differences in primary school attendance: an empirical study for Tanzania. *Journal of African Economies*, 9(4), 430-474.

Arif, G. M., Saqib, N. u., Zahid, G. M., & Khan, A. H. (1999). Poverty, Gender, and Primary School Enrolment in Pakistan [with Comments]. *The Pakistan Development Review*, 38(4), 979-992. doi: 10.2307/41260217

Barro, R. J. (1991). *Economic growth in a cross section of countries*: National Bureau of Economic Research.

Bauer, T. K., & Sinning, M. (2008). An extension of the Blinder–Oaxaca decomposition to nonlinear models. *ASTA Advances in Statistical Analysis*, 92(2), 197-206.

Benoit Dostie, & Rajshri Jayaraman. (2006). Determinants of School Enrollment in Indian Villages. *Economic Development and Cultural Change*, 54(2), 405-421. doi: 10.1086/497006

Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human resources*, 436-455.

Buchmann, C. (2000). Family Structure, Parental Perceptions, and Child Labor in Kenya: What Factors Determine Who is Enrolled in School? *Social Forces*, 78(4), 1349-1378. doi: 10.2307/3006177

Chernichovsky, D. (1985). Socioeconomic and Demographic Aspects of School Enrollment and Attendance in Rural Botswana. *Economic Development and Cultural Change*, 33(2), 319-332. doi: 10.2307/1153230

Eugene, O. (2007). Gender Disparity in Nigerian Education: Women's Experience of Barriers to Equal Educational Opportunity. *Dissertations*. 902. <http://scholarworks.wmich.edu/dissertations/902>

Fairlie, R. W. (2005). An extension of the Blinder-Oaxaca decomposition technique to logit and probit models. *Journal of economic and social measurement*, 30(4), 305-316.

Glick, P., & Sahn, D. E. (2000). Schooling of girls and boys in a West African country: the effects of parental education, income, and household structure. *Economics of Education Review*, 19(1), 63-87.

Gomulka, J., & Stern, N. (1990). The employment of married women in the United Kingdom 1970-83. *Economica*, 171-199.

Jannie H.G., Kristoffersena Carsten Obelb, Nina Smith (2015). Gender differences in behavioral problems and school outcomes. *Journal of Economic Behavior & Organization*, Volume 115, July, 75-93

Jigawa State Gender Policy (JSGP): A Holistic Approach towards Women Development (2013) Retrieved at: www.sparc-nigeria.com/RC/files/1.1.23_Jigawa_Gender

Kazeem, A., Jensen, L., & Stokes, C. S. (2010). School Attendance in Nigeria: Understanding the Impact and Intersection of Gender, Urban-Rural Residence, and Socioeconomic Status. *Comparative Education Review*, 54(2), 295-319.

Klasen, S. (2000). Does gender inequality reduce growth and development? Evidence from cross-country regressions.

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth: National Bureau of Economic Research.

Musa, H. (2015). The determinants of Primary school attendance in Nigeria. Presentation at the International Conference on Social Science & Law (ICSSL), Nigerian Turkish Nile University, Abuja, Nigeria.

NDHS, N. D. H. S. (2008). Nigerian Demographic Health Survey (NDHS).

NDHS, N. D. H. S. (2008). Nigerian Demographic Health Survey (NDHS).

Newell, A., & Reilly, B. (2001). The gender pay gap in the transition from communism: some empirical evidence. *Economic Systems*, 25(4), 287-304.

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International economic review*, 693-709.

Olaniyan, O. (2000) The determinants of child schooling in Nigeria.

Olaniyan, O. (2011). The determinants of child schooling in Nigeria.

Rahji, M. (2005). Primary School Enrollment and Gender Gap of Rural Households' Children in South Western Nigeria.

UN statistics bulletin (2013)

UNESCO, I. f. S. (2014). UNESCO Institute for Statistics (UIS) Retrieved 19/08/2014 <http://data.uis.unesco.org/>

UNICEF. (2007). *Progress for children statistical review*: Unicef.

White, H. (1980) A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817-830.

APPENDIX

Table 1: Summary Statistics

VARIABLES	(1) Mean	(2) Standard deviation	(4) Min	(5) Max
<u>Dependent Variable</u>				
Attend	0.62	0.485	0	1
<u>Individual Level</u>				
Age (years)	8.633	2.709	5	15
Female	0.485	0.5	0	1
<u>Household Level</u>				
Wealth Index:				
Poor	0.228	0.42	0	1
Rich	0.491	0.5	0	1
Age of Father	46.81	10.95	20	95
Level of father's education:				
Father Primary	0.223	0.416	0	1
Father Secondary	0.218	0.413	0	1
Father Higher	0.111	0.314	0	1
Father's Marital Status:				
Father Married	0.995	0.0671	0	1
Age of Mother	35.67	8.008	18	80
Level of Mother's education:				
Mother Primary	0.225	0.418	0	1
Mother Secondary	0.171	0.377	0	1
Mother Higher	0.043	0.203	0	1
Mother's Marital Status:				
Mother Married	0.993	0.0807	0	1
Female Head of H/H	0.00861	0.0924	0	1
Age Head of Household	47.04	11.26	17	95
No. of people in H/H	8.397	3.68	3	35
Transportation	0.483	0.5	0	1
<u>Community Level</u>				
Rural	0.698	0.459	0	1
Source of drinking water:				
Protected Well	0.116	0.32	0	1
Unprotected Well	0.214	0.41	0	1
River	0.165	0.371	0	1
Other Water Source	0.182	0.386	0	1
Ethnicity:				
Yoruba	0.0909	0.287	0	1
Igbo	0.0886	0.284	0	1
Other Ethnicity	0.438	0.496	0	1
Kanuri	0.0263	0.16	0	1
Observations: 31,598				

Table 2: Marginal and Impact effects from probit regression

VARIABLES	5-15 Years		12-15 Years	
	(1) Male	(2) Female	(3) Male	(4) Female
Age (years)	0.235*** (0.00996)	0.241*** (0.0123)	0.537* (0.296)	-0.220 (0.342)
Age ²	-0.0114*** (0.000513)	-0.0123*** (0.000643)	-0.0229** (0.0110)	0.00459 (0.0128)
Poor	0.127*** (0.00885)	0.121*** (0.0110)	0.202*** (0.0231)	0.164*** (0.0299)
Rich	0.200*** (0.0137)	0.241*** (0.0152)	0.306*** (0.0319)	0.267*** (0.0373)
Father Primary	0.164*** (0.00896)	0.161*** (0.0109)	0.226*** (0.0248)	0.166*** (0.0327)
Father Secondary	0.198*** (0.00958)	0.202*** (0.0122)	0.230*** (0.0305)	0.255*** (0.0369)
Father Higher	0.223*** (0.00962)	0.251*** (0.0126)	0.341*** (0.0262)	0.296*** (0.0536)
Mother Primary	0.131*** (0.00971)	0.190*** (0.0108)	0.173*** (0.0294)	0.293*** (0.0311)
Mother Secondary	0.181*** (0.0122)	0.234*** (0.0138)	0.151*** (0.0518)	0.310*** (0.0504)
Mother Higher	0.201*** (0.0185)	0.215*** (0.0259)	0.0134 (0.178)	
Transportation	0.0362*** (0.00865)	0.0225** (0.00988)	0.0427* (0.0232)	0.0159 (0.0256)
Rural	-0.0226* (0.0120)	-0.0632*** (0.0137)	-0.110*** (0.0332)	-0.105*** (0.0378)
Yoruba	0.158*** (0.0204)	0.209*** (0.0233)	-0.00870 (0.0841)	0.169* (0.0875)
Igbo	0.142*** (0.0364)	0.198*** (0.0413)	0.184** (0.0739)	0.0233 (0.187)
Other ethnicity	0.00687 (0.0122)	0.0579*** (0.0140)	-0.00914 (0.0329)	0.0883** (0.0358)
Kanuri	-0.313*** (0.0328)	-0.231*** (0.0339)	-0.430*** (0.0604)	-0.179** (0.0836)
Grandchild	0.0987 (0.0667)	0.110 (0.0771)	-0.412 (0.301)	0.484*** (0.0668)
Electricity	0.0935*** (0.0108)	0.0835*** (0.0121)	0.108*** (0.0291)	0.0576* (0.0324)
North East	-0.0848*** (0.0150)	-0.0906*** (0.0165)	-0.0563 (0.0371)	-0.139*** (0.0401)
North West	-0.0916*** (0.0166)	-0.0729*** (0.0185)	-0.122*** (0.0425)	-0.0799* (0.0466)
South East	0.0214 (0.0553)	-0.0153 (0.0677)	0.0425 (0.0901)	0.322** (0.146)
South South	0.122*** (0.0170)	0.161*** (0.0199)	0.185*** (0.0550)	0.299*** (0.0667)

South West	0.0443** (0.0224)	0.0655** (0.0261)	0.0272 (0.0590)	-0.0361 (0.0738)
Mean of dependent variable	0.51	0.48	0.53	0.46
Observations	16,265	15,331	3,033	2,615
Regional effects				YES
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 3: Decomposing the Gender Primary School Attendance Gap

Results	Coefficient	Percentage
Panel A		
Endowment	-0.00062	-1.32%
Treatment	0.0477129	101.32%
Panel B		
Endowment	0.001655	3.51%
Treatment	0.0454384	96.49%
Raw Gap	0.0470933	100%
	Number of male =16265	
	Number of female =15331	