

Child Labour and Academic Achievement of Nigerian Primary School Pupils in Mathematics

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Abstract: This study sought to investigate the relationship between child labour and academic achievement of primary school pupils in Mathematics in South-East, Nigeria. The participants for the study comprised (400) primary 5 pupils (males = 185 and females = 215) determined using Yaro Yamane's formula. Two instruments were used for data collection: one questionnaire, child labour rating scale and pupil's academic achievement proforma which was used to collect achievement scores of the pupils in Mathematics for two terms. The average score of each pupil for the two terms (first and second terms results) was determined. Scores from participants were analysed using Pearson's product moment correlation coefficient and regression analysis. Regression ANOVA and t-test analysis were used to test the study hypothesis at 0.05 level of significance. The findings of the study revealed that there is a negative significant correlation between child labour and primary school pupil's academic achievement in Mathematics in South-East, Nigeria ($r = -0.790$, $p < 0.05$).

Key words: Child labour, pupils, gender, academic achievement, South-East, scores

INTRODUCTION

Academic achievement of pupils has been of great concern to parents, guardians, teachers and government agencies among others. This concern has made it necessary to lay a good foundation at the primary education level for the overall development of the pupils. This is because when they perform poorly academically at this level, there is the likelihood that other levels of education will be affected negatively. It has also been observed that the academic achievement of pupils is generally poor especially in mathematics. The trend of poor academic achievement of primary school pupils in Mathematics have been confirmed by Chukwu (2001), Nwoye (2009) and Obiweluozo (2014). This poor academic achievement among primary school pupils could be attributed to a range of factors such as pupil's engagement in child labour activities, teacher factors, school factors, environmental factors and motivation, among others. However, the focus of this study was on child labour as it determines academic achievement of primary school pupils.

Pupils are children at the primary school level. According to the NTI (2006), a pupil is a learner in the school, particularly in primary school. The word "Pupil" is used for a person who is young who is learning under the close supervision of a teacher at school, a private

tutor or otherwise (Salifu, 2014). Primary education on the other hand, according to the FRN (2013), refers to the education given to children aged 6-12 years. Teachers, childhood educators, parents, guardians, government agencies and other stakeholders should show great concern over the deteriorating academic achievement of pupils at this level because the success of other levels of education depends on the success of this level.

When children take part in conducts that affect their schooling, health and development they are said to be involved in child labour. Child labour means work performed by children who are under the minimum age officially specified for that type of work or work which because of its harmful nature is considered unacceptable for children and is therefore, unlawful (ILO., 2008). However, not all activities children engage in is called child labour. This is because some kind of work can contribute to the development of the pupils. In the opinion of Dessy and Pallage (2004) work that children are involved in cannot all be said to be harmful or brutal. This is supported by Maduewesi (2005) who posited that there are some child work that primarily emphasis learning, training and socialization. In a study by Fetuga *et al.* (2007), it was revealed that working children had worse specific academic performance than non-working children despite similarities in overall school attendance rates. Similarly, Gunnarsson *et al.* (2006) revealed that children

who worked fewer hours had better academic performance than those who worked longer hours. Moreover, children who almost never worked performed better academically than those who worked for just a few hours.

In the same vein, Heady observed that a child engaged in child labour activities faces exhaustion or a diversion of interest from academic concerns. This means that pupils are not able to focus on their academic work due to exhaustion which is a result of the children's involvement in child labour activities. Dickson (2014) supporting this view stated that pupils who were usually absent from school due to child labour activities repeated their classes because of dismal of academic performance. Similarly, Isah (2013) stated that children exposed to child labour activities had a poor school attendance and were mostly females. It was also revealed that this affected their academic performance. In another development, Chepkwuri (2004) revealed that all the students (both males and females) involved in the study worked. Ndem *et al.* (2012) also revealed that pupils currently practicing in child labour in Calabar Municipality are above average (more than 52%). The researcher also considered another determinant of academic achievement to be gender and its moderating influence on the relationship between child labour and academic achievement.

Gender is another factor that seems to influence pupil's achievement. Okeke (2000) opined that gender is a socially constructed roles and socially learned behaviours and potentials associated with being males and females. Maduewesi (2005) opined that men and women are naturally different but all culture interpret and elaborate these natural biological differences into a set of social potential about what behaviours and activities are suitable for each of them. Linking gender to child labour and academic achievement, Ligeve and Poipoi (2012) revealed that boys not involved in child labour activities had a significantly higher academic achievement mean score than girls not involved. Furthermore, boys involved in child labour activities had a significantly higher academic mean score than girls involved in child labour activities. It was then concluded that there were child labour and gender effects on academic achievement of primary school pupils in Suba and Homa Bay districts of Kenya.

The study was carried out in South-East, Nigeria which is made up of five states namely, Enugu, Anambra, Ebonyi, Abia and Imo. There is availability of educational institutions such that every child unless otherwise deprived would have opportunity to go to school. However, experience and research evidence indicate that

despite the enormous number of public and private owned primary schools within the region, children are still observed to be involved in child labour thus affecting their academic achievement in Mathematics. Some children drop out of school perhaps due to frustration they experience from their involvement in child labour activities and poor academic achievement in Mathematics. While some parents deliberately send their children and wards out as house-helpers or engage them in other forms of child labour which maybe as a result of the prevalent economic situation in Nigeria. Even most of those in school are not seen to be achieving maximally, probably because of some unidentified factors, thus, leading to poor academic achievement in Mathematics. One then begins to wonder whether child labour is a determinant of this inadequate academic achievement in Mathematics or not. It is against this background that the study investigated child labour as determinant of academic achievement of primary school pupils in Mathematics in South-East, Nigeria.

The general purpose of the study sought is to examine the moderating influence of gender on the relationship between child labour and academic achievement. Specifically, the study sought to:

- Ascertain the correlation between child labour and academic achievement of primary school pupils in Mathematics?
- Find out the moderating influence of gender on the relationship between child labour and academic achievement?

Research questions: The following research questions in line with the specific purposes guided the study:

- What is the correlation between child labour and academic achievement of primary school pupils in Mathematics?
- What is the moderating influence of gender on the relationship between child labour and academic achievement of primary school pupils in Mathematics?

Hypothesis: The following null hypothesis guided the study and were tested at 0.05 level of significance:

- H_{01} : there is no significant correlation between child labour and primary school pupil's academic achievement in Mathematics
- H_{02} : there is no significant moderating influence of gender on the relationship between child labour and academic achievement

MATERIALS AND METHODS

Design of the study: This study adopted a correlation survey research design. Correlation survey research design, according to Nworgu (2015), seeks to establish what relationship exists between two or more variables. Correlation survey research design studies indicate the direction and magnitude of the relationship among the variables.

Participants: A total of 400 pupils in South-East, Nigeria participated in the study. The researchers took account of some inclusion criteria. Among these are must be within the age range of 8-15 being maltreated by caregiver or guardians must be at the primary level both gender was included. The researchers also conducted the study in accordance with the ethical standards of the American Psychological Association.

Instruments for data collection: Four instruments were used for data collection for this study. They are:

- Child labour rating scale
- Pupil’s achievement test score proforma

Child Labour Rating Scale (CLRS) was developed by the researcher. They are two sections. Section A which sought information on the participant’s demographic characteristics such as age, gender, class while the section contained information on the child labour engagement among schooling children. It is a 20-items instrument which was generated from literature materials reviewed and the items are both positively and negatively skewed. It is a four-point scale with the following response options: Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. To ensure that the instrument is reliable for the present study, it was validated by experts in childhood education and educational psychology and pilot tested on 30 randomly selected pupils from different schools in Asaba, Delta State. Cronbach alpha coefficient value of 0.84 was obtained, therefore, it was considered to have satisfactory psychometric properties.

Method of data collection: Prior to the commencement of the research approval was sought from the Ministry of Education, the states where the schools used for the study are located. Furthermore, approval was sought from the head teachers of the participating schools. The head teachers gave their consent after being satisfied with the objective of the research. Thereafter, the head teachers informed the parents about the research at a

Parent-Teachers Association (PTA) meeting where they unanimously consented, since, it does not expose their wards to any form of risk. To ensure confidentiality of responses, the researchers did not include any identification data such as name, phone number or contact address. Subsequently, the researcher with the help of three research assistants administered the instruments. The research assistants were briefed on how to distribute and collect data from the participants.

Method of data analysis: Data collected were analysed using Pearson’s product moment correlation coefficient and regression analysis. Specifically, mean, standard deviation, Pearson’s product moment correlation coefficient and coefficient of determination were used to answer research questions. Regression ANOVA and t-test was used to test formulated hypothesis.

RESULTS AND DISCUSSION

Descriptive and inferential statistics were used to analyse the participant’s demographic characteristics as presented on Table 1. Results of Pearson Product Moment Correlation (PPMC) and regression analysis are presented on Table 2-4.

Sample characteristics: The demographic characteristics of the participants analyzed with descriptive statistics is presented on Table 1.

The participant’s demographic results revealed that 215 (53.75%) of the participants were female while the remaining 185 (46.35%) were male participants. The 178 (44.5%) were rural dwellers while 222 (55, 5%) were urban dwellers. The table further revealed that participants within the age bracket of 8 and 10years of age were 278 (69.5%) those within the age bracket of 11-13 years of age were 101 (25.25%) while those between 14 and 15 years were 21 (5.25%) (Table 1).

Research question 1: What is the correlation between child labour and pupil’s academic achievement Table 2.

Table 1: Participant’s demographic results

Variables	Frequency	Percentage
Gender		
Female	215	53.75
Male	185	46.25
Location		
Rural	178	44.50
Urban	222	55.50
Age		
8-10	278	69.50
11-13	101	25.25
14-15	021	05.25

Table 2: Pearson product moment correlation analysis of the relationship between child labour and academic achievement of pupils

Variables	Child labour	Academic achievement
Child labour		
Pearson Correlation	1	-0.790**
Sig.(2-tailed)		0.000
N	400	400
Academic achievement		
Pearson Correlation	-0.790**	1
Sig.(2-tailed)	0.000	
N	400	400

**Correlation is significant at the 0.01 level (2-tailed)

Table 3: Regression analysis of the moderating influence of gender on the relationship between child labour and academic achievement

Model	Genders	R	R ²	Adjusted R ²	SE of the estimate
1	Female	-0.320 ^a	0.102	0.101	0.22152
	Male	-0.430	0.185	0.188	0.21375

α : Predictors: (Constant), child labour

shows that the correlation coefficient r (400) for the relationship between child labour and academic achievement of pupils is -0.790. This shows that there is a high negative correlation of child labour with pupil's academic achievement, meaning that the higher the exposure of pupils to child labour the lower their academic achievement in schools.

H₀₁: there is no significant correlation between child labour and pupil's academic achievement. Table 2 shows that associated probability value for the correlation coefficient r (400) = -0.790 for the relationship between child labour and pupil's academic achievement is 0.000. Since, the probability value of 0.000 is <0.05 level of significant, the null hypothesis was rejected. Thus, there is a significant negative correlation between child labour and pupil's academic achievement. This means that the higher the rate of involvement in child labour activities among primary school pupils, the lower their academic achievement.

Research question 2: What is the moderating influence of gender on the relationship between child labour and academic achievement? Table 3 reveals that the correlation between female pupil's academic achievement and child labour is 0.320 with a coefficient of determination of 0.102. This indicates that 10.2% negative variation in female pupil's academic achievement can be accounted by their exposure to child labour. On the other hand, the correlation between male pupil's academic achievement and child labour is 0.430 with a coefficient of determination of 0.185 indicating that 18.5% negative variation in male pupil's academic achievement can be accountable by their exposure to child labour.

Table 4: t-test analysis of the influence of gender on the relationship between child labour and academic achievement

Gender	R	R ²	Standardized beta	t-values	Sig
Female	0.320 ^a	0.102	0.820	-11.656	0.000
Male	0.430	0.185	0.820	-11.656	0.000

- **H₀₂**: there is no significant moderating influence of gender on the relationship between child labour and academic achievement

Table 4 shows that the probability associated with the calculated t (11.656) for the moderating influence of gender on the relationship between child labour and pupil's academic achievement is 0.000. Since, the probability value of 0.000 is >0.05 level of significance, the null hypothesis was rejected. This implies that gender significantly moderates the negative relationship between child labour and pupil's academic achievement. In other words, exposure to child labour has more significant negative influence on the male pupil's academic achievement than the female pupils.

The result of the study showed that the extent of engagement of primary school pupils in child labour in South-East, Nigeria is high. The finding of this study corroborates that of Chepkwurui (2004) who found a high prevalence of child labour in Uganda. This finding also supports that of Ndem *et al.* (2012) who found that 52% child labour is currently practiced in Calabar Municipality. This means that the extent of involvement of children in child labour is high as the percentage is above average. The result of this present study showing high involvement of children in child labour in South-East, Nigeria could be explained from two viewpoints. First, the present economic hardship occasioned by recession has put many families on their toes in search of alternative sources of livelihood to augment their income. Second and more fundamental is that the South-East is the hub of buying and selling where self-reliance is high and with such a setting many ignorant families believe that sending their children to hawk is a way of preparing them for self-reliance and economic independence for the future.

This high prevalence of child labour could also be as a result of the high rate of unemployment in the country. Ignorant parents could think that they are preparing their children for the future, believing that engaging them in these commercial activities even while they attend school, will make them entrepreneurs in future who will in turn create job opportunities for other unemployed people. It is therefore, the belief of the researcher that if unemployment rate is reduced and education is made more affordable and accessible, the effect of child labour on the primary school pupils will be reduced as parents

will be able to afford their children's education. Child labour laws can be enforced to help reduce the incidences of these activities. To ensure improved pupil's academic achievement, the long-term effect of child labour should be reduced to the barest minimum. This is because the seeming cycle of child labour is unending as children engaged in child labour are likely to have children who will be involved in child labour and the cycle goes on and on. The multiplier effect of child labour on the primary school child is poor academic achievement and in the long run the dropout rate will be high.

This high dropout rate will result in an increase in social vices such as robbery, drug addictions, rape, thuggery, kidnapping, prostitution and alcoholism among others. The researcher is of the view that when teachers, parents, schools and the society at large put their hands on deck to ensure that children do not skip school, sleep in the classroom or even get tired, among others as a result of their participation in child labour activities, the academic achievement of primary school pupils will be improved. In the long run, there will be reduction in all the stated social vices.

The results show that there is a high negative relationship between child labour and academic achievement. The coefficient of determination also known as the predictive value means that 62% of child labour accounted for primary school pupil's academic achievement in Mathematics. This is a signal that the differences in pupil's academic achievement is also attributed to other factors other than child labour. In addition, the result shows that there is a significant correlation between child labour and primary school pupil's academic achievement in Mathematics. The finding of the study is consistent with that of Isah (2013) whose result of the study showed that children exposed to child labour activities had very poor school attendance and poor pupil's academic performance. The finding of the present study is also in consonant with that of Gunnarsson *et al.* (2006) whose findings revealed that children who worked fewer hours had better academic performance than those who worked longer hours. The study of (Gunnarsson *et al.*, 2006), also showed that children who almost never worked performed better academically than those who worked for just a few hours. The finding of the present study is also consistent with that of Dickson (2014) and Heady (2000). For Ole, pupils who were absent from school due to child labour repeated their classes because of dismal academic performance. While Heady observed that a child engaged in child labour activities faces exhaustion or a diversion of interest away from academic concerns. The conclusion, therefore is that there is a significant relationship between child labour

and primary school pupil's academic achievement in Mathematics in South-East, Nigeria. The reason for the findings of the present study could be seen in the exhaustion and distraction which child labour places on the pupils and hence, paving way for poor academic achievement. The reason for this could be the socio-economic situation in South-East of Nigeria as the people are believed to be industrious. So, in line with this the pupils find themselves engaging in these child labour activities. This result affirms the fact that child labour undermines pupil's academic achievement. Thus, the pupils could be frustrated out of school and in the long run, the future generation could be made up of more unskilled workforce than skilled workforce due to children's involvement in child labour. By the time these children reach adulthood they would have lost the education that would open up opportunities for a better future for them and are often physically, psychologically and intellectually frustrated.

Result of the study also shows the moderating influence of gender on the relationship between child labour and academic achievement of primary school pupils in Mathematics. The result shows that gender significantly moderates the negative relationship between child labour and pupil's academic achievement. In other words, exposure to child labour has more significant negative influence on the male pupil's academic achievement than the female pupils. The finding of the study is at variance with the views of Ligeve and Poipoi (2012) who revealed that boys not involved in child labour activities had a significantly higher academic achievement mean score than girls not involved. Furthermore, boys involved in child labour activities had a significantly higher academic mean score than girls involved in child labour activities. It was then concluded that there were child labour and gender effects on academic achievement of primary school pupils in Suba and Homa Bay districts of Kenya. Inference drawn, therefore is that male and female primary 5 pupils differ significantly in their academic achievement in mathematics based on their involvement in child labour activities. The result of the present study showing female superiority over the males in mathematics academic achievement could be explained against the backdrop of continuing workshops, conferences and education aimed at de-masculining mathematics and sciences. Hence, the females are no longer afraid of the subject, especially, at the foundational level. In addition, the superiority of female performance could be attributed to the declining interest of males in formal schooling in the area (South-East, Nigeria) under study where males have a tendency to develop interest in business early in life.

CONCLUSION

From the foregoing discussions based on the results of the study, the following conclusions were made. Pupils are highly engaged in child labour in South-East, Nigeria. The activities of child labour impact the pupil's performance in Mathematics, hence, there is a significant correlation between child labour and primary school pupil's academic achievement in Mathematics. In addition, female pupils involved in child labour activities had a significantly higher academic achievement score than males who were also involved in child labour activities and this could be attributed to the on-going efforts by stakeholders in the education sector to de-masculine Mathematics and other science subjects for the technological advancement of the country.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made: the result has shown a negative relationship between child labour and pupil's academic achievement. Since, there are policies prohibiting children's involvement in child labour activities, government should strengthen law enforcement agencies to ensure that child labour activities are completely eliminated and perpetrators prosecuted to discourage engaging children in such activities. In this way, academic performance of pupils will be enhanced. The Federal and State Ministries of Education should organize and sponsor periodic workshops, conferences and seminars for childhood educators, parents, teachers and head-teachers on the negative effect of child labour and how it affects learning in order to actualize high academic achievement of primary school pupils.

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