Using Path Analysis for Determining Parental Involvement on Child Academic Performance in Nigeria

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Abstract

The purpose of this study was to determine the impact of parental involvement on child academic performance in Nigeria. The study use path analysis model to test the hypothesis. Independent variables were parental educational level, age of parent, income of parents, house hold size, and parental interest in child education, while child ambition index, school participation, motivation to learning as well as quality of school served as intervening variable. The child class performance is dependent variable. Target population were, 100 parents as participants and 10 private nursery and primary schools in Yola south local government area. Simple random sampling techniques was used in selecting the parents and 10 private nursery and primary school selected purposively. Then the data was collected through questionnaires for parent and child evaluation checked. The data for the study was computed and analyzed using Statistical package of social Science (SPSS) programme. Based on the research findings, the result shows that parental involvement in the child education significantly influence child performance. This study has contributed the need for parent to be involved actively in the education of their children. Parent should have full involvement in their children education, thereby providing some means to cater for the children daily needs, Parent should give maximum financial support to their children to enhance their educational services, School administrators and teachers should endeavor to create a welcoming school involvements, such as inviting parents during open days and of holding PTA meetings regularly, should be vigorously pursued.

Keywords: Parental Involvement, Academic Performance, Child Education, Quality of School, and Child Ambition.

Introduction

Parental involvement is based on family income, parental occupation, and social status in the community (such as contacts within the community, group associations, and the community's perception of the family). In addition, income shocks do not only affect investment in children's education but also children's performance. When families are constrained by fewer resources children's learning is consequently affected (Bjorkman & Svensson 2005). Also, a research by Asikhia (2010), argued that Children's test scores are lowest when poverty persists across the generations and highest when material advantage is long-lasting.

The draft report of the Australian commission on health by Krieger, Williams and Moss (2011) defined parental involvement as an aggregate concept that includes both resource-based and prestige-based measures, as linked to both childhood and adult social class position from among the children. Akanle (2007) also mentioned parental involvement in his work to be a strong factor upon which the academic performance. According to his investigation, parental involvement cannot be sufficient to sustain the academic and personal social life of the student in sub rural school areas. This can seriously affects the psychological balance or homeostatic balance in the classroom, which causes low concentration, low perception, frustration, sickness and emotional disability in academic performance of the students and can also lead to dropping out or withdrawal. Therefore a child may be found to perform poorly in his school work and even drop out of school, when he is deprived of essential needs. This is consistent with Nanyanjo (2007) findings which suggested that child welfare at school is a determinant of child retention and also incorporates the rights of children to adequate living standards (shelter, nutrition and healthcare, water, and sanitation services) that are vital for child growth and development. Nanyanjo (2007) explained that in urban areas, most poor families can hardly afford the cost of water talk less of education of their children; and this can no doubt lead to a low academic performance and high dropout rate.

In a study conducted by Orestes (2014) on the impact of parental involvement on students' academic achievement in secondary schools in Tanzania. The purpose of the study was to examine the impact of parental involvement on students' academic achievement in secondary schools. Two research objectives guided the study. One, is how does parents' occupation, income, level of education and home environment affect students' academic achievement in secondary schools?; two, is to what extent does parental involvement in education of

their children enhance academic achievement? Qualitative research approach was employed for the research finding using a case study research design; 60 respondents were purposively selected from amongst parents, teachers and students. The data were collected through semi-structured interviews and focused group discussions. Data were analyzed qualitatively using thematic analysis. The study found that majority of the students from the selected secondary schools was from low income parents. The study established that there is a close relationship between parental involvement and academic achievement. The study further found that majority of the parents was not involved in the learning of their children as well as in the school improvement program. Finally, the study recommends that the government should review the policy of cost sharing and makes it free to all students. In addition, schools should have professional guidance and counselors to help students with problems to reduce the gap between parents and their children.

In a study conducted by Iroegbu and Ifedayo (2020), the study assessed the educational opportunity and inequality in Nigeria, assessing the social background, gender and regional effects. The study was designed to investigate the extent at which parental involvement bring about differences across gender in educational stratification in Nigeria. The study uses the nationally representative 2010 Nigeria Education Data Survey (NEDS). The study that uses cross-sectional survey data is among the first quality household survey data available for assessing aspects of education in Nigeria. Due to the introduction of educational policies and programs, Nigeria has experienced dramatic expansion of its educational system in the past four decades. This can be noticed from the growth in enrolment at the primary and secondary levels have largely been sustained. For example, 'placement of pupils in primary level increased from 3,515,827 in 1970 to 14,383,487 in 1985 and to 20,080,986 in 2010' as observed by (Iroegbu & Igweike, 2020).

However, this impressive achievement was followed by dwindling quality in the educational system, which has reported differing educational outcomes for different groups (Ramirez, Lytle & Kuhl, 2020). There was very little research in Nigeria focusing on socioeconomic status as a predictor variable on educational achievement using large scale representative data. Therefore this study primarily focused on assessing socioeconomic status to determine how it predicts achievement in reading and numeracy in Nigerian school children, ages 5 to 16 years. Nigeria is also known to have wide gender and regional gaps in education. Thus, this study assessed gender and regional variables to determine the extent to which they contribute to the differences in educational achievement.

Iroegbu and Igweike (2020) found a significant association between children with high income and their counterpart with low earners in reading and numeracy achievements among Nigerian children. The study also explores that family financial capability, parental education level, and regional differences result in differences in academic achievement. Financial capabilities was found to be the most important variable influencing achievement in reading and numeracy, followed by mother's education and then region. Overall, the findings in this study suggested no significant differences in reading and numeracy achievement for boys and girls. Although gender was not found to be consistently associated with academic achievement in this study, it should not be assumed to mean that gender equality in education exists in Nigeria. Therefore, the gap so observed in this study indicates physical perception of natural appearance of children-girl or boy which needs to be closed through concerted education for the member of society.

Instrument

Questionnaire was used to collect data from parents of the randomly select 100 participating pupils across 10 purposively selected private nursery and primary schools, in Yola South LGA of Adamawa State. The data collected against each parents included, age, highest educational qualification, estimated annual income, and household size, estimated time spent on child homework on weekly basis, numbers of time visiting child at school within a term and parental perception on quality of the child's schools. However, evaluation chart was used to access child ambition index, level of participation in school activities, child motivation level as well as class average (performance).

Methodology

The study identified parental educational level, age of parent, income of parents, household size, and parental interest in child education as independent variable, while child ambition index, school participation, motivation to learning as well as quality of school served as intervening variable. The child class performance is dependent variable.

It was observed that there is likeness of having intervening variables (quality of school, ambition index, motivation, participation in the schools activities) being influenced by income of independents variables (parental education, age, income and interest in child education). It was also observed that independent variables can as well influence dependent variable (child performance). Or indirectly influence dependent variable

through intervening variables. Therefore, we come up with the following model and adopt path analysis for testing of hypothesis:
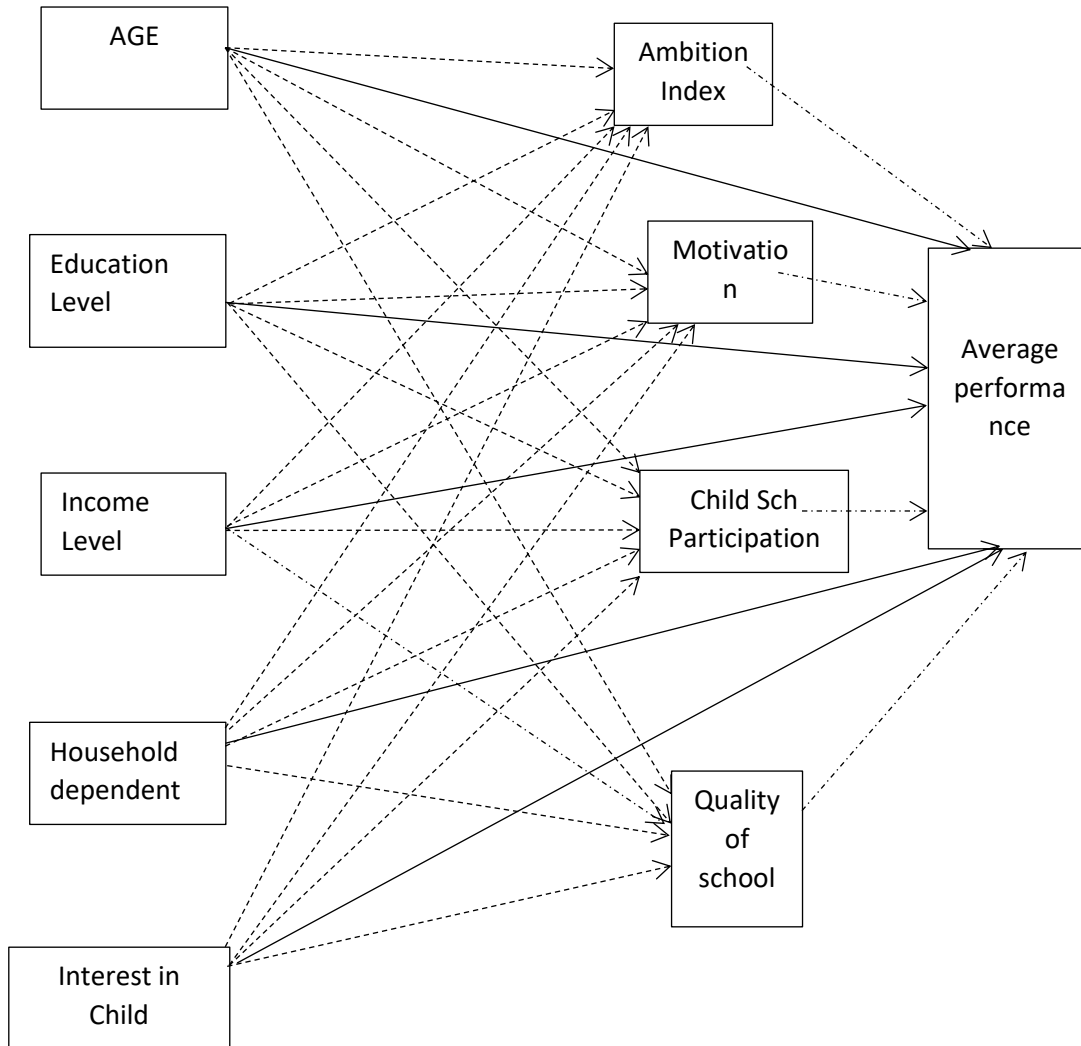
Thus, the model forms various paths of influences from independent variables through intervening variables on dependent variable.

Path Analysis

1.   Considering the child ambition index as dependents variable on independent variables such as parental age, income, household size and interest in child education, I ran regression analysis.

The result showed that on all the five independents variables only level of education show significant impact of child ambition standardized coefficient of 0.796, P-value =0.00, R-square =7.64 (Table 1)

Table 1: Result of regression analysis parental variable on child ambition

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.438	.293		1.493	.139
	Parental age	.062	.063	.053	.980	.330
	Level parent education	.202	.034	.796	5.997	.000
	Income level of parent	.000	.022	.001	.013	.990
	Household size	.005	.025	.011	.206	.837
	Parental interest in Child education	.088	.141	.069	.620	.536

a. Dependent Variable: ambition index (R-square 0.764)

2. Considering quality of child school as dependent variable on parental variables (age, education, income, household size and parental interest in child education). The outcome of regression analysis showed in Table 2, that level of parental education influenced child ambition. Coefficient =0.948, p-value =0.00, R-square =0.896

Table 2: Result of regression analysis parental variable on Quality of School

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.580	.212		2.740	.007
	Parental age	-.033	.046	-.026	-.725	.470
	Level parent education	.262	.024	.948	10.759	.000
	Income level of parent	-.005	.016	-.019	-.306	.760
	Household size	-.016	.018	-.032	-.915	.363
	Parental interest in Child education	.037	.102	.027	.361	.719

a. Dependent Variable: Quality of School (R-square = 0.896

3. Considering the level of child school activities as dependent variable on parental variables (age, education, income, household size and parental interest in child education). The outcome of regression analysis showed in Table 3, that level of

parental education and household size influenced child school activities. Coefficient =0.478 and 0.187, with p-value =0.022 and 0.026 respectively, R-square =0.438.

Table 3: Result of regression analysis parental variable on child participating in school activities

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.173	.732		1.603	.112
	Parental age	-.143	.158	-.076	-.904	.368
	Level parent education	.197	.084	.478	2.333	.022
	Income level of parent	.039	.054	.101	.708	.481
	Household size	.138	.061	.187	2.260	.026
	Parental interest in Child education	.139	.353	.067	.393	.695

a. Dependent Variable: child's activities (R-square =0.438)

4. Considering the level of child motivation as dependent variable on parental variables (age, education, income, household size and parental interest in child education). The outcome of regression analysis showed in Table 4, that level of parental education, income level and parental interest in child education significantly influenced child motivation. Coefficient =0.3638, 0.250 and 0.274, with p-value =0.014, 0.015 and 0.026 respectively, R-square =0.718.

Table 4: Result of regression analysis parental variable on child motivation

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.191	.465		-2.563	.012
	Parental age	.050	.100	.030	.495	.622
	Level parent education	.134	.053	.363	2.503	.014
	Income level of parent	.085	.035	.250	2.468	.015
	Household size	.015	.039	.022	.384	.702
	Parental interest in Child education	.506	.224	.274	2.258	.026

a. Dependent Variable: motivation (R-square =0.718)

Thus, only parental age does not influence any of intervening variables. The path model showed that educational level of parent influenced all four intervening variable (ambition index, motivation, child school participation and quality of school), while income level significantly influence child motivation. Likewise, the household size only influenced child school participation and the parental interest in the child

education only influenced the child motivation. The results can be well represented as showed in the figure 2.
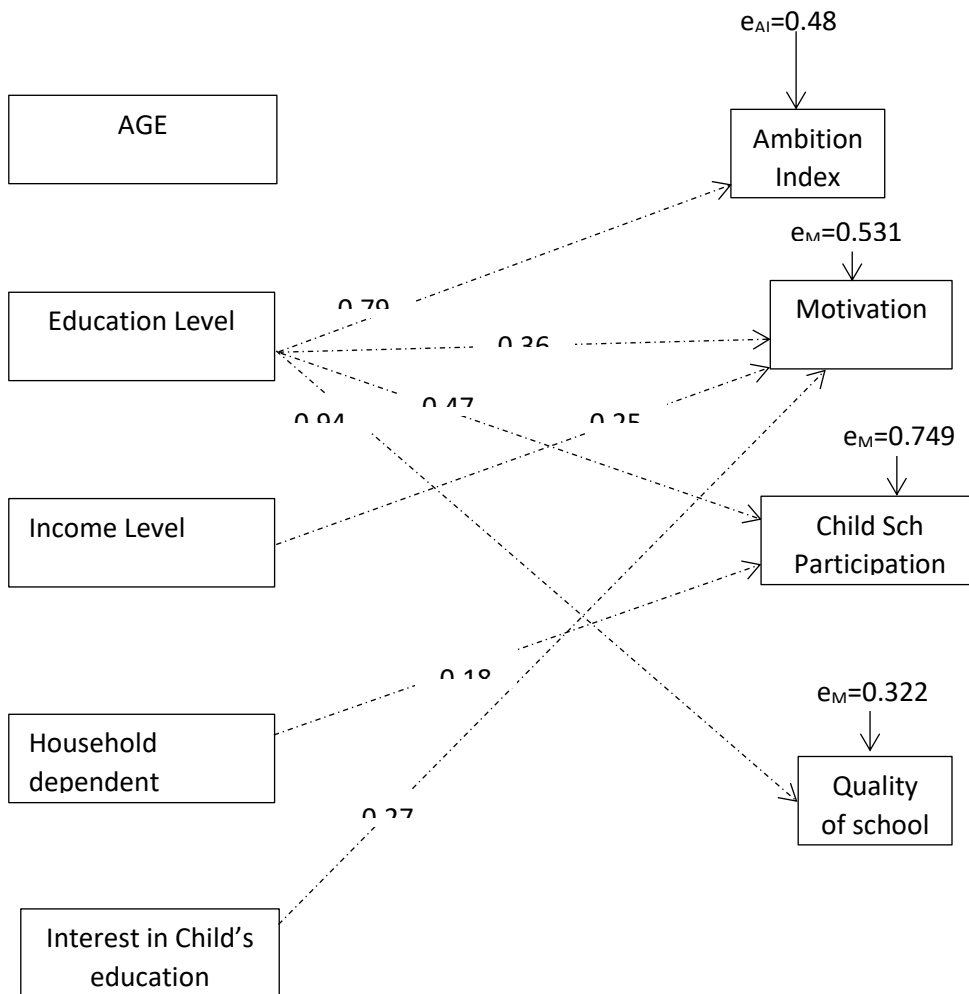

Half Path Analysis

In overall, considering overall influences of independent variables and intervening variable on dependent variable (child average performance). The results of regression analysis showed that all variables expect household size and parental age significantly influence child performance. Thus, age of parents does not direct or indirect influence performance of pupils, household size has indirect influence on child performance through child participation in school activities (Table 5). More so, all intervening variables have significantly influence on child educational performance. Thus, the complete path analysis model:

Table 5: Result of regression analysis on influence of parental variable on child average performance

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

		B	Std. Error	Beta		
1	(Constant)	-.094	.072		-1.299	.197
	Parental age	.008	.014	.004	.539	.591
	Level parent education	.113	.013	.252	9.006	.000
	Income level of parent	.090	.005	.216	17.596	.000
	Household size	-.003	.006	-.004	-.589	.557
	Parental interest in Child education	.377	.033	.168	11.506	.000
	Ambition index	.174	.024	.099	7.211	.000
	Child school activities	.148	.010	.135	15.262	.000
	Motivation	.182	.015	.150	12.332	.000
	Quality of School	.156	.033	.096	4.780	.000

a. Dependent Variable: average per (R-square =0.996)
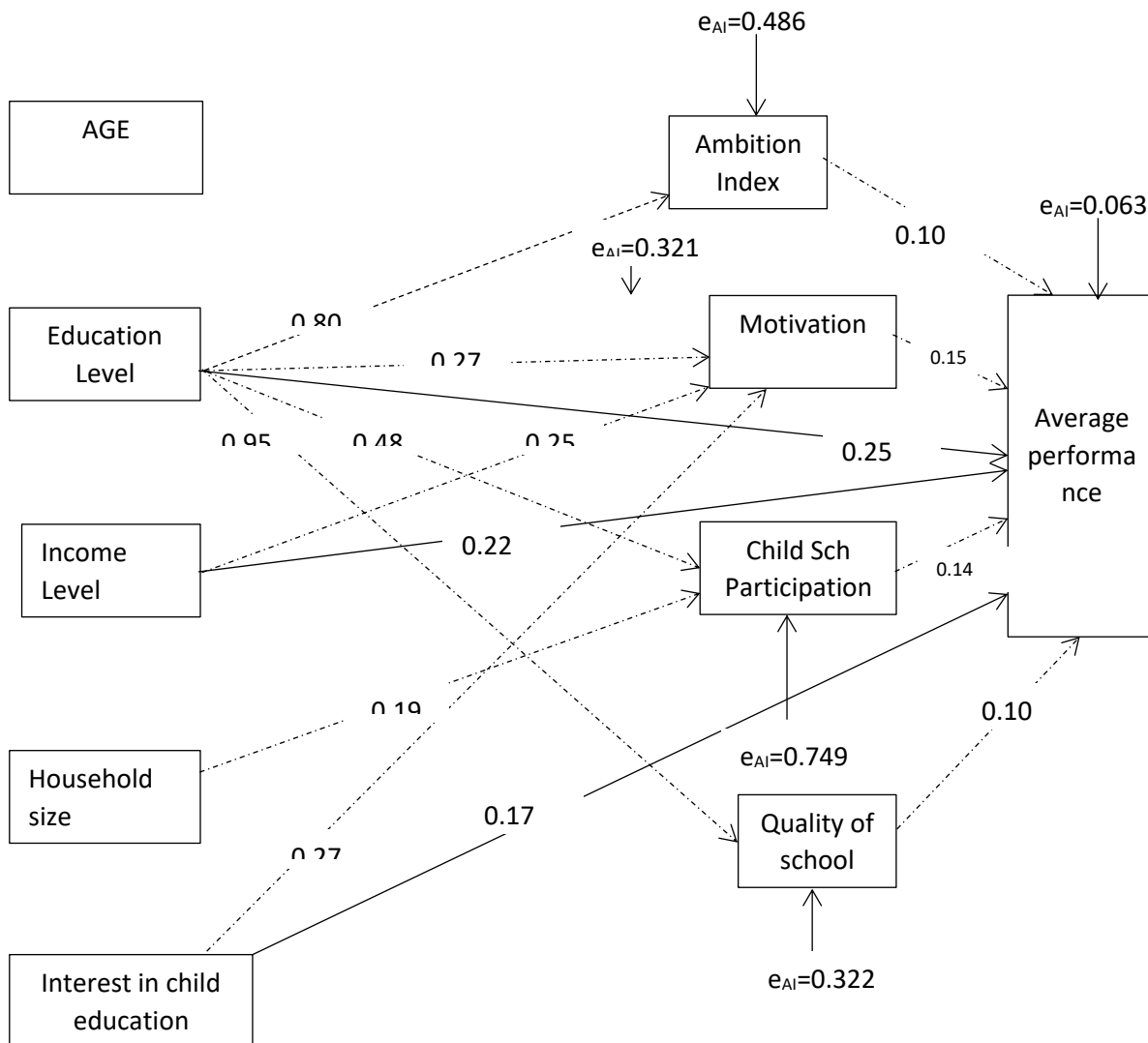
Multiple Correlations Analysis of Variable

		Age	P. Edu Level	P. Income level	House hold size	Parent interest in child edu	Qualt of sch.	Child ambit index	Sch. Partici pation	Self-motiv.	Avg. perfor m
Age	P. Corr.	1									
	Sig. (2-tailed)										
P. Edu Level	P. Corr.	.228*	1								
	Sig. (2-tailed)	.022									
P. Income level	P. Corr.	.097	.832**	1							
	Sig. (2-tailed)	.335	.000								
Household size	P. Corr.	.292*	.146	.170	1						
	Sig. (2-tailed)	.003	.148	.091							
Parent interest in child edu	P. Corr.	.171	.890**	.758**	.073	1					
	Sig. (2-tailed)	.088	.000	.000	.473						
Qualt of sch.	P. Corr.	.183	.945**	.782**	.097	.849**	1				
	Sig. (2-tailed)	.068	.000	.000	.339	.000					
Child ambit Index	P. Corr.	.250*	.872**	.722**	.148	.788**	.816**	1			
	Sig. (2-tailed)	.012	.000	.000	.142	.000	.000				
Sch. Participatio n	P. Corr.	.109	.632**	.574**	.256*	.570**	.626**	.634**	1		
	Sig. (2-tailed)	.281	.000	.000	.010	.000	.000	.000			
Self-motiv.	P. Corr.	.190	.825**	.767**	.146	.794**	.774**	.756**	.545**	1	
	Sig. (2-tailed)	.058	.000	.000	.146	.000	.000	.000	.000		
Avg. perform	P. Corr.	.196	.968**	.892**	.163	.912**	.928**	.885**	.719**	.880*	1
	Sig. (2-tailed)	.051	.000	.000	.105	.000	.000	.000	.000	.000	

*. Correlation is significant at the 0.05 level (2-tailed), **. Correlation is significant at the 0.01 level (2-tailed).

Null hypothesis:

There is no significant impact of parental involvement in child academic performance.

Decision Rule

This hypothesis will be accepted if P-value is less than 0.05 significant or rejected when p-value is found higher than 0.05 significant. Since the Ho is rejected, hence otherwise DO NOT reject

Discussion

The outcome of path analysis through regression showed that parental involvement in child education significantly influenced child performance. Therefore, I rejected the null hypothesis. Most specifically, the parental level of education, income level and level of interest in child education directly influence child performance, while level of education has its influence on quality of school, child ambition, and child participation in school activities as well as child motivation to learning, which consequentially

influenced child performance in classes. More so, parental income and interest in child education both indirectly influence child performance through child motivation. Meanwhile, household size does not directly influence child performance but indirectly influence child performance through level participation in school activities, whereas, the age of parents those not influence directly or indirectly the child class performance, the findings of this study is in line with the findings of other researchers such as Ajide (2022) and Olowo, Igweike and Adeyemi (2020) who found that parental involvement could predict child academic performance. The findings of this study is also consistent with other research finding from different countries for example, Hotz and Pantano (2015), in the United State of America, reported that parental involvement has a significant effect on child academic performance. In Nigeria, Tarraga Garcia and Reyes (2017) and Bukola and Olowe (2020) also reported that parental involvement is an important predictor of child academic performance.

Conclusion

This study has contributed the need for parent to be involved actively in the education of their children. The parent does not only involve on the child educational performance but also make it possible for children to compete well with their counterpart under the same learning environment.

Recommendation

1. Parent should have full involvement in their children education, thereby providing some means to cater for the children daily needs
2. Parent should give maximum financial support to their children to enhance their educational services.
3. School administrators and teachers should endeavor to create a welcoming school involvements, such as inviting parents during open days and of holding PTA meetings regularly, should be vigorously pursued.

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