

# The Impact of Parental Press for Intellectual Development on the Academic Achievement on Pupils

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## Abstract

Parental activities which help in the intellectual development of their children are believed to be integral towards the child's development. Although few studies in literature have examined parents' role toward children intellectual development, there has been very little studies to determine how such parental role affect the performance of children at school. The current research will therefore add up to knowledge as it seeks to explain the impact of parental press for intellectual development (PID) on the academic performances of children at school. Specifically, the study will explore the practice of parents towards child intellectual development at the basic school, determine the relevant parental activities that contribute towards PID and finally investigate the effect of PID on child performances at school. A sequential explanatory mixed design strategy was adapted for the study. Primary data was collected using a questionnaire from parents of 810 selected basic school students across five regions in Ghana. Sampling of respondents in this study employed the use of multi-stage sampling techniques involving; a purposeful sampling of Five (5) Regions including: Ashanti, Greater Accra, Central, Northern, and Eastern, followed by simple random selection of 10 pupils per each grade starting from Grade 1 to 6 in each of the selected d schools in each Region. Data obtained during survey was edited, coded and entered into SPSS statistical software. Press for intellectual development was measured using eight items. A Confirmatory factor analysis technique followed by a path analysis was conducted to determine the effect of the underlying constructs on the performance of children at school. It was found that a parent's press for intellectual development has significant effect on the performance of children in school. The study also established five major aspects of press for intellectual development which parents need to actively engage in for the realization of improved performance.

## 1. Introduction

Performance of students especially at the basic education level for the past few years have been reported to be on the decline. The average score for Mathematics was 467 in 2003, and Ghana scored 276; the average score for Science was 470, Ghana scored 255, the national average score was 500 in 2007 and Ghana scored 309 (MOE, 2008). These statistics have come despite huge financial outlays spent on the Ghanaian education sector (Ankomah et al., 2005). Thus, a gap remains between Government investments and the quality of basic education and according to Gyamfi and Pobbi (2016) this corroborates that fact that one of the most influential parameters of the basic school education is yet to be addressed. Researchers in their quest to finding the causes of the dwindling fortunes of the standard of education, only identified areas in the economy such as: the general state of the economy, poor infrastructure, inadequate equipment and the disparate location of some of the schools, and the unwillingness of most teacher trainees to accept postings to the most deprived areas as the causes of the problem (Dankwa, 1997).

Mahlo and Taole (2012) however, have suggested that schools should not underestimate the role families and parents can play in gaining the trust of students as interventional strategies that can be used to improve students' performance. They added that research indicates that students whose parents are involved tend to fare better academically and socially than those whose parents are not involved. In an earlier study elsewhere, Epstein and Dauber (1992) had reported that increased parental involvement and participation in the education of their children have the potential to improve the quality of education children receive. Many other studies and educators elsewhere have also identified parental involvement in school activities and student work as critical in addressing the gap between policy and expected performance of pupils at the basic level of education. Gyamfi & Pobbi (2016) further contended that the progress of student's educational development depends to a large extent on effective monitoring activities of parents towards their children's academic work. They added that despite such laudable benefits, it is yet to be established through an empirically how the various aspects of parenting or family processes influence pupil's achievement in the search for quality basic education in Ghana.

According to Cho & Han (2004) one key aspect of Parental involvement needed to improve a child's development is the Parents involvement towards the Intellectual Development of the child. A stimulating home learning environment which consists of a variety of educational materials and positive reinforcement of the value of education by parents is integral to the intellectual and social development in children of all ages (Sylva et al., 2004; Henderson & Berla, 1994; Melhuish et al., 2008). Weinberger (1996) posited that children who do well in literacy at age 7 have favourite books at age 3. Parents who introduce their babies to books may give them a head start in school, giving them an advantage over their peers throughout primary school (Clark 2007, Wade

and Moore, 2000a; 2000b). A press for intellectual development (PID) in the current study is defined as parental activities which help in the psychological development of their child. Aspects of PID will include a Parents' ability to encourage child reading thorough buying books for him/her, taking kid to the library, explaining things to the child, buy books for my kid as gifts, provide my kid with books and other reading materials and I provide extra tuition for child at home, all contribute to the child's intellectual development.

## 2. Statement of the Problem

Over the past five decades, Ghana has undertaken major decisions and changes in her educational system in order to improve on the standards of education. These reforms have which have focused mainly on enrolments and infrastructural development have gone along with huge financial outlays and investments into education, according to Gyamfi & Pobbi (2016). Beside Government commitments towards addressing such challenges experienced in schools there remain yet a gap between such policies and the performance of students especially at the basic education. It is on record that performance of students at the basic level of education in Ghana has declined. According to a report the average score for Mathematics was 467 in 2003, and Ghana scored 276; the average score for Science was 470, Ghana scored 255, the national average score was 500 in 2007 and Ghana scored 309 (MOE, 2008). Studies advanced so far to identify causes of poor performances have only mentioned the general state of the economy, poor infrastructure, inadequate equipment and the disparate location of some of the schools, the unwillingness of most teacher trainees to accept postings to the most deprived areas (Dankwa, 1997), instruction efficiency (Adadzi, 2007) as the causes of the problem. These studies have however failed to look beyond the school setting to explore the impacts of external factors like the parents' involvement in child learning and achievement.

Although researchers such Epstein and Dauber (1992), Mahlo and Taole (2012) have all suggested that the critical role that families and parents can play in gaining the trust of students as interventional strategies can be used to improve students' performance, most of these studies have been rather descriptive, hence have not provided empirical evidence on the impact parental role could have on academic performance of children. Epstein and Dauber (1991) rightly argued that increased parental involvement and participation in the education of their children have the potential to improve the quality of education children receive. These arguments imply that a look at the impacts of parental roles toward child learning could be critical to filling educational policy gaps.

In addition to these arguments, the seeming low quality education at the basic level calls for research into new approaches to encourage parents to show active involvement in children's education towards the realization of quality basic education for all (Gyamfi & Pobbi, 2016). Many studies and educators elsewhere like Desforges and Abouchaar (2003), Fan and Williams (2010) have underlined the tremendous impact that parental involvement have on the academic performance of students in school and without doubt, a look at reforms targeted at parental involvement will be critical to addressing the gap in education.

The current research thus seeks to ascertain the effect of parental press for intellectual development on pupil academic achievement in Ghana. The questions that guide this paper therefore include; to what extent are parents involved towards pressing for the intellectual development of their children? Which parental activities should result in a press for intellectual development? How does a press for intellectual development influence the child's performance in school?

## 3. Research Objective

The General Objective of the research is to contribute to the general body of knowledge and research work in the area of parental involvement by developing an empirical model which explains relationships between parental press of intellectual development and academic performance in schools. More specifically, the paper seeks to;

- Explore the practice of parental press for intellectual development at the basic level of education.
- Determine the relevant aspects of parental press for intellectual development necessary towards improved children's academic performance.
- Establish the effect of a parents press for intellectual development on child performances at school.

## 4. Review of Relevant Literature

The family is the primary social environment that influences the behaviour of children and adolescents. Desforges and Abouchaar (2003) in their study stated that what happens at home has been identified as a very significant factor for promoting pupil/student achievement. Several researchers elsewhere have reiterated the relevance of parental involvement in the development of children at an early age. Such studies have equated parental involvement with several outcomes including educational achievement and cognitive development (Sylva et al, 2004).

In Ghana, the few studies conducted so far have mentioned the lack of interest of parents in the education of their children. In a study conducted in Ashanti Region, Pryor and Ampiah (2003a; 2003b) posited that most

parents were apathetic to the schooling of their children. Parents lacked interest in education and as such did not bother to get involved in the learning activities of their children. This assertion has confirmed the phenomenon observed by Baker and Stevenson (1986) and Lareau (1987) that less educated parents are not willing or able to become involved in their children's education. Nyarko (2007) further reiterates that the standard of education in Ghana has assumed a downtrend in recent times. The study reports that in Ghana, not much parental involvement is encountered at the school level as many parents do not attend Parent-Teacher meetings.

Epstein's (2002) conceptualized parental involvement to include six types of involvement, including: parenting, communication, volunteering, learning at home, decision making, collaborating with the community. The researcher explained parenting makes reference to parents' actions and activities that ensure children's learning and cognitive development, from good nutrition to health. Communicating covers all academically relevant information regarding children's academic development from home to school. Volunteering comprises parental attendance to school programmes and events ranging from classroom activities to school governance. Learning at home specifically involves school work, thus, helping with homework, encouraging hard-work in school and emotionally supporting the child in his/her academic challenges. Decision-making refers parents' advocacy for their children's interest and how they influence the school environment. Community looks at how parents and community apply community resources to support children's learning. The study however failed to identify the aspects of parental involvement and how these aspects influence the performance of children in school.

Parental activities which help in the psychological development of their child are referred in the study as a press for intellectual development. A stimulating home learning environment which consists of a variety of educational materials and positive reinforcement of the value of education by parents is integral to intellectual and social development in children of all ages (Sylva et al. 2004; Henderson and Berla 1994; Sammons et al. 2008). Emerson, Fear, Fox and Sanders (2012), in support of this view, found that children aged 9-13 whose homes offered a more stimulating learning environment (measured at age 8) had a higher intrinsic motivation for academic studies.

According to Hill and Tyson (2009), home-based involvement also includes activities which do not take place in the home per se, such as taking children to events and places that foster academic achievement. These can include museums, libraries, galleries, talks and children's performances. The vast majority of parents of minor children — children younger than eighteen— feel libraries are very important for their children. That attachment carries over into parents' own higher-than-average use of a wide range of library services (Pew Research Center 2013).

The ties between parents and libraries start with the importance parents attach to the role of reading in their children's lives. The importance parents assign to reading and access to knowledge shapes their enthusiasm for libraries and their programs: The EPPE research has found that a range of activities are associated with positive outcomes at age 3 and 7 including: playing with letters and numbers, emphasizing the alphabet, reading with the child teaching songs and nursery rhymes, painting; drawing, and visiting the library. By simply reading to and talking with their children about school, films, and books, parents can contribute to children's learning outcomes (OECD 2011). Weinberger (1996) in another study posited that children who do well in literacy at age 7 have favorite books at age three.

While the kinds of reading materials and conversations around learning will change as children get older to reflect their stage in the learning trajectory, the importance of parents maintaining a genuine interest in learning and actively engaging with their children's learning remains the same. As Henderson and Mapp (2002, p.30) state, 'the more families support their children's learning and educational progress, the more their children tend to do well in school and continue their education'.

Reading comprehension is related to provision of books in the home, conversations between adults and children about the content of books and articles they have read, and a high degree of parental support and expectation for academic achievement (Snow, 1991).

Based on the above discussions measurement items for the PID construct included: my parent takes me to programmes; my parent goes with me to bookstores to buy books for him/her; my parent take me to the library; my parent explain things to me; my parent buys children's books for me; my parent buys book for me as gifts; my parent provides me with books and other reading materials and my parent provides extra tuition for me at home

## **5. Research Methods and Design**

### **5.1 Research Design**

A sequential exploratory mixed design strategy as described by Creswell (2005) was adapted for the study as researcher sought to triangulate findings during quantitative phase with qualitative findings. Primary data was collected using semi-structured interviews and a survey questionnaire from 810 parents selected across five regions in Ghana. The reliability of interview guide was ensured by the researcher as printed copies were to a

panel of experts to judge relevance of instrument. The reliability and validity of survey questionnaire was also ensured by the researcher. Items of the initial questionnaire were selected based on the information gathered from literature (Cho et al. (2003). The initial questionnaire was given to colleagues who were also experts to comment on the representativeness and suitability of the questionnaire. The step was taken to establish both face validity and content validity and also help researcher to make necessary amendments before the pilot study. Sampling of respondents during the survey employed multi-stage sampling techniques involving; a purposeful sampling of Five (5) Regions including: Ashanti, Greater Accra, Central, Northern, and Eastern, followed by simple random selection of 10 pupils per each grade in starting from Grade 1 to 6 in each of the selected randomly three selected schools in each Region. Only 800 questionnaires were returned during the survey. Data obtained during survey were coded and entered into a SPSS 21. Data was screen for missing responses, normality reliability of construct and subsequently analyses using both descriptive and inferential methods were conducted. A confirmatory factor analysis approach followed by a Structural equation modelling (SEM) was conducted during the inferential stage of analysis.

### 5.2 Data Preparation

A number of procedures were used to prepare the data for subsequent analyses. Data were examined for missing values, for patterns of missing data and finally treated using the full information maximum likelihood estimation (FIML), also known as the individual raw-score likelihood method recommended by Enders & Bandalos, (2001) to allow for subsequent analysis. Results of missing value analysis are presented in appendices.

### 5.3 Reliability Testing

The reliability of survey items is critical in measurement and subsequently on the analysis of obtained primary data. A measure of the reliability of items for each latent constructs of the study permits us to determine whether the measured items in a scale were all measuring the same underlying construct. In the present study, the reliability of the survey items was determined using the internal consistency Cronbach's coefficient alpha. The higher the Cronbach's coefficient alpha, the more reliable the scale. The Cronbach's  $\alpha$  values for the PID construct in Table 2 were found to be acceptable.

### 5.4 Confirmatory Factor Analysis (CFA)

The next research objective of the current study involves identifying the relevant are aspects of parental monitoring needed for an improved child performance in school. Participants rated their agreement on how the seven parental Press for intellectual Development items contribute to child academic performance. A factor analysis approach was adapted to test further the relevance of measured items of the model by testing the formulated hypothesis: Ha1: all measurement items of the study are relevant manifest variables of parental discussion in Ghana.

The Confirmatory factor approach was employed to test the conceptualization of latent construct, that is to test for the relevance of measured items of the model by testing the formulated hypothesis: Ha1: all measurement items of the study are relevant manifest variables of a parents' press for intellectual development in Ghana. The step thus addresses the second research question of the study. As earlier stated PID was measured using eight items including: *My parents take me to children's programme, My parents go with me to bookstores to buy books for me, My parents take me to the library, My parents explain things to me, My parents buy children's books for me, My parents buy books for me as gifts, My parents provide many kinds of books and materials for me to read, My parents provide extra tuition for me at home, My parents discuss my grades together.* The conceptual model which gives the summary of the relationships among measurement items with construct was tested empirically using data gathered during survey.

Estimation of parameter in SEM is based on the sample correlation matrix obtained from the survey data. The sample correlation matrix used in the analysis is also presented in appendices. Estimation of model fit indices was conducted using SPSS AMOS software. The model fit measures of the empirical model in this study is evaluated in using of the GFI, TLI and the CFI measures of fit; the statistical significance of the estimated coefficients, squared multiple correlation coefficient. Table 3 presents the results of the confirmatory factor analysis (CFA) for the measurement models of all constructs.

### 5.5 Inferential Analysis

Besides arguments on the associations between involvement and performance (Izzo & colleagues, 1999) & (Tooper, Keane, Shelton, & Calkins, 2010), there is very little research which investigates the effect of a parents' press intellectual development toward child academic performance. The current study thus aims to investigate this relationship as it conceptualizes that parental press for intellectual will lead to improvement in child's performance at school.

The Structural Equation Modelling (SEM) unlike the multiple regressions allows for the validating the



latent constructs and to test for their direct effect on other variables. The technique thus follows a two-stage analysis process involving model identification and the path analysis. (Anderson & Gerbing, 1988). The previous also known as construct validity can be assessed by running a confirmatory factor analysis (CFA) or by the Exploratory factor analysis (EFA). The latter as explained involves add paths from exogenous latent construct to endogenous factor and testing for the significance of paths using empirical data obtained on the phenomenon studied. As an assumption SEM requires that data does not contain missing responses hence the need to treat missing data before testing the model. The section hence is divided into three sections which address the various stages involving; data treatment, CFA and Path Analysis.

## 6.0 Presentation and Analysis of Results

### 6.1 Descriptive Analysis and Interviews

Students rated various measurement items, which were selected from various literature, using a five-point Likert scale ranging from 5 – strongly agree to 1 – strongly disagree. Descriptive of responses are presented in Table 1

**Table 1: Statistics of pupils' response on parent activities**

	Mean	Std. Deviation	Skewness
child_programmes	2.3487	1.41531	.594
Bookstores	3.0035	1.52374	.029
Library	2.2216	1.44133	.775
Explain	3.4936	1.43592	-.399
child_books	3.1736	1.42233	-.138
books_gifts	2.8249	1.46769	.120
provide_kid	3.1038	1.46632	-.114
extra_tution	2.6189	1.55421	.367
Average	2.98		

#### Source: Survey Data

The average perceptions of children on their parent's press towards intellectual development generally indicate children were neutral. This result is evident in an estimated general mean score of 2.98 for all the eight statements that they responded to.

In specific analyses of the various items, it is observed most respondents agreed more to the fact that *their parents explain things to them* with the highest recorded mean score of 3.4936. A further probe during interviews reveal that most parents (62%) made conscious effort beyond the challenges they experienced to explain things their children did not understand when learning at home. A mother in Kumasi remarked,

*I normally teach them how to respect. Like if she sees a visitor coming outside the house she will go and bring a chair for the visitor or greet him or her. Anything she is asked to do she has to help.*

A father in Sunyani explained

*You can only teach your child what you understand yourself. If it's something I can manage I teach him but now due to educational reforms most of the courses have changed. If I don't understand I get someone around the house who knows to teach the child.*

Another father in Kumasi elaborated,

*Yes I do, once it's something I understand especially if its cultural studies I explain to them. The other day my child said they asked the meaning of Akomfo Anokye and I explained it to them. The name is not an Asante word it's a Guan word from eastern region. After when they went back to school the teacher was happy and called to congratulate me.*

A mother in Tamale admitted,

*Yes I do. He likes asking questions but most of the time I can't help because I am not that literate.*

The content of the stuff ...a mother in Accra remarked,

*My child asks a lot of questions. For example when he brings school assignments home and he does not understand he would ask. When we watch TV and or Radio and he see or hears something he does not understand he also asks and I explain.*

Although estimated means for measurement items including the variables: *my parents buy children's books for me* (mean = 3.1736), *my parents provide many kinds of books and materials for me to read* (mean = 3.1038) suggests neutral response the negative sign of the measure of skewness further suggest that more children believed that their parents engaged in these activities than those who did not believed parents did.

On the contrary student response to items: *take to bookshops* and *take to libraries* were found to be low. The finding suggests that more children disagreed that parents engaged themselves in taking their children to bookshops and to libraries. These finding were also triangulated by findings during the qualitative phase of the study as parent comments suggested that most parents either had little time or did not deem it important to take

their children to libraries and bookshops.

Analysis of parents comments reveal that the majority of respondents (21) do not take their wards to any public library. Further probe also reveal that the low level of involvement was partly because of the limited public library or school library for children in Ghana.

Below are some of the responses of parents who do not take their wards to the library.

A father in Accra said,

*No I have not done that before*

Another father in Kumasi remarked,

*I haven't sent her to the library before*

A mother in Accra admitted,

*I don't send him to the library. The school however has a library he uses*

Parents who do take their wards to library only do so at the weekend and it is not regular, a father in Sunyani remarked,

*Yes, sometimes on Saturdays I send them to the library so they can learn.*

A father in Kumasi explained,

*I have sent them to the British Council Library in Kumasi before. Now it's no more there.*

This finding is contrary to the studies of Pew Research Center (2013) as they found that a vast majority of parents of minor children feel libraries are very important for their children

Analysis of parents' views on taking children to educational programmes reveals that most parents did not send children for educational problems because they were either not aware of such programs or when they were these programmes were organized far from their homes

One mother in Sunyani remarked,

*Oh, I don't because those programmes don't happen in this area. If they had I would have no problem sending her for them.*

Another father in Kumasi explained,

*No, I don't send him because I don't hear of educational programmes this is area because I am a busy person. It's my responsibility though.*

One father in Kumasi however elaborated,

*Yes, anytime there are educational seminars and I hear I let them go. I have also taken them on family excursions. Recently we went to Barekese and I explained everything about the river to them.*

The relatively high overall standard deviations estimate for all measurement items suggest to the fact that there are substantial amount of variability in the responses provided by respondent to various Parental Press for Intellectual Development items. Results of the study are in line with few studies conducted Ghana. In an earlier study by Gyamfi & Pobbi (2016) the researcher found that parental involvement ... toward child academic work was found to be low in the Ghana. Among Key contributing factors leading to the observed low involvement are the work schedules and the socio-economic status of parent.

## 6.2 Inferential Analysis

**Table 2: Internal Consistence measures and the number of measurement items**

	PID
Cronbach's $\alpha$	0.83
Number of Items	8

Source: Author

**Table 3: Measures of Model fit for Empirical model during Confirmatory Factor Analysis**

Model	NPAR	CMIN	DF	P	CMIN/DF	GFI	AGFI	TLI	CFI	RMSEA
Default Model	16	173.682	20	0.0	8.684	0.950	0.910	0.912	0.937	0.093
Saturated model	36	0	0			1			1	
Independence model	8	2468.725	28	0.0	88.169	0.473	0.323	0	0	0.315

Source: Author

Results of analysis reveal a CMIN ( $\chi^2 = 173.682$ ) with a corresponding p value = 0.000. However, it is known that the Chi square value and P-value depends on the sample size and the larger the sample size the larger the Chi-Square becomes. It is thus recommended that other measures of fit are determined to assess the fitness of

the model. A recommended measured the ratio of the chi square to the degrees of freedom,  $X^2/df = 8.684$  exceeded the threshold value of 5 indicating the need for some modifications to the model. The other measures of fit including the GFI, TLI and the CFI which were evaluated in the context of suggested minimum threshold values of .9 (Arbuckle, 2010) exceeded the minimum threshold. The Goodness of fit measures, GFI = 0.95 and the adjusted goodness of Fit index AGFI=0.910, The Tucker Lewis index and confirmatory factor index TLI=0.912 and CFI= 0.937 presented in table 3 suggest that model fit is was acceptable.

Estimates of factor loadings during CFA were determined. The statistical significance of coefficients is evaluated in terms of the results of a hypothesis test with the null hypothesis that the true coefficient is zero using a significance level of 5%. The coefficients of measurement items which are also known as the factor loadings of items estimated during CFA are presented in Table 4.

**Table 4: Estimated Regression weights of items during Confirmatory factor analysis**

CONSTRUCT AND MEASURES			Unstandardized	Standardized	Standard Error <sup>a</sup>	Probability <sup>b</sup>	SMCC <sup>c</sup>
			Standardized	Coefficients			
Q1	child_programmes_1	<--- PID	1	0.754			0.57
Q2	bookstores_1	<--- PID	0.458	0.324	0.05	***	0.1
Q3	library_1	<--- PID	0.467	0.35	0.047	***	0.12
Q4	explain_1	<--- PID	0.97	0.715	0.048	***	0.51
Q5	child_books_1	<--- PID	1.034	0.768	0.046	***	0.59
Q6	books_gifts_1	<--- PID	1.047	0.78	0.045	***	0.61
Q7	provide_kid_1	<--- PID	1.05	0.798	0.046	***	0.64
Q8	extra_tution_1	<--- PID	0.454	0.321	0.05	***	0.1

Source: Author

Notes

a. Standard error of estimated unstandardized coefficient

b. Probability of a t value equal to or greater than actual t value in a two-tailed test for significance of coefficient under the null hypothesis that the true value is zero. The symbol \*\*\* indicates that the null hypothesis is rejected at the .001 level of significance.

c. SMCC = squared multiple correlation coefficient

Table 4 presents the unstandardized and standardized regression weights estimated for measurement items of each construct. The Standardized regression weight gives a measure of how much increase in standard deviation will be experienced for a unit standard deviation rise in the endogenous variable. Press for intellectual development was measure with six items. All items had significant factor loadings. The largest standardized regression weight at the 5% level of significance was observed for *My parents provide many kinds of books and materials for me to read* (provide\_kid\_1 <--- PID = 0.798, p value = \*\*\*). The result suggests that when PID goes up by 1 standard deviation, provide\_kid\_1 goes up by 0.753 standard deviations.

High standard regression weights were also observed for *My parents take me to children's programmes* (child\_programmes\_1 <---PID = 0.754 p value = \*\*\*), *My parents explain things to me* (explain\_1 <---PID = 0.715, p value = \*\*\*), *My parents buy children's books for me* (child\_books\_1 <---PID = 0.768, p value = \*\*\*), *My parents buy books for me as gifts* (books\_gifts\_1 <--- PID = 0.78, p value = \*\*\*).

Three items for the exogenous construct had standardize regression weights less than the recommended minimum value of 0.5. These included: *My parents provide extra tuition for me at home* (extra\_tution\_1 <---PID = 0.321, p value = \*\*\*), *My parents go with me to bookstores to buy books for me* (bookstores\_1 <---PID= 0.324, p value=\*\*\*) and for *My parents take me to the library* (library\_1 <--- PID = 0.35, p value = \*\*\*). As in factor analysis when loadings of variables lie below 0.5 items are deleted and analysis is repeated. Similarly, when factor loading of items during CFA lie below 0.5 it is recommended that items are removed from the model and analysis repeated without items. If deletion improved on the model fit indices then the modified model is adapted. Results will be discussed later in the section.

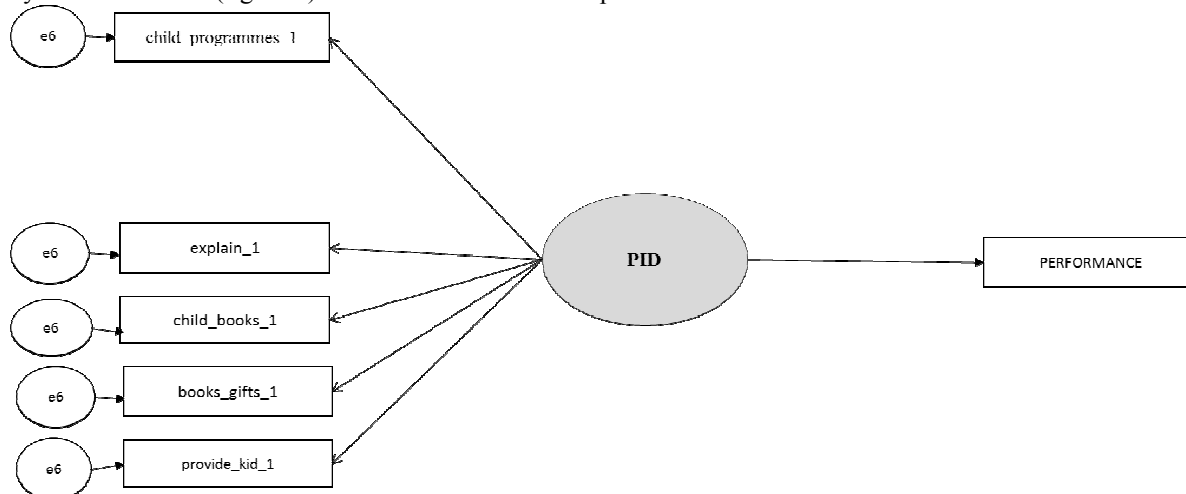
The squared multiple correlation coefficient (SMCC), like the Coefficient of determination in linear regression, Estimates the percentage of variance in observed items that is explained by the underlying construct. The SMCC of 0.64 for **prog\_4kids\_1** suggest that 64 percent of the variance in provide\_kid\_1 is explained by the underlying construct PID. In other words, the error variance of prog\_4kids\_1 is approximately 36 percent of the variance of prog\_4kids\_1 itself. A result which lead to the fact that provide\_kid\_1 is a relevant variable in the description of PID to toward academic performance.

The findings of this study provide empirical evidence to support claims by several educators and researchers. Sylva et al. 2004; Henderson & Berla 1994; Sammons et al. 2008) have stated in their studies that a stimulating home learning environment which consists of a variety of educational materials and positive reinforcement of the value of education by parents is integral to intellectual and social development in children of all ages. Hill and Tyson (2009) also added that home-based involvement which develop a child intellectually also includes activities which do not take place in the home per se, but such as taking children to events and places that foster academic achievement

### 6.3 Effect of PID on Child Performance

Few studies have suggested, although not empirically, that a parent ability to ensure the intellectual development of their children do have continuous impact on the academic success of the child. The research question hence sought to find answers to address these gaps. A hypothesis was formulated for testing: Ha1. Parental Press for Intellectual Development (PID) has a positive effect on academic performance of pupils.

The Path analysis stage of SEM involves testing for effects of the PID construct on the performance of students. This section thus aims to establish a full model showing paths from the exogenous latent constructs confirmed during the CFA to an endogenous variable academic performance of pupil. These paths represented by directed arrows (figure 1) indicate causal relationships.



**Figure 1: The conceptual model consists of five latent**

The full model is similarly tested using data from the survey. The fit of the full model is then assessed in terms of the Chi Square with the corresponding P-value, the Root Mean Square Error of Approximation (RMSEA). Kline (2010). In addition to RMSEA, incremental fit indices; The Goodness of fit test index (GFI) and the Comparative fit index (CFI) are utilized for fit evaluation in this study. The relationships of between constructs and their measurement items with their probability values from SEM analysis using AMOS 23 are presented in Table 5.

**Table 5: Measures of Model fit for Empirical model with modifications during Path Analysis**

Model	NPAR	CMIN	DF	CMIN/DF	GFI	AGFI	TLI	CFI	RMSEA
No modification	12	111.594	9	12.399	0.958	0.961	0.931	0.959	0.114
Three modifications	15	14.204	6	2.367	0.995	0.981	0.992	0.997	0.039

Source: Author

The Goodness of fit measure, GFI = 0.958 and the Adjusted Goodness of fit measure, AGFI = 0.961 both exceeded the minimum threshold of .9 (No modifications). The other absolute fit measures, all exceeded the threshold value of 0.9; TLI=0.931, CFI=0.959 suggesting a good fit. The RMSEA= 0.054 and CMIN/Df exceeded the minimum thresholds. It is also worth noting that all measurement items confirmed from CFA remained significant during SEM.

In the SEM model, some of the exogenous variables are also allowed to correlate. The correlation paths were added as a model modification. This modification (a Lagrange Multiplier test in this case) tests the necessity of restrictions in the model. For example, if two variables are highly correlated in the variance / covariance matrix, and the researcher (unaware of this fact) suggests a model in which these variables are constrained to be independent, the Lagrange Multiplier test will estimate how much the model might be improved by releasing this restriction. Such a modification procedure is ad hoc, and does not reflect a strict confirmatory approach until it is cross- validated. (Williams D. et al., 1999). Three modifications were done by correlating items explain\_1 and provide\_1, book\_gifts and child\_programmes, and finally provide\_kid and child programmes.

After the above modifications to the model was reassessed to determine the fit of the modified model. There was an improvement in all measures of fit. The ratio  $X^2/df = 2.267$  was a significant improvement from 12.399 for the full model without modification and lies comfortably below the recommend threshold value of 5 hence this suggest the fit is acceptable. Details of estimates are presented in Table 5.



**Table 5: Measures of Model fit for Empirical model with modifications during Path Analysis**

Model	NPAR	CMIN	DF	CMIN/DF	GFI	AGFI	TLI	CFI	RMSEA
No modification	12	111.594	9	12.399	0.958	0.961	0.931	0.959	0.114
Three modifications	15	14.204	6	2.367	0.995	0.981	0.992	0.997	0.039

**Source: Author**

The Goodness of fit measure for the model with modifications was estimated as, GFI = 0.995 and the Adjusted Goodness of fit measure, AGFI = 0.981. Which indicate substantial improvement in these model fit measures. Similarly, the other absolute fit measures, improved after modifications. This was evident in estimate values of TLI=0.992, CFI=0.997 suggesting a good fit. Finally, the RMSEA= 0.039 also comfortably lies below the suggested maximum threshold of .08 which also suggest that model fit is good. All measurement items confirmed from CFA remained significant during SEM

**Table 6: Model fit Measures, Regression Weights and probability values form SEM analysis**

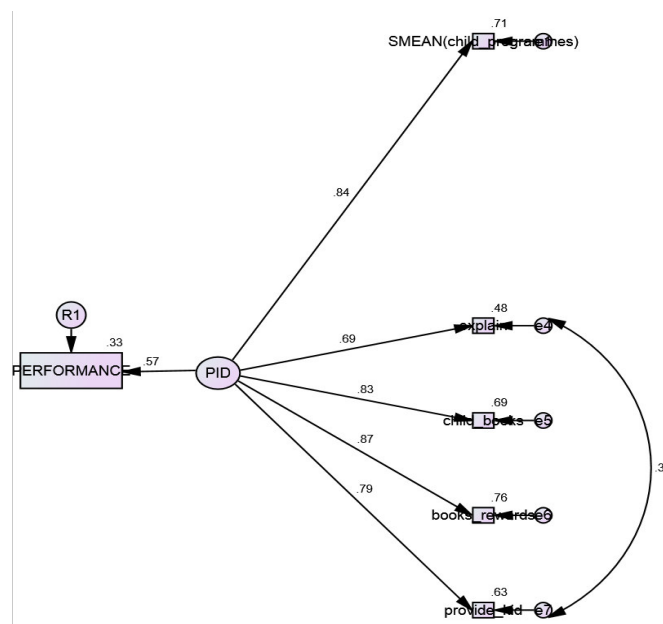
CONSTRUCT AND MEASURES		Coefficients	Unstdsd	Stndsd	Standard Error	Probability
			Coefficients	Coefficients		
child_programmes_1	<--- PID	1	0.753			
explain_1	<--- PID	0.975	0.718		0.048	***
child_books_1	<--- PID	1.043	0.773		0.046	***
books_gifts_1	<--- PID	1.048	0.779		0.045	***
provide_kid_1	<--- PID	1.057	0.801		0.046	***
PERFORMANCE	<--- PID	0.297	0.295		0.026	***

Source: Author

**Notes**

- a. Estimated regression coefficients: Unstdsd = Unstandardised, Stndsd = Standardised
  - b. Standard error of estimated unstandardised coefficient
  - c. Probability of a t value equal to or greater than actual t value in a two-tailed test for significance of coefficient under the null hypothesis that the true value is zero. The symbol \*\*\* indicates that the null hypothesis is rejected at the .001 level of significance.
  - d. SMCC = squared multiple correlation coefficient
- (TLI = Tucker-Lewis index, CFI = Comparative fit index, CR = Construct reliability, VE = Variance extract

The SMCC for the endogenous variable shows the amount of variability in the variable explained by the all the four latent exogenous variables. The estimated value of 0.38 implies that the PID as a singular construct can explain approximately 38 percent of the observed variance in child performances. This is not surprising as other factors are known to contribute toward explaining the variances on child performance at school. All unstandardized and standardized regression weights remained significant in the final path model. The final model showing the effects of the construct, PID on the performance of pupils is summarized presented in figure 2.



**Figure 2: The Empirical model of Parental Involvement and Performance of Pupils. Model shows all significant paths estimated from primary data form survey using Structural Equation Modelling**

The effect of exogenous variables PID in the path analysis is provided by the estimated standardized

regression weight. Press for intellectual development was found to have a significant positive effect on the Performance of pupil ( $\beta = 0.57$ ,  $p$ -value = \*\*\*). The finding from the model thus confirms the significance of the claim that, Ha1 that Parental Press for Intellectual Development (PID) has a positive effect on academic performance of pupils. The positive sign of the estimated weight indicates that increase in Press for intellectual development will lead to better performance of pupils. The result hence provided empirical evidence of the impact that a parent's press for a child's intellectual development can have on the performances of their children at schools.

Although few studies have suggested that a parent ability to ensure the intellectual development of their children do have continuous impacts on the academic success of the child most of these results have been based on qualitative designs hence have failed to rigorously establish the effect of PID on academic performances. The finding is therefore significant towards studies in educational management.

## 7. Recommendations

Based on the finding for the present study the following recommendations are suggested:

- Schools should organize workshops to sensitize parents on their role regarding the press for intellectual development of their children.
- The government of Ghana should consider policies which will encourage parents to show active involvement in children's education, especially in the home environment towards the academic of pupils.

## 8. Conclusion

The role parents play towards pressing children for intellectual development cannot be underestimated. In order to improve on the performances of children at school parents need to be encouraged to involve themselves in the activities found in the study as they do positively influence the performance of children in school. The finding is also necessary toward decision making at both the home and the school level. Schools need to organize workshops or meetings where they can communicate and educate Parents on the need to pursue activities that press children towards academic activities, especially at home.

## References

- Adadzi, H. (2006). Efficient Learning for the Poor: Insights from the frontier of cognitive Neuroscience. The international Bank for Reconstruction and Development/The World Bank, Washington D.C, USA.
- Ankomah, Y. et al, (2005). Implementing Quality Education in Low Income Countries; (EDQual). Retrieve from: [http://www.dec.org/usaidd\\_eval](http://www.dec.org/usaidd_eval).
- Baker, D. P., & Stevenson, D. L. (1986). Mothers' strategies for children's school achievement: Managing the transition to high school. *Sociology of Education*, 59.
- Cho, S., & Campbell, J. R. (2010). Differential influences of family processes for scientifically talented individuals' academic achievement along developmental stages. *Roeper Review*, 33(1), 33-45.
- Clark, C. (2007). Why It Is Important to Involve Parents in Their Children's Literacy Development: A Brief Research Summary. *National Literacy Trust*.
- Creswell, J. W. (2005), Educational Research Planning, Conducting and Evaluating Qualitative and Quantitative Research. Canada: Pearson and Merrill – Hall.
- Dankwa, W. A. (1997). SchoolNet: A catalyst for transforming education in Ghana. *Council for Scientific and Industrial Research*.
- Desforges, C. and Abouchaar, A. (2003). *The Impact of Parental Involvement, Parental Support and Family Education on Pupil Achievement and Adjustment: a Literature Review* (DFES Research Report 433). London: DFES.
- Emerson, L., Fear, J., Fox, S., & Sanders, E. (2012). Parental engagement in learning and schooling: Lessons from research. *A report by the Australian Research Alliance for Children and Youth (ARACY) for the Family-School and Community Partnerships Bureau: Canberra*.
- Epstein, J. L., & Dauber, S. L. (1992). School programs and teacher practices of parent involvement in inner-city elementary and middle schools. *The Elementary School Journal*, 91(3), 289-305.
- Epstein, J. L., Sanders, M.G., Simon, B.S., Salinas, K.C., Jansorn, N.R. and Voorhis, F.L., (2002). Family, and Community Partnerships: Your Handbook for Action (2nd edition), Corwin, Thousand Oaks, CA, 2002.
- Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self - efficacy, engagement and intrinsic motivation. *Educational Psychology*, 30(1), 53-74.
- Gyamfi, K. & Poggi, M. A. (2016). Parental Monitoring and Child Performance in Ghana. *Journal of Education and Practice*, 7, (21), 33-41
- Hair, J., Black, B. Babin, B., Anderson, R. and Tatham, R. (2006). *Multivariate Data Analysis* (6th edition). Upper Saddle River, NJ: Prentice-Hall.

- Henderson, A. T., & Berla, N. (1994). *A new generation of evidence: The family is critical to student achievement*.
- Henderson, A. T., & Mapp, K. L. (2002). A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement. Annual Synthesis 2002. *National Center for Family and Community Connections with Schools*.
- Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement. *Developmental psychology*, 45(3), 740.
- Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education*, 60, 70-74.
- Mahlo, F. D., & Taole, M. J. (2011). Intervention strategies to improve student performance. In *Proceedings of the South African College/principles (SACPO)*. Retrieved from [http://www.sacpo.co.za/downloads/conference% 20papers/Intervention% 20Strategies% 20To% 20improve% 20Student% 20Performance. pdf](http://www.sacpo.co.za/downloads/conference%20papers/Intervention%20Strategies%20To%20improve%20Student%20Performance.pdf).
- Melhuish, E. C., Phan, M. B., Sylva, K., Sammons, P., Siraj - Blatchford, I., & Taggart, B. (2008). Effects of the home learning environment and preschool center experience upon literacy and numeracy development in early primary school. *Journal of Social Issues*, 64(1), 95-114.
- Nyarko, K., & Vorgelegt, V. (2007). Parental involvement: A sine qua non in adolescents' educational achievement. *Unpublished Doctoral Dissertation, Ludwig-Maximilians University*. Retrieved from [http://edoc.ub.uni-muenchen.de/8384/1/Nyarko\\_Kingsley.pdf](http://edoc.ub.uni-muenchen.de/8384/1/Nyarko_Kingsley.pdf).
- Pryor, J. & Ampiah, J. G. (2003b). Listening to voices in the village: Collaborating through data chains in B. Swadener & K. Mutua (Eds), *Decolonizing educational research*, Albany, State University of New York Press.
- Sylva, K Melhuish, E, Sammons, P Siraj-Blatchford, Researcher and Taggart, B (2004). *Effective Pre-School Education. Final Report. DfES. London: Institute of Education.*
- Wade, S. M. (2004). Parenting influences on intellectual development and educational achievement. *Handbook of parenting: Theory and research for practice*, 198-212.
- Weinberger, J. (1996). A longitudinal study of children's early literacy experiences at home and later literacy development at home and school. *Journal of research in Reading*, 19(1), 14-24.