

## The Effect of Father's Involvement on Basic School Students' Academic Achievement in Ghana: A Structural Equation Modelling Analysis

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### Abstract

*A structural equation modelling analysis was used to investigate the effect of father's involvement on students' academic achievement. The stratified sampling procedure was used to select 383 fathers with children in the basic schools from whom data were collected for the study. Home-based involvement, school-based involvement and academic achievement were the variable considered for this study. Results of the study revealed that home-based involvement of father's was an important predictor of student's academic achievement. This was contrary to the relationship between school-based involvement of father's and students' academic achievement.*

**Keywords:** Home-based Involvement; school-based involvement; academic achievement

### INTRODUCTION

There is no iota of doubt that the involvement of fathers is important for the development and welfare of their children (Sakadi, Kristiansson, Oberklaid & Bremberg, 2007). Within the Africa societies, fathers play a multiple role as a moral teacher, breadwinner, disciplinarian, and decision maker. They determine the welfare and educational decisions of their children (Beardshaw, 2004). These may include the timing of a child's entry and retention in school (Richter & Morrell, 2008). Although financial support to the child is an essential responsibility, it does not completely define the societal roles of a father. In much of Africa especially Ghana, fatherhood is a social role (Richter & Morrell, 2008). This suggests that child rearing is a shared responsibility of the extended family (Richter & Morrell, 2008). A man is a father because he has responsibility for a child (Nsamenang 1987) and must behave in a manner deserving of being called father (Mkhize 2005). In other words, a father must refrain from unacceptable behaviour such as beating children and must guides and sets good examples for them. The view of fatherhood from the Ghanaian context, is a man who enacts the responsibility of caring for and protecting a child. Assuming such fatherhood responsibilities are mostly established through marriage. According to Fukuyama (1999), marriage is the social game plan through which society puts pressure on men to support mothers and children. The love and level of commitment of fathers toward their children is a source of motivation for fathers to work hard (Richter 2005). The presence of fathers in children's lives brings about direct and indirect benefits to children (Richter & Morrell, 2008). Among the direct benefits may include averting harm to children and also making resources available to support the educational goals of children. Guma and Henda (2004) suggest that children with their father are less likely to be abused or exploit by other men in the society. Fathers also indirectly ease the stress of women in taking care of their children. It is suggested that the level of father's engagement directly impact on their children well-being (Richter 2005). Fathers' have direct positive psychological and educational effects on children (Richter & Morrel, 2008).

It has been increasingly recognised that parental involvement in their children's education increases the likelihood of academic success. The level of parent's engagement significantly impacts on students' learning and developmental processes (Fan & Williams, 2010). The more parents are engaged in school related activities such as school meetings, the better the chance of improving upon their children's academic achievements. The recognition of parent's role in a child's education is mostly reflected in the assertion that "Education begins at home". The home variable like the socioeconomic state of parents have been suggested to have a significant influence on students' psychological, emotional, and social well-being (Musgrave, 2000; Grissmer, 2003; Sharma, 2004). This suggests that children do not only acquire knowledge from the teacher but also learn from parents and family members (Affreh, 2012). Parents represent a considerable role in a child's, hence, a positive attitude with children at home could positively influence children's academic performance (Akhter, 2008; Epstein, 2005). The role that parents play in their children's academic learning could either inhibit or enhance their children's academic success (Drummond & Stipek, 2004). By actively engaging in their child's education, parents demonstrate their interest in children's activities and reinforces the idea that school is important (Affreh,

2012). Such experiences encourage children's to explore their environments which improves their academic skills and success in school (Grossmann et al., 2002). In the Ghanaian context, fathers as the head of the family plays a multidimensional role in the life of their children. They make a unique contribution to their children's development (Fagan & Palm, 2004; Jeynes, 2005). Yet the involvement of fathers in the lives of young children has been virtually ignored (Lamb & Laumann-Billings, 1997). Most of studies focus on the role mothers play in parenting (Sarkadi et al. 2008), yet there is evidence that fathers play an important role in ensuring the holistic well-being of children (Ross & Broh, 2000; Williams & Radin, 1999).

Fathers involvement is a complex construct which has subsume a wide array of conceptualisation and operationalization (Yoon, Bellamy, Kim & Yoon, 2017; Lamb 2000). Father's involvement in their children's development is often quantified in terms of the amount of time spent with children, the physical availability of the father, or the frequency of father-child interaction (Hawkins & Palkovitz 1999). For instance, spending more time with the father has been associated with lower levels of depression and substance use among African American adolescents (Salem, Zimmerman & Notaro, 1998). However, researchers (Carlson, 2006; Keown & Woodward, 2002; White & Gilbreth, 2001) have advocated for the conceptualisation of fathers involvement to focus on quality instead of quantity. According to Carlson (2006), the quality of father's involvement is an essential element for children's well-being and development. Children who have high quality relationships with their fathers have been found to exhibit lower levels of internalizing and externalizing behaviour problems (White & Gilbreth 2001).

Enhancing the academic achievement of students is an important educational goal (Wang & Sheikh-Khalil, 2014). To achieve this goal, potential factors that affects academic performance and how they operate must be identified. Owing to the importance of students' academic achievement, numerous studies have examined factors that influence students' academic performance both in Ghana (Agyeman, 1993; Ametefe, 2012; Owusu-Ansah, 2017) and outside Ghana (Epstein & Sanders, 2002; Hill & Taylor, 2004). Majority of these studies suggest that multiple factors like home, teachers, parents and school characteristics influence the academic performance of students. In addition, research on parental involvement and academic performance has expand in breath and length over the years. Variable such as social economic status of parents, involvement in school and home activities have been explored by researchers (Epstein & Sanders, 2002; Hill & Taylor, 2004; Jeynes, 2009; Hill & Tyson, 2009) but investigation of father's involvement and children's academic performance are still thin in the Ghanaian context. Considering the fact that father's involvement uniquely contributes to children's happiness and mental well-being (Hwang & Lamb, 1997; Wang & Sheikh-Khalil, 2014). In addition, research studies also suggesting that father's involvement is associated with positive cognitive, behavioural, psychological and developmental outcomes (Flouri & Buchanan, 2003; Carlson, 2006; Jeynes, 2016). There is the need to present a deeper understanding of how father's engagement with their children influences children's academic achievement.

## LITERATURE

### Theoretical and Empirical Framework

The extensive studies on the determinants of educational achievement over the past two decades have make room for the exploration of several measureable variables. Researchers have focus on ecological factors such as parental involvement and its influence on academic achievement of students. In the quest to have a deeper understanding on this phenomenon, a number of perspectives have been suggested. The cognitivists suggest that internal individual factors such as self-efficacy, values, self-regulation and the sense of belonging could be a contributing source for poor performance among students (Carver & Scheier, 2011; Zimmerman, 2000; Pintrich, 2004; Pintrich & Schunk, 2002; Reeve, 2005). Conversely, other researchers suggest that external factors outside the person from their social context tends to shape motivational factors such as reward, school climate, and relationship style. The Bronfenbrenner's theory of human development ((Bronfenbrenner & Crouter, 1983; Bronfenbrenner & Morris, 1998) and the Self-system model of motivational development (Skinner, Kindermann, Connell, & Wellborn, 2009) were used to understand how father's involvement in the home and school environment influence academic achievement of their children.

The Bronfenbrenner's theory of human development initially termed an ecological model explain how human development occurs, focusing largely on the impact of context (Rosa & Tudge, 2013). It clearly viewed development as emerging from the interaction of individual and context. At the microsystem context, the family is the immediate environment in which child development occurs. The quality of interactions that the child get from his/her family is very important in shaping development. According to Bronfenbrenner and Evans (2000) such interactions may influence the personality of the child in the future. This assertion suggests that the settings in which a child spends time and the nature of relations with others in the same settings, the personal traits of the individual are essential elements that defines the child future. Drawing on Bronfenbrenner's theory, parents especially fathers' should spend quality time with their children and must engage themselves in their children's educational activities. Empirical evidence suggest that fathers make unique contribution to their children's development (Palm & Fagan, 2008; Lamb & Lewis, 2010; Jeynes, 2016). Hence, the disengagement of fathers in educational activities of their children may influence academic performance.

The Self-system model of motivational development assumes that an individual's evaluation of how competent, autonomous, and related he or she feels within particular contexts is largely based on the contextual characteristics (Connell & Wellborn, 1991). In other words, an individual engagement within a particular context is fostered by how he/she internalised activities in the context. This model holds that fathers' should create opportunities for their children to engage in a variety of educational activities (Skinner & Wellborn, 1994). Creating such contextual opportunities will enhance their competence and children will be more engage with the activities and people in that context (Connell & Wellborn, 1991). At the same time, when parents discourage their children through their disinterest in educational activities, students may become disaffected and eventually withdraw their participation in such activities. According to Wang and Sheikh-Khalil (2014), parenting practices may influence children's level of engagement in the school context. When parenting practices conflict with a child psychological needs, disengagement from learning and academic activities may result (Wang & Eccles, 2012).

### **Association between Fathers' Involvement and Children Academic Achievement**

The parenting practices adapted by the father may change as the child grows and climb the academic ladder (Hill & Taylor, 2004). However, the extent that fathers' engage or disengage in educational activities of their children may be informed by the bureaucratic nature of schools and age of the child (Gutman & Midgley, 2000). Findings from research studies suggest a positive and statistically significant relationship between father involvement and children's academic achievement (Sarkadi et. al., 2008; Coley et al., 2011; Fagan & Lee, 2012; Yoon et al., 2017). Evidence from Sarkadi et al (2008) study shows a positive influence of father *engagement* on offspring social, behavioural and psychological outcomes. In a similar vein, Yoon et al. (2017), study results indicated that higher quality of father involvement was associated with lower levels of internalizing and externalizing behaviour problems whereas greater quantity of father involvement was associated with higher levels of internalizing and externalizing behaviour problems. In addition, Fagan and Lee (2012) argued that this relationship was significantly strengthened for children living in single-mother households, whereas Coley et al. (2011) found that family characteristics were trifling.

Although parental involvement is often perceived as unidimensional construct (Fan & Chen, 2001), there is difficulties in finding a universal definition for the construct (Harris & Goodall, 2007). The array of definitions of the construct as suggested by authors makes it ideal to conceptualise it as being multifaceted in nature (Fen & Chen, 2001). For this study father's involvement is defined in terms of the active role fathers take in their child's educational development. The unique ways fathers get themselves involve in educational activities of their children is conceptualised as school and home-based involvement. School-based involvement includes activities such as attending school events, Parent and Teachers Association meetings and school excursions. On the other hand, home-based involvement includes having a set time or location to do homework, assisting children in setting educational goals as well as monitoring schoolwork and progress.

Fathers have unique ways of engaging in educational activities of their children (Rosenberg & Wilcox, 2006). The ways of interacting with their children such as more direct language and using more questions, thus

bringing a unique skill set to involvement in their child's program (Tamis-LeMonda, Baumwell, & Cabrera, 2013). In addition, the way fathers engage in play with their children differs from the play and language from other adults and these differences improve cognition and language (Ancell, Burns & Chitiyo, 2016). Father involvement has also been shown to be beneficial to the fathers themselves. Men who are involved fathers feel more self-confident and effective as parents; they find parenthood more satisfying, feel more intrinsically important to their child, and feel encouraged to be even more involved (DeLuccie, 1996).



Figure 1: Conceptual structure of the study

This study was guided by the following research questions:

1. What is the relationship between father's school involvement and student's academic achievement?
2. What is the relationship between father's home involvement and student's academic achievement?

### 3.0 Research Method

#### Participant

Determining the ideal sample size for a quantitative study is crucial. For this purpose the author aligned herself sample decision with the assertion of Hair et al (2014) which suggest the 10 times rule for determining the minimum sample size in a SEM analysis. This rule states that minimum sample should be 10 times the largest number of structural paths directed at a particular construct in a model. Considering this assertion and the number of construct involved in this study (i.e two independent variable and one dependent variable), a sample size of 30 participants will be considered ideal for this study. However, 383 fathers with children with children in basic schools were considered for this study. This participants were drawn from 30 public basic schools in Ho Municipal Assembly of Ghana.

#### 3.2 Research Instrument

In order to gather valid data from the respondents, a close ended questionnaire designed in a 4-point Likert-type scale (strongly agree = 4, agree = 3, disagree = 2 and strongly disagree = 1) was used for data collection. In view of the moderately large sample size, and the distribution of the schools used for the study, the questionnaires were administered to the participants by the author with three research assistants who were given a one-day training for the data collection. The data collectors visited the participants in their schools. The questionnaires were filled out anonymously and received on the spot. Two weeks was used to collect the information with a 100% response rate. Data collected from the participants (primary and Junior High students) were organised and analysed. All information was kept private and only investigators in this study could have access to the data.

#### 3.3 Analytical Methods

Data was analysed using IBM SPSS Statistics version 23.0 and AMOS. The AMOS Covariance-Based Structural Equation Modelling (CB-SEM) was used for the inferential statistics aspect of this study. According to Wang and Wang (2012) the use of CB-SEM helps execute the error terms modelled against the indicators and loadings of the individual indicator. This enables elimination of indicators with large error terms and/or low loadings, thus improving the quality of the latent constructs modelled (Wang & Wang, 2012). Moreover, the congeneric covariance model as executed by CB-SEM allows optimization of correlations amongst all constructs concurrently (Bagozzi & Yi, 2012; Hair, Black, Balin & Anderson, 2010; Wang & Wang, 2012). In addition, it gives a pictorial diagram which present the structural relations of variables for purpose of a clearer conceptualisation (Abd-el-fattah, 2006).



#### 4.0 Results

##### 4.1 Test for Construct Reliability

In research, the value of  $\alpha > 0.7$  is frequently referred to as the 'cut-off value', 'minimum value', or 'good' for reliability index. However, Taber (2017) found that the value of  $\alpha \geq 0.45$  is categorized as 'acceptable' or 'sufficient' to prove the reliability or internal consistency of an instrument. The reliability measures in the study are above the satisfactory levels as recommended by academic scholars (Taber, 2017; Hair et al., 2013). The instrument reliability ( $\alpha = 0.85$ ) was good and exceeded the minimum value, which was often used as the reference in some researches as shown in Table 1.

Table 1: Reliability of Instrument and Factors

Construct	No. of Item	Alpha
Reliability index	28	0.848
Home Involvement	15	0.842
School Involvement	13	0.854

##### 4.2 Structural Equation Model

A preliminary test on the assumption of collinearity indicate that multicollinearity was not a concern (Home Involvement, VIF = 1.04; School Involvement, VIF = 1.03). According to Hair et al. (2014) an obtain VIF for a predictor construct should be below 5. The obtained VIF for each predictor construct suggest that collinearity among the predictor construct is not a critical issue. Further assessment of the path coefficient shows that the relationship between fathers home involvement and children's academic achievement ( $t=15.62$ ,  $\beta = .99$ ,  $p < 0.05$ ) was positive and significant. However, the relationship between father's school involvement and children's academic achievement was negative and insignificant ( $t=.40$ ,  $\beta = -.025$ ,  $p > 0.05$ ). A summarised overview of these findings are shown in Table 2.

Model Structure	Std. Error	B	t	P-value	VIF
Home Involvement--> AA	.048	.990	15.622	.000	1.04
School Involvement--> AA	.062	-.025	.400	.690	1.03

Table 2: Path Coefficient of the Structural Model

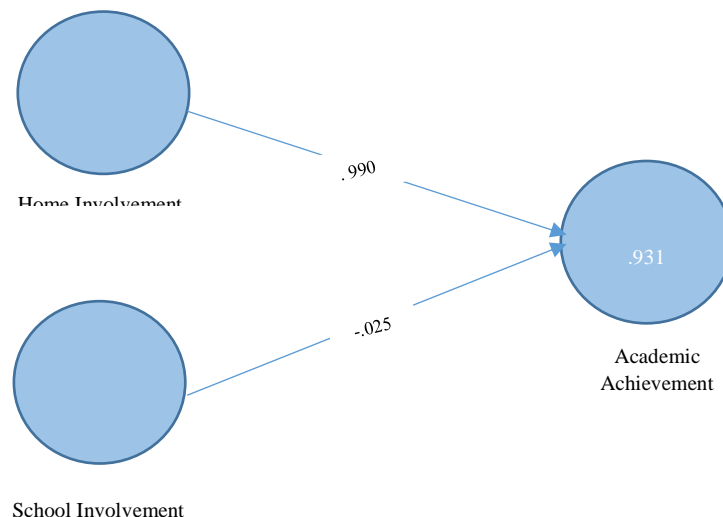


Figure 2: The effect of father's Involvement on Academic Achievement

An examination of  $R^2$  value of the endogenous latent variable from figure 1 indicate that the proposed model have .931 of explanatory power for children's academic achievement which is considered as moderate per the rules of thumb (Kentchen, 2013).

#### 4.3 Discussions

The study aims to identify the effect of father's involvement on children's academic achievement in the Ghanaian context. Fathers' involvement in education was conceptualised as a multidimensional construct (i.e school and home-based involvement). The examination of the association of these factors with children's academic achievement reveals that home-based involvement positively influence academic achievement. This finding imply that fathers spending time with their children on education related activities at home may result in achievement gains among school students. This finding is consistent with Finn (1998) report that when parents spend time with their children and assist them with school homework and discussed schooling affairs, children achieved higher at school. Trusty (1996) found that students' who reports about their parents assistance on homework had the strongest effect on achievement; that is, the greater the students perceived their family's involvement and support, the better they tend to do in school. Spending more time with fathers is also associated with emotional balance (Salem et al. 1998). One reason for this result might be that fathers spending time with their children on educational activities improve their senses of self-efficacy towards academic engagement (Fan, 2010). According to O'Connor and Scott (2007) such relationship yields an array of positive outcomes including higher IQs, advanced linguistic and cognitive capacities, and improved quantitative and verbal skills (Allen & Daly, 2007; Dyer, McBride, Santos, & Jeans, 2009). In addition, fathers are likely to exhibit higher levels of psychosocial maturity when they are actively involved in their children's lives (Pleck & Pleck, 1997). Men who are involved fathers feel more self-confident and effective as parents and feel encouraged to be even more involved (DeLuccie, 1996). In addition, students' senses of competence increases when their fathers are more involved in their educational activities (Marchant et al., 2001). A possible consequence of this involvement might be that children will set higher academic goals and feel more confident about their ability to achieve these goals.

Although previous findings suggested that increased fathers' involvement in school activities may benefit the academic achievement of children (Grolnick & Slowiaczek, 1994), this study failed to find significant association between fathers' participation in school functions and students' academic achievement. This finding is in shape contrast with Baker (2018) finding that father's school involvement was positively and directly associated with appropriate approach to learning. In the same vein, the finding does not support Steinberg (1996) report that students' academic performance was higher when parents attended school related programs such as conferences, seminars and extracurricular activities. Although, parental involvement is an important predictor of students' academic achievement (Geert, Frederik & Peter, 2005), this study suggest that involving fathers in school related activities does not result in achievement gains among students. One possible explanation could be that fathers attend school related activities for a variety of reasons, including dealing with non-academic issues such as bullying (Wang & Sheik-Khalil, 2014). It is also possible that adolescents might assume that while their parents are participating in school functions they will be questioning teachers and other parents to obtain information about their academic performance (Fan, 2001). In addition, adolescents in school may feel uncomfortable with their father visiting school as their presence may conflict with their desire for autonomy (Deslandes & Cloutier, 2002). In spite of adolescents at times desiring for autonomy, fathers' involvement in school related activities such as attending school events may provide adolescents with a sense of caring, support, and connection to their parents, however, fathers must remain mindful not to encroach on students' feelings of independence (Barrett, Shortt, & Healy, 2002).

## 5.0 Conclusions and Recommendations

Educational decision has long been recognised as a collective activity which goes beyond the school environment. The role that fathers play in their children's learning must be considered. Thus fathers must be consider in the educational activities of their children. School policies must clearly define what constitute fathers involvement to be able to engage fathers. In addition, adequate knowledge about what is expected from fathers will help in developing appropriate practical strategies that assist fathers in being positive influencers. Considering the essential role that fathers play in the lives of their children, fathers should be made aware of the consequences of their involvement behaviour on children's academic achievement. Schools may play an important role in this process by providing fathers with access to resources that support academic activities such as information about period for examination, educational trips. In addition, opportunities should be provide to allow schools and fathers cooperate and to reinforce each other's contributions to student achievement.

## References

- i. Abd-el-fattah, S. M. (2006). *Effect of family background and parental involvement on academic achievement and school disengagement*. *Social Psychology of Education* 9:139–157
- ii. Agyemang, D. K. (1993). *Sociology of education for African students*. Accra: Black Mask Ltd.
- iii. Affrey, O. (2012). *Relationship between home characteristics and academic performance of students*. Unpublished thesis, University of Cape Coast.
- iv. Akhter, N. (2008). *Studying that Attitude of Parents towards Education of their Children: A study Conducted in Low Literacy Areas of the Punjab*. *Young and Exceptional Children* 3, 12-24
- v. Allen, S., & Daly, K. (2007). *The effects of father involvement: An updated research summary of the Evidence Inventory*. Guelph, Ontario, Canada: Centre for Families, Work & Well-Being, University of Guelph.
- vi. Ametefe, V. (2012). *The perception of parents, pupils and teachers on the effect of home environment on the academic performance of students*. Unpublished thesis, University of Cape Coast.
- vii. Ancell, K. S., Burns, D. A., & Chitiyo, J. (2016). *The importance of fathers' involvement in early childhood programmes*. *Young and Exceptional Children* 4, 1-12 DOI: 10.1177/1096250615621355
- viii. Bagozzi, P. R., & Yi, Y. (2012). *Specification, Evaluation, and Interpretation of Structural Equation Models*. *Academy of Marketing Science*, 40, 8-34.
- ix. Baker, C. E. (2018). *When daddy comes to school: father-school involvement and children's academic and social-emotional skills*. *Early Child Dev. Care.* 188, 208–219. doi: 10.1080/03004430.2016.1211118
- x. Barreth, P. M., Short, A., & Healy, L. (2002). *Do parent and child behaviour differentiate families whose children have obsessive compulsive disorder for other clinic and non-clinic families?* *Journal of Child Psychology and Psychiatry* 46(5), 597-607.
- xi. Beardshaw, T. 2004. "From Here to Paternity." Paper delivered at the Fatherhood Conference, Durban, South Africa. November 24. Retrieved November 19, 2006, from <http://www.hsac.ac.za/fatherhood/>.
- xii. Bronfenbrenner, U., & Crouter, A. C. (1983). *The evolution of environmental models in developmental research*. In P. H. Mussen (Series Ed.) & W. Kessen (Vol. Ed.), *Handbook of child psychology*, Vol. 1: History, theory and methods (4th ed., pp. 357–414). New York, NY: Wiley.
- xiii. Bronfenbrenner, U., & Evans, G. W. (2000). *Developmental science in the 21st century: Emerging theoretical models, research designs, and empirical findings*. *Social Development*, 9, 115–125.
- xiv. Bronfenbrenner, U., & Morris, P. A. (1998). *The ecology of development processes*. In W. Damon (Series Ed.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (pp. 993–1027). New York, NY: Wiley.
- xv. Carver, C. S., & Scheier, M. F. (2011). *Self-regulation of action and affect*. In K. D. Vohs & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (p. 3–21). Guilford Press.
- xvi. Carlson M. *Family structure, father involvement, and adolescent behavioral outcomes*. *J Marriage Family* 2006; 68:137–54.
- xvii. Coley, R. L., Lewin-Bizan, S., and Carrano, J. (2011). *Does early paternal parenting promote low-income children's long-term cognitive skills?* *J. Fam. Issues* 32, 1522–1542. doi: 10.1177/0192513X11402175
- xviii. Connell, J. P., & Wellborn, J. G. (1991). *Competence, autonomy, and relatedness: A motivational analysis of self-system processes*. In M. R. Gunnar & L. Sroufe (Eds.), *Self-processes and development* (pp. 43–77). Hillsdale, NJ: Erlbaum.
- xix. Deslandes, R., & Cloutier, R. (2002). *Adolescents' perception of parental involvement in schooling*. *School Psychology International*, 23, 220–232. doi:10.1177/ 0143034302023002919
- xx. DeLuccie, M. F. (1996). *Predictors of paternal involvement and satisfaction*. *Psychological Reports*, 79, 1351-1359.
- xxi. Drummond, K. V., & Stipek, D. (2004). *Low- income parents' beliefs about their role in children are academic learning*. *The Elementary School Journal*, 104 (3), 197 - 213.

- xxii. Dyer, W., McBride, B., Santos, R., & Jeans, L. (2009). A longitudinal examination of father involvement with children with developmental delays: Does timing of diagnosis matter? *Journal of Early Intervention*, 31, 265-281.
- xxiii. Epstein, J., Sanders, M. et al. (2002). *School, family, and community partnerships-Your handbook for action* (2nd ed.). Thousand Oaks, CA: Corwin Press, INC.
- xxiv. Epstein, J.L. (2005). School-initiated family and community partnerships. In T. Erb (Ed.), *This we believe in action: Implementing successful middle level schools* (pp. 77–96). Westerville, OH: National Middle School Association.
- xxv. Fan, X. (2001). Parental involvement and student's academic achievement: A growth modeling analysis. *Journal of Educational Research*, 80, 330-337.
- xxvi. Fan, X. T., and Chen, M. (2001). Parental involvement and students' academic achievement: a meta-analysis. *Educ. Psychol. Rev.* 13, 1– 22. doi: 10.1023/A: 1009048817385
- xxvii. Fan, W., & Williams, C. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology*, 30, 53–74. doi:10.1080/01443410903353302
- xxviii. Fagan, J., & Lee, Y. (2012). Effects of fathers' and mothers' cognitive stimulation and household income on toddler's cognition: Variations by family structure and child risk. *Fathering*, 10, 140–158.
- xxix. Fagan, J., & Palm, G. (2004). *Fathers and early childhood programs*. Clifton Park, NY: Delmar Learning.
- xxx. Finn, J. (1998). Parental engagement that makes a difference. *Educational Leadership*, 55(8), 20–24.
- xxxi. Flouri, E., & Buchanan, A. (2003). The role of father involvement and mother involvement in adolescents' psychological well-being. *British Journal of Social Work*, 33, 399–406. doi:10.1093/bjsw/33.3.399
- xxxii. Fukuyama, F. 1999. *The Great Disruption: Human Nature and the Reconstitution of the Social Order*. New York: Free Press.
- xxxiii. Geert, D., Frederik, S., & Peter, S. (2005). Parental involvement and educational achievement. *British Educational Research Journal*, 31, 509–532.
- xxxiv. Grissmer, R. H. (2003). Beyond helping with homework: Parents and children doing mathematics at home. *Teaching Children Mathematics*, 14, 120 - 131.
- xxxv. Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development*, 65, 237–252. doi:10.2307/1131378
- xxxvi. Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmermann, A. P. (2002). The uniqueness of the child-father attachment relationship: fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Soc. Dev.* 11, 301–337. doi: 10.1111/1467-9507.00202
- xxxvii. Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence*, 20, 223–248. doi:10.1023/A:1005108700243
- xxxviii. Guma, M., and N. Henda. 2004. "The Socio-Cultural Context of Child Abuse: A Betrayal of Trust." In *Sexual Abuse of Young Children in Southern Africa*, ed. L. Richter, A. Dawes, and C. Higson-Smith, 95–109. Cape Town: HSRC Press.
- xxxix. Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, Vol. 26, pp. 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- xl. Hair, J. F., Black, W. C., Balin, B. j., & Anderson, R. E. (2010). *Multivariate data analysis*. Maxwell Macmillan International Editions.
- xli. Harris, A., & Goodall, J. (2007). Engaging parents in raising achievement: Do parents know they matter? *Educational Research*, 50(3), 277-289,
- xlii. Hawkins, A. J., & Palkovitz, R. (1999). Beyond ticks and clicks: The need for more diverse and broader conceptualizations and measures of father involvement. *The Journal of Men's Studies*, 8, 11–32. <https://doi.org/10.3149/jms.0801.11>.



- xl.iii. Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement. *Current Directions in Psychological Science*, 13, 161–164. doi:10.1111/j.0963-7214.2004.00298.x
- xliv. 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, 740–763. doi:10.1037/a0015362
- xl. Hwang, C. P., & Lamb, M. E. (1997). Father Involvement in Sweden: A Longitudinal Study of its Stability and Correlates. *International Journal of Behavioural Development*, 21(3), 621–632. doi:10.1080/016502597384811
- xlvi. Jeynes, W. H. (2009). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban Education*, 42, 82–110. doi:10.1177/0042085906293818
- xl.vii. Jeynes, W. H. (2016). A meta-analysis: the relationship between parental involvement and African American school outcomes. *J. Black Stud.* 47, 195–216. doi: 10.1177/0021934715623522
- xl.viii. Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education*, 40, 237–269.
- xl.ix. Keown, L. J., & Woodward, L. J. (2002). Early parent-child relations and family functioning of preschool boys with pervasive hyperactivity. *Journal of Abnormal Child Psychology*, 30, 541–553. <https://doi.org/10.1023/A:1020803412247>
- l. Lamb, M. E. (2000). The history of research on father involvement: an overview. *Marriage & Family Review*, 29, 23–42. [https://doi.org/10.1300/J002v29n02\\_03](https://doi.org/10.1300/J002v29n02_03).
- li. Lamb, M. F., & Lewis, C. (2010). The development and significance of father-child relationships in two-parent families. In M. E. Lamb (Ed.), *The role of father in child development* (5th ed., pp. 94–153). Hoboken, NJ: Wiley.
- lii. Marchant, G. J., Paulson, S. E., & Rothlisberg, B. A. (2001). Relations of middle school students' perceptions of family and school contexts with academic achievement. *Psychology in the Schools*, 38(6), 505–519. doi:10.1002/pits.1039
- lii.iii. Mkhize, N. 2004. "Who Is a Father?" *Children FIRST* 56: 3–8.
- liv. Musgrave, C. B. (2000). Environmental factors affecting attitude towards science and mathematics. *Journal of Educational Psychology*, 91 (1), 382 - 394.
- lv. Nsamenang, B. 1987. "A West African Perspective." In *The Father's Role: Cross-Cultural Perspectives*, ed. M. Lamb, 273–93. Hillsdale, NJ: Lawrence Erlbaum.
- lvi. O'Connor, T. G., & Scott, S. B. C. (2007). *Parenting and outcomes for children*. York, UK: Joseph Rowntree Foundation.
- lvii. Owusu-Ansah, P. (2017). *Effect of single parenting on academic performance of basic school pupils*. Unpublished thesis, University of Cape Coast.
- lviii. Palm, G., & Fagan, J. (2008). Father involvement in early childhood programs: Review of the literature. *Early Child Development & Care*, 178, 745–759.
- lix. Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in College students. *Educational Psychology Review*, 16, 385-407. <http://dx.doi.org/10.1007/s10648-004-0006-x>
- lx. Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications* (2nd ed.). Upper Saddle River, NJ: Prentice Hall
- lxi. Richter, L. 2005. "The Importance of Fathering for Children." In *Baba: Men and Fatherhood in South Africa*, ed. L. Richter and R. Morrell, 53–69. Cape Town: HSRC Press.
- lxii. Reeve, J. (2005). *Understanding Motivation and Emotion* (2nd ed.). Publishers.
- lxiii. Richter, L., & Morrell, R. (2006). Introduction. In L. Richter & R. Morrell (Eds.), *Baba: Men and fatherhood in South Africa* (pp. 1-12). Cape Town: HSRC Press.
- lxiv. Ross, C. E., & Broh, B. A. (2000). The role of self-esteem and the sense of personal control in the academic achievement process. *Sociology of Education*, 73(4), 270–284. <https://doi.org/10.2307/2673234>
- lxv. Rosa, E. M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of Family Theory & Review*, 5(4), 243–258. <https://doi.org/10.1111/jftr.12022>

- lxvi. Rosenberg, J., & Wilcox, W. B. (2006). *The importance of fathers in the healthy development of children: Fathers and their impact on children's well-being*. U.S. Children's Bureau, Office on Child Abuse and Neglect. Retrieved from [www.childwelfare.gov/pubs/usermanuals/fatherhood/chaptertwo.cfm#fnh9](http://www.childwelfare.gov/pubs/usermanuals/fatherhood/chaptertwo.cfm#fnh9)
- lxvii. Salem, D. A., Zimmerman, M. A., & Notaro, P. C. (1998). Effects of family structure, family process, and father involvement on Psycho-social outcomes among African American adolescents. *Family Relations*, 47, 331–341.
- lxviii. Sarkadi, A., Kristiansson, R., Oberklaid, F., & Bremberg, S. (2008). Fathers' involvement and children's developmental outcomes: a systematic review of longitudinal studies. *Foundation Acta Pædiatrica/Acta Pædiatrica* 97, pp. 153–158
- lxix. Sharma, K. R. (2004). Effect of early home environment on the mental development of down syndrome infants. *Journal of Mental Deficiency*, 85 (1), 39 - 44.
- lxx. Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and disaffection as an organizational construct in the dynamics of motivational development. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation in school* (pp. 223–246). Mahwah, NJ: Erlbaum.
- lxxi. Skinner, E. A., & Wellborn, J. G. (1994). Coping during childhood and adolescence: A motivational perspective In D. Featherman, R. Lerner, & M. Perlmutter (Eds.), *Life-span development and behavior* (pp. 91–133). Hillsdale, NJ: Erlbaum.
- lxxii. Steinberg, L. (1996). *Beyond the classroom: Why school reform has failed and what parents need to do*. New York: Simon & Schuster.
- lxxiii. Taber, K.S. (2017). The use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 1-24. DOI: 10.1007/s11165-016-9602-2.
- lxxiv. Tamis-LeMonda, C. S., Baumwell, L., & Cabrera, N. J. (2013). Fathers' role in children's language development. In N. J. Cabrera & C. S. Tamis-LeMonda (Eds.), *Father involvement: Multidisciplinary perspectives* (2nd ed., pp. 135- 150). New York, NY: Routledge.
- lxxv. Trusty, J. (1996). Relationship of parental involvement in teens' career development to teens' attitudes, perceptions and behaviour. *Journal of Research and Development in Education*, 30(1), 63–69.
- lxxvi. Wang, M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development*, 83, 877–895. doi:10.1111/j. 1467-8624.2012.01745.x
- lxxvii. Wang, J., & Wang, X. (2012). *Structural equation modelling: Application using Mplus*. Higher Education Press.
- lxxviii. Wang, M. T., and Sheikh-Khalil, S. (2014). Does parental involvement matter for student achievement and mental health in high school? *Child Dev.* 85, 610–625. doi: 10.1111/cdev.12153
- lxxix. White, L., & Gilbreth, J. G. (2001). When children have two fathers: Effects of relationships with stepfathers and noncustodial fathers on adolescent outcomes. *Journal of Marriage and Family*, 63, 155–167.
- lxxx. Williams E, Radin N. Effects of father participation in child-rearing: twenty-year follow-up. *Am J Orthopsych* 1999; 69: 328–36.
- lxxxi. Yoon, S., Bellany, J. L., Wonhee, K., & Yoon, D. (2017). Father involvement and behaviour problems among preadolescents at risk of maltreatment. *J Child Fam Stud* DOI 10.1007/s10826-017-0890-6
- lxxxii. Zimmerman, B. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25, 82–91.