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Fathers' involvement in early childhood education practices and their influence on cognitive development of children aged 5 to 6 years in Kasama and Mungwi Districts, Zambia

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Abstract

Introduction: Early Childhood Education (ECE) practices support the development and learning of young children, typically from birth to age 8. They also promote holistic growth in areas such as cognitive, social-emotional, physical, and linguistic development. In this study, the focus was on children between 5 and 6 years old.

Objective: The purpose of the study was to establish the specific early childhood education practices fathers were involved in that influenced the cognitive development of children aged 5 to 6 years.

Methodology: A descriptive survey research design was used in the study. Structured questionnaires and child assessment tools were used to collect data including the Behaviour Rating Inventory of Executive Functioning (BRIEF), Rapid Neuro Developmental Assessment tool (RNDA) and Peabody Picture Vocabulary Test (PPVT). A total of 210 participants were included in the study of which 10 were early childhood teachers, 100 fathers and 100 children ages 5 and 6 years were drawn from 10 public early childhood centres in Kasama and Mungwi districts.

Results: The study revealed that 51% of fathers helped children with homework given from school while 63% of fathers were involved in reading a book with a child. Further, the study showed a correlation of .968 which is a very strong positive relationship between a father's involvement in early childhood education practices and a child's cognitive development. This suggests that as the father becomes more involved in the child's life, there is a highly consistent and positive impact on the child's cognitive abilities. Through their involvement in early childhood education practices, children developed executive function skills such as memory retention, better inhibition and shift skills.

Conclusion: Based on the findings, the study recommends that fathers need to be highly involved in their children's early education practices at a tender age to foster cognitive development.

Keywords: Cognitive; Development; Early childhood education; Learning; Executive function skills

1. Introduction

Fathers' involvement in early childhood education practices is important for the holistic development of children. A father's positive involvement in early childhood education practices boosts a child's self-esteem and confidence, making them feel valued and supported. The quality of early learning environments provided by parents plays a critical role in shaping children's future cognitive and academic outcomes [1]. This support includes book exposure and quality verbal

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interactions about academic subjects. Parental involvement is crucial for enhancing children's engagement which includes behavioural, emotional and cognitive components [2]. This engagement is also linked to better school adjustment and academic performance. Further, parental involvement in child-rearing activities such as early childhood education practices has a great role in promoting writing abilities among children [3].[4]. Parental involvement in early childhood education practices is also positively related to children's academic buoyancy and adaptability [3]-[4]. Contrary to the findings above, [5] argued that not all involvement of parents has an impact on the child's skills. Their study found barely any links between parent involvement in early childhood education practices and children's broad mathematical skills. [6] examined the association between the book-reading frequency of low-income fathers and mothers and children's cognitive and literacy skills in the United States. The study established that although mothers read to their children more frequently than fathers, approximately 55% of fathers reported that they read to their children weekly. Moreover, this study revealed that fathers' book reading significantly predicted children's language competencies, book knowledge, and cognitive skills.

A similar study by [7] revealed that fathers' involvement in reading with their children was socially patterned in what might be expected directions. The above body of evidence raised the visibility and expanded our perspective on fathers' involvement in early childhood practices from high-income countries (HICs). Much remains unknown about fathers' impact on the cognitive development of children in low-and middle-income countries (LMICs), including Zambia, making it necessary to conduct a study of this nature in Kasama and Mungwi Districts.

2. Theoretical Framework

To show how fathers influence the development of a child, the study used Bronfenbrenner's Ecological System Model [8]. In this theory, the focus was mainly on two components of the theory namely microsystem and macrosystem. This model guided the study by showing how the systems in the model might affect the child's acquisition of cognitive skills. The theory fits well with this study because it demonstrates how shared responsibility among participants (fathers) in the child's learning in an ecological environment is important in fostering cognitive development among children. Further, the theory fits well with this study because the learning and development of a child revolves around the family, community and cultural connections, and interactions which serve as centres of learning and the developmental process.

3. Methodology

The research design selected for this study was a descriptive survey. The target population for this study was fathers with children of ages ranging from 5 to 6 years who were in public early childhood education centres, children aged 5 to 6 years attending early childhood education in public early childhood education centres, early childhood teachers and grandmothers from both maternal and paternal sides in Kasama and Mungwi Districts. The sample for this study comprised two hundred ten (210) participants consisting of 100 fathers, 100 children and 10 Early Childhood Education teachers (ECE) from different communities and public early childhood education centres. The stratified random sampling technique was used to select 10 public early childhood education centres. This technique involved grouping early childhood education centres and communities into three geographical locations: urban, peri-urban and rural areas. The early childhood education centres and communities from each of these groups were randomly selected to arrive at early childhood education centres and communities to participate in the study. Early childhood learners present in early childhood education centres at the time of the visit by researchers were organised according to their classes and a simple random procedure was conducted in each class to make sure learners had an equal and independent chance of being selected as a member of the sample. The learners who had fathers were grouped into one group. The researcher put the numbers from 1 to 20 in a bowl and learners who picked numbers from 1 to 10 became participants. Learners who did not have fathers within their reach did not participate in the study. Early childhood teachers and fathers were purposively selected in this study because they had frequent contact and spent much of the time with children at both home and school. The researchers used questionnaires to collect data from fathers. Cognitive assessment tools were used to collect data from the children. Data was analysed quantitatively and qualitatively. Ethical issues in this study were upheld.

3.1. Location of the Study

This study was conducted in the Northern Province of Zambia in particular Kasama and Mungwi Districts. The Provincial Centre which is Kasama District is 865 kilometres from Zambia's capital city Lusaka. The people in those districts had different socioeconomic statuses (SES) but they had similar cultural values and beliefs. The choice of the location hinged on issues of familiar language used by the researchers. The districts had three typical strata namely urban, peri-urban and rural which made the study interesting.

4. Results

Figure 1 shows the Impact of Fathers' Involvement in Early Childhood Education Practices on Cognitive Development of Children

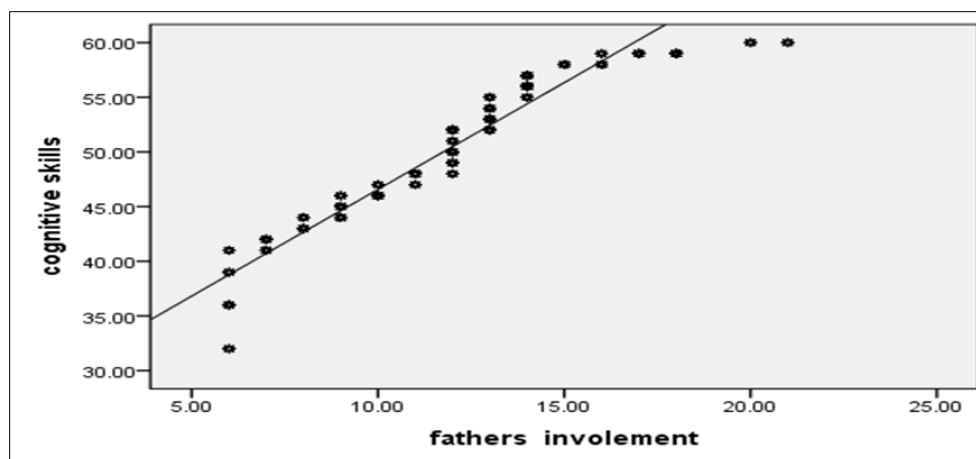


Figure 1 Impact of Fathers' Involvement in Early Childhood Education Practices on Cognitive Development of Children

Figure 1 above shows a scatter plot where all data points are close to a positive regression line between cognitive skills and fathers' involvement in early childhood education practices suggesting a strong positive relationship. This indicates that as fathers increase their involvement in early childhood education practices, children's cognitive skills improve. Again, the proximity of the points to the line indicates a good fit for the regression model, with minimal error between the observed and predicted values. In this case, the slope of the regression line is positive, reflecting the direct correlation between the variables.

As a follow-up on the findings, the following question was asked to fathers, "what changes have you seen in your child as a result of being involved in early childhood education practices?" For instance, Father B observed that:

"Since my involvement, I have noticed her being able to count numbers with fewer difficulties. She is also able to draw and colour shapes".

Father, I also disclosed that:

"I have noticed her counting numbers from 1 to 10 without many difficulties. She can brush her teeth without help". In short, she can do multiple tasks simultaneously.

Father L noted the following:

"Since my involvement, I have seen him being able to count numbers from 1 to 20 and draw some pictures, especially human beings such as father and mother. I have also noticed him focusing on relevant information while ignoring distractions.

In contributing to the same issue, Father M observed that:

"Since my involvement in early childhood education practices, I have seen her improve in terms of memory retention. She has also improved academically. She also does things independently".

From the findings above, it was evident respondents believed that the involvement of fathers in early childhood education practices influenced child cognitive development of their children. The children developed some executive functions such as memory retention, pre-numeracy (counting numbers), early literacy skills and reciting the alphabet. In addition, children were able to focus on relevant information while ignoring distractions during activities given (inhibition skill)

5. Discussion

In the present study, findings on fathers' involvement in early childhood education practices were consistent with [6] who established that approximately 55% of fathers reported that they read to their children weekly. Furthermore, [7] showed that fathers' involvement in reading as early childhood education practice with their children was socially patterned in what might be expected directions. On fathers' involvement in early childhood education practices and their influence on the cognitive development of their children, the findings are in line with that of [9] who showed that children who were reading with significant others at home had greater gains in reading. [10] also added that children with involved fathers had higher intelligence quotients on average, increased executive function, and improved school conduct and self-concept. [11] study was also aligned with the present study by suggesting that specific significant others such as fathers' behaviour such as home-learning stimulation were directly related to children's reading, mathematics and social development in preschool and kindergarten. This finding is supported by the views of one of the grandmothers who said, "Since my involvement in early childhood education practices, I have observed a lot of changes in him, for example, he has improved in academic activities such as reciting the alphabet and can recite vowels. I have also noticed him focusing on relevant information while ignoring distractions during an activity".

A study by [12] agreed with the present study by stating that significant others who undertake verbal interactions and structured activities, and games with their children allow them to live with rich linguistic communication. These experiences encourage children's active exploration and engagement with their environments and improve children's academic skill and their success in school. These findings were also echoed by one of the fathers in the present study who when asked to describe what changes he has noticed in his child after being involved in early childhood education practices opined, "Since my involvement in early childhood education practices, I have seen her improve in terms of memory retention. She has also improved academically and does things independently". The present study has therefore demonstrated that child cognitive development is enhanced when fathers are involved in the lives of children's early development. These findings are supported by a theory used in this study. The Ecological System Theory attempted to explain the existing relationships between an active child, and the connections and interactions through the involvement of immediate family members such as fathers in child-rearing activities established in this study. This theory fits well in this study because it highlights how important the involvement of immediate family members are in the development of the child. By focusing on the microsystem the study found a holistic understanding of the immediate factors influencing a child's development. For instance, cognitive development was stimulated through fathers' involvement in learning and intellectually enriching experiences within the microsystem. Positive relationships with fathers fostered healthy cognitive development of the children.

On the other hand, the findings of this study did not conform to [13] who argued that father involvement is beneficial to fathers themselves. He proposed that fathers who are involved feel more self-confident and effective as parents. They find parenthood more satisfying, feel more intrinsically important to their children, and feel encouraged to be even more involved. [14] corroborate the previous views when they posit that fathers who are involved in their children's lives are likely to exhibit higher levels of psychosocial maturity, be less psychologically distressed, and are more likely to participate in the community and assume leadership roles in civic community organisations. Furthermore, the works of [15] observed that high father involvement was associated with increased children's feelings of paternal acceptance, a factor that plays a role in the development of self-concept and esteem. These results were not explored in this study but, the study strongly established that with the father's involvement in early childhood education practices, children demonstrated a greater internal locus of control and had a greater ability to take initiative and use self-direction and control such as putting the uniform in a right place after knocking off from school. In addition, children could wash their uniforms after being knocked off from school, an indication of the father's and grandmother's involvement in early childhood education practices.

6. Conclusion

Father's involvement in early childhood education is important for the holistic development of children. This study has consistently shown that active participation by fathers positively impacts various aspects of a child's growth and learning. Fathers who engaged in early childhood education practices significantly enhance their children's cognitive development as this study has demonstrated. Further, fathers' involvement in early childhood education practices enhanced children's developed executive function skills such as memory retention, better inhibition and shift skills.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest is to be disclosed.

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