

Association between Family Involvement, Play, and Literacy Skills among Preschoolers from Low-income Families in Nigeria: The Mediating Role of Literacy Interest

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Abstract: During the early years, some children experience rapid growth in learning which provides a vital framework for their future success. However, other children especially those with poor literacy skills have to struggle very hard with reading and writing. Hence, understanding potential factors that improve literacy skills especially at an early age is highly desirable. Therefore, this study was designed to determine the direct and indirect relationship between family involvement and play with literacy skills through literacy interest. This study employed a total of 394 preschoolers from low-income families aged between three and five years old with their parents in Nigeria. The sample of this study was recruited using the proportionate stratified sampling technique. Path analysis revealed that family environment and play were associated with literacy skills both directly and indirectly via literacy interest. The findings have implications for parents and policymakers in educational sectors especially on how to make effective use of play and family involvement in improving literacy skills especially among preschoolers from a low-income family.

Keywords: Play, Family Involvement, Literacy Interest, Literacy Skills, Preschool Children, Nigeria

1. Introduction

During their early year's children grow and learn at a rapid rate [1]. As a result, their early-year period provides a vital framework for their future success. Children with low literacy skills, on the other hand, can have a difficult time reading and writing. This therefore affects their interest in reading and writing and less in synch with the information, vocabulary and other language skills [2],[3],[4]. The skills of literacy in young children should be well inculcated as they start to develop language skills in their early years. Improving the skills of your literacy is considered very important to study because good skills in literacy will enhance their further development in a learning process that controls their dropout rate.

In Nigeria, a good language base is a prerequisite for fostering a greater interest in the learning and literacy of children [5].

However, illiteracy is one of the most serious problems currently facing education in Nigeria. The proportion of elementary school children who did not know how to read was alarmingly high and many young children could not read and understand [6]. Only about 33% of Nigerians between 6 and 14 years of age are literate [7].

Educators strongly support the idea that environmental factors such as play and family involvement and particularly parents affect youngster's literacy skills [8] and of course, learning to read and write may occur when encouraged by adults. [9]. Existing studies [4],[2],[9] indicate that family involvement in literacy activities can enhance children's literacy skills.

2. Family Involvement and Literacy Skills

Family involvement has been described as "the experiences of everyday life literacy and routine literacy-related activities in the family"[10]. Children could acquire literacy skills in a family learning environment [10],[11]. A further study that included family involvement increased the use of pre-school children's literacy activities is supported [12]. It is similar to some earlier research discussing the acquisition of literacy skills by a child raised in a home-based environment. [13], [14].

When addressing the relationship between family engagement and child literacy skills, previous studies indicated that parents' beliefs and attitudes toward child literacy would have an effect on children's language and general development. [15], [16],[17]. Both research indicate that home provides children with complete literacy skills as the first major contributors to literacy growth [18],[19]. According to [20], literacy environments will simplify and enhance primary schooling for children by connecting parental engagement with literacy. In promoting children's engagement in literacy through play, parental involvement has been a key factor [21].

3. Play and Literacy Skills

Piaget and Vygotsky suggested that when kids play, their reading abilities can be affected. Piaget believed that the concept of learning for children came about through play [22],[23]. Also,[9] proposed that by talking and listening to each other during interactions or playing, children could develop linguistic skills and learn new thoughts [22] [23]. Learning with play was a spontaneous and easier way for children to express themselves when learning and thus this strengthened the literacy skills of their languages.[24]. The play thus enables children to learn language, promote language learning and enhance the development of language [25],[26]. However, individual playing activities are equally critical for the full development of young children to help them strengthen their literacy skills[27]. Playing gives young children, a highly stimulating and meaningful opportunity to learn critical concepts and qualifications in early literacy in the pre-school years. [22].

Interest has been described as a belief in the inspiration and value of the chore [14]. Some past researchers have reported that interest of children in reading was important to learning of literacy skills because if kids are interested in literacy, they tend to take a longer time to read and probably spend more time on literacy [6]. Consequently, they were more likely than their peers, who were less interested in literacy to succeed [29].

Therefore, the motivation of the study is threefold. First, despite the highlights by the Social Cognitive Theory Model [28] on the relationship between environmental factors (here referred to as play and family involvement) and cognitive outcomes (here referred to as literacy skills) through the mediation role of cognitive factors (here referred to as literacy interest), extant literature did not avail empirical evidence on the validation of this postulation within the context of preschooler. This encourages researchers supply statistical proof on the literacy mediation role in the relationship between play, family involvement and literacy skills. Second, the study was also motivated by the paucity of empirical evidence on the role of environmental factors on the cognitive outcome from the perspective of preschoolers from low-income families in Nigeria. Thus, considering the existence of significant proportion of elementary school children who did not know how to read was alarmingly high and many young children could not read and understand as reported by [6] It implied that empirical studies from the Nigerian background was needed on the mediation role of literacy interest on the relationship between play, family involvement, and literacy skills among pre-school children from low-income families in Nigeria. Lastly, the application of Structural Equation Modeling, more especially Partial Least Square (PLS) is not so common among researchers within the field of pre-school children. Given the relative sophistication of the current research model, which includes mediation analysis, it was appropriate to examine the literacy interest's systemic mediation role in the aforementioned relationship.

This research aims to assess the direct effect of play and the involvement of families in literacy, in line with the above motivations. Some past researchers have reported that the interest of children in reading was important to the learning of literacy because if kids are interested in literacy, they tend to take a longer time to read and probably spend more time on literacy [29]. Consequently, they were more likely better than their peers, who were less interested in literacy [30]. In keeping with the findings of a study, children interested in literacy will help form their relationships with persons, resources, and events in emerging written interactions [31]. Thus, play is indirectly or directly related to literacy skills via literacy interest. However, extant empirical literature revealed that the variable interest in literacy is not addressed and explored and whether it could be a mediator between play and literacy among pre-school children.

Play and family participation have both direct and indirect impacts on literacy abilities, according to the model, through the mediating role of literacy interest. The model is depicted below in Figure 1.

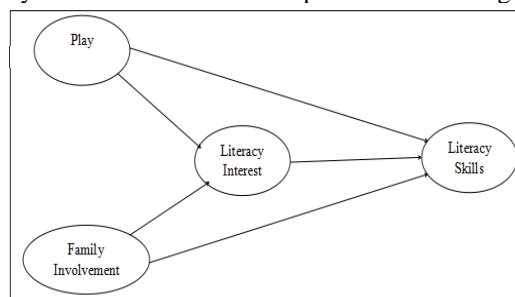


Fig.1: Structural Model for the Mediation Role of Literacy Interest on the Relationship between Play, Family Involvement, and Literacy Skills.

4. Research Methodology

Participants and Procedure

In Taraba State, Nigeria, 394 preschool children aged 3 to 5 years old were studied with their parents from low-income families. Mothers of selected children in the selected preschools were recruited as respondents in the current study if they fulfilled the criterion. Firstly, they had preschool-aged children or children who study in preschool between the age of 3 to 5 years old and they lived together with the child. Secondly, they provided chances for their kids to be involved or conduct literacy activities at home. Thirdly, children must be from low-income families. Only mothers and children who fulfil the criteria were selected to participate in this research. The sampling technique considered in this research is proportionate stratified random sampling to get a representative sample of preschoolers aged between three and five years in Taraba State. Ethical clearance was obtained from the Ethics Committee for Research Involving Human Subjects, Universiti Putra Malaysia, prior to starting data collection. Permission was also sort from the headmasters of the selected schools before data collection started. All the recruited participants were properly briefed, and their consent obtained to guarantee their confidentiality.

Data Collection Instruments

Research instruments in form of a survey questionnaire were designed and used for data collection. There were five parts of the questionnaire. The first segment includes demographic details, such as questions about the child's history. The section of play of pre-schoolers was evaluated by:

Toddler and Play Scale Questionnaire (TPSQ) which was developed by [28]. This measure has a total of 13-item with a 5-point Likert scale with an internal consistency of .83 measured using Cronbach Alpha [10]. By summing up the responses of the 13 elements, the total scores were determined. The higher the ratings, the more parents believed play is necessary for their children's social and linguistic development, as well as their school readiness skills. Higher scores also indicated parents performed their roles in the play of children.

Family Involvement Questionnaire – Short Form (FIQ-SF) [34] was utilized to measure family's involvement. The FIQ-SF is a 21 item self-report instrument with a 5-point Likert scale, which is from 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided 4 = Agree, 5= Strongly Agree. The internal reliability of Cronbach's alpha was .97. It consists of three subscales that measure different aspects of family involvement. For the scoring parts, responses are based on a 5-point Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree). Higher scores suggested that a particular family or parent is highly involved in preschool children's education.

Preschoolers literacy interest was evaluated by the *Children's Interest Measure* [33]. This instrument, consisting of 17 objects, including reading, letters and writing, provides a measure of the interest of children in literacy in two parts: the enjoyment and frequency of involvement in literacy activities [34],[33] Based on a five-point Likert Scale, these things are graded, which is from 1= Never to 5= Regular. A complete sum of two separate scales of Likert (/64) will be obtained. Higher scores reflect a higher interest level in literacy.

Literacy skills was measured by *Get Ready to Read! (GRTR)* which is developed [35] from the National Centre for Learning. In this instrument, there are three central domains of readiness: Print awareness, such as separating written words from photographs, understanding of books and printed letters; emergent writing skills. The GRTR consists of 20 items with four response choices for each item. For reliability and validity, the GRTR has an alpha of .78 and split-half reliability of .80 [12],[4]. The options are presented to the child as four pictures, and he or she must respond by pointing to the correct answer after listening to the instruction or questions from parents. For scoring part, scores for three domains are achieved by summing all correct answers for each section in print knowledge, emergent writing skill and phonological awareness. Hence, a total score of a child is calculated with all correct answers he or she gets. According to [30], ratings of 0 to 6 indicate very poor early literacy skills, 6 to 9 indicate weak skills, 9 to 12 indicate average literacy skills, 12 to 16 indicate good skills, and 16 to 20 indicate very strong skills. (31). The highest score is 20 and the lowest score is 0. If the child obtains higher score, that means he or she has better skills of literacy.

5. Results

The bootstrapping technique was used for the mediating analysis in this study, as indicated by [35]. Bootstrapping is a reliable method for evaluating the mediation effect, which is a nonparametric resampling technique that has been reported [35].

Table 1: Mediation result

Hypotheses	O	L	U	T	P	Decisi	Mediati
	S	B	B		Valu	on	on
					es		
Play -> Lit. Interest -> LiteracySkills	0.036	0.003	0.071	2.108	0.036	Signifi	Partial
Family Involvement. -> Lit. Int. -> Lit. Skills	0.000	0.000	0.001	4.083	0.000	Signifi	Partial

Lit. Int; Literacy Interest OS: Original Sample; LB: Lower Bound; UB: Upper Bound; Significant; *p < 0.05

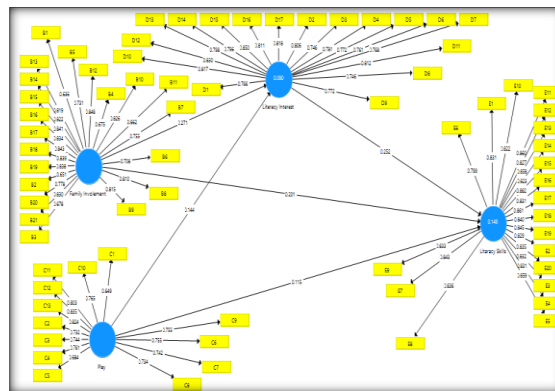


Figure 2: Bootstrapping results with inner model t-values

Table 1 revealed the results on the effect of independent variables on dependent variables through Literacy Interest where the impact of mediation has been verified as statistically significant. Table 1 summarizes the mediation study findings, which indicate that all mediating theories were endorsed. The first mediation relates to the significant mediating path of Play -> Literacy Interest -> Literacy Skills, which revealed statistically significant results based on $p=0.036$ and their corresponding $\beta=0.036$ or 4% and $t=2.108$. This finding implied that play boosts the literacy interest of pre-school children which eventually improves literacy skills. The finding can be supported by a position made by [2] who reported that play was an important tool for learning and improving literacy skills, as children strongly learned how things work through learning because children tend to personalize their teaching to their unique interests.

The second mediating path is that of Family Involvement -> Literacy Interest -> Literacy Skills which was also significant based on the $p=0.000$ and their corresponding $\beta=0.068$ or 6% and $t=4.083$. The findings implied that literacy interest is an important mechanism that explains the influence of family involvement and literacy skills. It means that family involvement leads to literacy interest which eventually enhances literacy skills. The finding is consistent with the assertion [36] who highlights the possible mediation of literacy interest in the relationship between participation (involvement) and literacy.

It is to mention that both the two mediating relationships were partially mediated as their direct relationship (see Table 1) and indirect relationships (see Table 1) are significant, therefore these relationships are partially mediated [37]. This implies that literacy interest is not the only mechanism that mediates these relationships. There could be other cognitive factors that would likely mediate such a relationship.

6. Conclusion

The study has implications for the Social Cognitive Theory [5], as well as Vygotsky's theory of social development [6]. This provides empirical evidence for the validation of these theories in a new context and siting. It provides empirical evidence from a developing country perspective more especially in Nigeria where evidence is lacking. In this, the study validates these theories in a new setting which is pre-school children especially those from low-income families.

Practically, the study will provide insights to both educational authorities and family on the possible ways to improve the literacy skills of pre-school children most importantly from the low-income family where evidence is lacking. This will enable school authorities to provide an avenue for play among preschoolers to develop both literacy interest and literacy skills. This can be made by inserting playtime into the school hours, providing them with the desirable toys as well as giving them some opportunities to play with adults. It also highlights to parents that boosting the literacy interest of their children requires not also the teachers' efforts but also parents'

involvement. This can be made through taking them into important places within the community, providing learning materials to them at home, and discussing their interest and skills as well as spending time with them on creative activities.

7. Implication for Future Research

The study has three important implications for future researchers. Firstly, the development and validation of the conceptual model of this study call for its replication in other developing countries, especially those with a high population of pre-school children from low-income families. This will not only cross-validate the findings made in this study but also enable parents and policymakers in those countries to benefit from such research effort. Secondly, the explanatory power of play and family involvement on literacy skills is not that strong as revealed by the coefficient of determination. This implied that there could be other environmental factors that can improve literacy skills apart from these two. Hence, future researchers should explore additional predictors of literacy interest apart from these two variables. Lastly, the study only established partial mediation of literacy interest. Given the fact that it is not full mediation, it implied that there are other cognitive factors out there that could mediate the relationship between play and literacy skills as well as play and literacy interest. These other possible mediators should be explored by future researchers.

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