Home Literacy Environment and Social-Economic Status as Predictors of Initial Literacy in the first Grade in Lusaka-Zambia

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Abstract

Studies have shown that Socio Economic Status (SES) and Home Literacy Environment (HLE) are associated with reading achievement. However, very few studies have shown this association with regards to emergent literacy skills in Zambia. This study examined how home literacy environment and social economic status are related to first graders' emergent reading skills. The study also sought to identify specific pathways in which socioeconomic status and home environment mediate first graders' emergent reading skills. To obtain the results for this study, a quasi-experimental design was used were 216 first graders from 18 different schools were assessed using the Basic Skill Assessment Tool (BASAT) at the beginning of first grade and at the end of first grade (approximately seven months after the baseline study). Home literacy environment and social economic status information was gathered using the demographic data form completed by the teachers and parents. To obtain the results, data was analysed quantitatively using descriptive, correlations and multi-level regression analysis. Results demonstrated that both home literacy environment and Social Economic status are associated with improvements in children's emergent reading skills. Particularly, mothers' occupation was a strong predictor of school achievement compared to father's occupation. However, the influence of mother's occupation was not significant for children who attended preschool, this was observed at both pre and post-test. Concurrent and longitudinal effects of social economic status were observed on reading while no longitudinal effects of home literacy environment were observed. The implication of these findings is that children who do not attend preschool but have mothers in gainful employment perform better in emergent literacy than those who have preschool exposure. This is a very important finding that stimulates debate and future research.

Keywords: Home literacy environment, Social Economic status, and Emergent Literacy

Introduction

The influence of background factors such as home literacy environment and social economic status on pupil performance cannot be overemphasized. Several researcher's world over have studied the influence of these factors on literacy attainment (Leseman & de jong, 1998; Senechal, 2006; Serpell, Baker, & Sonnenschein, 2005; Silva, Verhoeven, & Van Leeuwe, 2008). Many of these studies have however focused on reading in higher grades and not emergent literacy in Zambian schools. This paper is premised on demonstrating how home

literacy environment and Social economic status affect literacy attainment in the first grade. This paper is unique in the sense that it targeted emergent literacy and not actual reading as in most Zambian studies (e. g. Chansa-Kabali, 2014; Matafwali, 2010; Mubanga, 2010; Mwanza, 2011). This is very important as there is a knowledge gap on emergent literacy skills which are very critical for future reading especially in a countly like Zambia where in reading have consistently shown poor reading levels. (Matafwali 2010, Mubanga 2010, Mwanza-Kabaghe 2015, Mbewe et al 2016). It was hypothesized in this study that preschool would be a mediator between Social economic status and school achievement, suggesting that more wealthy parents send their children to preschool which results in better performance. Another hypothesis was that more wealthy parents read more at home and hence promoting their children's performance. It is important to note that majority of children with preschool were younger (in the age range of 5 to 8) compared to those without preschool experience (7-12).

Literature and theoretical underpinning

Studies have shown that Home Literacy Environment (HLE) has an effect on children's literacy skills before and after entering school (Chansa-Kabali 2014, Matafwali 2010, Ngorosho 2011, Mwanza, 2011, Mwanza-Kabaghe 2015). A large body of research demonstrated the importance of home literacy environment in the attainment of emergent reading, Leseman & Keultjes, 2000; Cummingham & Stanovich, 1993; Leseman & de jong, 1998; Senechal, 2006; Serpell, Baker, & Sonnenschein, 2005; Silva Verhoeven & Van Leeuwe, 2008). The importance of the home environment is grounded in the fact that the home serves as a setting in which language and literacy is first encountered (Strikland & Taylor, 1989).

Different scholars have looked at different aspects in the home and have defined them as activities and materials that make up home literacy environment. Senechal et al. (1998) proposed aspects such as number of books in the home, library visits, and parent's own print exposure as aspects that make up home literacy environment while Saracho (1997) proposed that parents' literacy level and the availability of reading materials are characteristics of the home environment related to a child's literacy development. In addition, Chansa-Kabali (2014) describes HLE as the extent to which parents read aloud to their preschool aged children, provide books and other print materials in the home and engage with them in appropriate learning opportunities within and away from home. She adds that these learning activities contribute to children's literacy competency. In the current study HLE is simply having reading materials in the home as well as reading at home with or without the assistance of significant others. The aim of this study was to examine how HLE affects literacy skills in the first grade as well as assess whether preschool mediates between HLE and emergent literacy skills. The study further sought to identify pathways through which socioeconomic status and home literacy environment affects emergent literacy skills in children. The current study is exceptional in the sense that it was conducted in Zambia a country that has consistently recorded poor reading levels in primary school (Matafwali 2010, Mubaga 2010 Mwanza 2011,

Mwanza-Kabaghe 2015. Mwanza-Kabaghe et al 2015) and other studies that were done in Zambia such as Chansa-Kabali 2014; Matafwali 2010 and Mubaga 2010., did not concentrate on first grade and emergent reading.

Correlations among home literacy, emergent literacy, and early reading acquisition have been reported in many studies and seem to be well recognized (Bus, van IJzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994). In addition, studies of the child's home learning environment have repeatedly shown that the language environment in the home and quality of linguistic interaction and learning experiences with parent have direct and significant association with children's cognitive and language development and emergent literacy competence (e.g., Dickinson & Tabors, 2001; Hess & Halloway, 1994; Kagan, Moore, & Bredekemp, 1995). In this study, it was anticipated that children with stimulating HLE would perform better in emergent literacy than those from homes less stimulating.

Social Economic Status, Home Literacy Environment and Literacy

A study by Foy and Mann (2003) which explored how features of the home literacy environment are related with phonological awareness in 4- to 6-year olds, found that teaching children in a home and exposure to reading-related media were directly associated with phoneme awareness and indirectly associated with letter knowledge and vocabulary. Exposure to reading-related media and parents' active involvement in children's literature were also directly and indirectly linked with rhyme awareness skills via their association with letter and vocabulary knowledge. To further show the importance of HLE, Davidse et al (2011) found that home literacy environment (as measured by the frequency of book sharing question and the parent print exposure checklist) predicts literacy skills, evidence also suggests that home factors account for more variance to literacy development than school factors (Davis-Kean, 2005; Linver, Brooks-Gunn, & Kohen, 2004; Mistry & Benner, 2007). A study in Zambia by Chansa- Kabali (2014) found that culture expressed through literacy interactions within the HLE significantly predicted reading skills. In the current study it was expected that children with better HLE would perform better than those from poor HLE in an emergent literacy test but that preschool would mediate between HLE, social economic status and emergent literacy.

Another important aspect that is linked to Home literacy environment is Socio-economic status. It is believed that children from high social economic status may be privileged to have the necessary books and other learning materials to help them learn literacy skills. Social economic status has been known for a long time to be a powerful predictor of children's cognitive development (Sameroff & Channdler, 1975). To emphasize the relationship between SES and HLE, .Foster, etal (2005) found that family social risk and home learning experiences mediate the association between SES and Head Start children's school readiness in the areas of emergent literacy competence and social functioning.

In the USA Purcell-Gates (1997) illustrated the importance of reading materials

in the home as a predictor of literacy in low income homes. In addition, a study by Foster et al. (2005) that looked at the relationship between family variables such as social economic status, social risk factors and home learning environment and emergent literacy competence and child social functioning among 325 families in the Head Start programme found family social risk and home learning experience mediate the association between social economic status and heard start children's school readiness in the areas of emergent literacy competence and social functioning. In the current study it was expected that children from families with a high SES would perform better than those from low SES on literacy tests.

In support of this assertion, a study by Mcloyd (1998) which examined literature on the impact of social economic disadvantages on children's development found that, poverty and social economic status are predictive of children's early cognitive and language functioning, academic achievement, social competence as well as emotional and behavior adjustment. Research has also shown that children who come from families with lower SES usually demonstrate delays in language and emergent literacy skills (Raviv, Kessenich, & Morrison, 2004). Also, Ngorosho (2011) showed that family possessions and parental education affect reading and writing in Tanzania

Social economic status has also been linked to literacy achievement in southern Africa, for example, Pretorius and Ribbens (2005) discovered that, low adult literacy levels are widespread throughout South Africa, especially in disadvantaged areas. They added that, in such circumstances, learners must attain literacy skills and behaviors without the aid of a reassuring home environment. They further stated that, literacy stimulation by way of books is beyond the financial means of many parents in disadvantaged areas. The situation is quite comparable to Zambia as Matafwali (2010) found that there was a correlation between home possessions and literacy in the first grade. Home possession which was used as a measure of social economic status also predicted reading in first and second grade. Because of the importance of SES to readingin this study therefore, HLE and SES were assessed in order to show their effect on literacy concurrently and longitudinally. The quest to study the influence of the two aspects on literacy was fueled in part by findings in western countries on the influence they have on literacy and inconsistencies found in Africa on their effect on literacy. Added to the predictor variables in this study was attendance of preschool and general intelligence as they are believed to influence literacy in Zambian children (Mwanza-Kabaghe 2015, Mwanza- Kabaghe et al 2015).

Research methodology

This study was a quasi-experimental design, the researchers tested the effect of HLE and SES among first graders in Lusaka Zambia. Children from 18 schools in Lusaka district were tested at the start of grade 1 (phase I) in January and February 2013, the same children were tested again in November 2013 (phase II) after seven months of literacy practice in first grade. A total of 216 children (98 without preschool and 118 with preschool) (118 female and 98 males) took part in the study.

One of the schools where data was collected is a girl's only school resulting in a higher female ratio in the sample. Only 197 children from the original sample took part in the study in phase II due to attrition (*N*= 19). The reasons for the attrition varied some children had changed schools, others had moved to other places and could not be located hence could not be part of the study in phase II. The reason for collecting data at the start and end of grade one was to test the concurrent as well as the long-term effects of HLE and SES on literacy in the first grade.

The pupils were recruited at the start of the first grade with the help of the teachers who had information of whether or not children had been to preschool. Once recruited the teachers helped to seek consent from the parents who were subjected to an interview that gave details about the child's language of play, home language as well as the classroom language and the socio- economic status of the child. This interview was done in the first term before testing the pupils' emergent literacy skills.

In the third term, all pupils were tested again. During the session no other pupils were present apart from the ones taking the test and the person conducting the test. This was to avoid distractions in any way by other present stimuli. Literacy skills were tested using the Basic Skill Assessment Tool (BASAT). The testing took about 45 minutes per child.

The tests were administered by three trained Research Assistants who were speakers of Nyanja the language used in the study and in the classroom. Two were master's students at the University of Zambia and the other one was a Diploma holder. Assistant Researchers underwent training for two days on test administration before the pretest and one day training before the posttest. The training was done by the Principle Researcher.

Instruments

Background (Biographic data form)

This instrument was used to generate biographical data of each respondent such as personal details (name, age, and sex), home possessions, language used at home and school, whether the child had been to preschool or not. This activity was conducted on each pupil respondent before the other instruments were administered.

Home possession index (HPI) : This was a 12 item Home Possession Index designed to compile information regarding home possession,

The maximum score for the HPI was 12 and the Cronbach's alpha reliability was .632 (N = 216). The HPI comprised items such as; television, radio, stove, electricity, running water, flushable toilet, and a car, two pairs of shoes, two pairs of clothes, shoes, sleeping on a mattress, floor tiles and the residential area the child lived.

Home Literacy Environment Index: There were five items designed to elicit information regarding the literacy environment and interaction with literacy

materials in the home. Areas covered included: quantity and quality of print material, frequency of independent reading and adult support during reading times. Questions focused on reading at home, how often children read, title of books they read and whether they received assistance when reading at home, it should be noted that this instrument was used before in Zambia by Matafwali, 2010; Mwanza 2011; Mwanza-Kabaghe et al,2015 in all the studies associations between HLE and reading were found.

The basic skills assessment tool (BASAT, Nyanja version)

This is a standardized Zambian instrument prepared by the Ministry of Education (MoE. 2003) specifically designed to assess grade 1 and 2 school pupil's literacy proficiency. As scores were low in previous studies (Kalindi, 2005; Matafwali, 2005; Matafwali, 2010; Mubanga, 2010; Mwanza, 2011) some tests were modified. The reading comprehension for example was done in such a way that pupils had to point at a word describing a picture that was mentioned by the researcher from a series of four words.

Alphabet knowledge

Alphabet letter naming task: The letter naming task required each pupil to give the name of each letter from a sequence of 26 letters printed in random order on a card. The maximum score on this task was 26. Cronbach's Alpha for pretest and posttest equaled .96 (*N*=216) and .95 (*N*=197), respectively.

Alphabet letter Identification: The alphabet letter identification task required the child to point at the letter upon hearing the letter sound. This task also utilized the card with letters in random order. The maximum score on this task was 26. Cronbach's Alpha for pretest and posttest equaled .95 (*N*=216) .93 (*N*= 197)

Letter sound knowledge: The letter sound knowledge used the same card that was used on letter knowledge; the children were asked to say the sound of each letter. The maximum score on this task was 26. Cronbach Alpha for pretest and posttest equaled .95 (*N*=216) and .94 (*N*=197), respectively.

Sound letter knowledge: The same letter card was used, the examiner pronounced the sound of each individual letter of the alphabet and the children were asked to identify the corresponding letters. The maximum score on this task was 26. Cronbach Alpha for pretest and posttest equalled .94 (*N*=216) and .95 (*N*=197), respectively.

According to a factor analysis that was conducted on all the items of the BASAT the alphabet naming tasks, letter identification, letter sound knowledge and sound letter knowledge grouped together on component one, meaning that they measure the same aspects (Field, 2013). Hence the component was called Basat alphabet knowledge. The Cronbach Alpha for this variable for pretest and posttest equaled .94 (*N*=216) and .95 (*N*=197), respectively.

Phonological tasks

Three tasks were used to assess different types of children's phonological awareness, syllable segmentation, discriminating of initial and ending sounds and blending.

Syllable segmentation, there were four words consisting of three syllable words respectively, The researcher read the words aloud and the children were asked the number of syllables in each word. The task consisted of 4 items and the maximum score on this task was 4. Cronbach Alpha for pretest and posttest equalled .80 (*N*=216) and .82 (*N*=197), respectively.

Discrimination of initial and ending sound: The task consisted of 20 compound words. Children were asked to identify the initial sounds in the first 10 words. The next 10 items assessed discrimination of ending sounds. The maximum score on this task was 20. Cronbach Alpha for pretest and posttest equalled .93 (*N*=216) and .94 (*N*=197).

Blending task: The task required children to combine sound elements to form a word. In each task, three syllables were said aloud to the child. The letters combining the words were put on cards. As each syllable sound was said, a card containing the syllable was placed in front of the child. Use of cards helped to reduce the memory demands of the task. Thus, the task was presented both verbally and in written format. The child was then asked to blend the sounds into a word. The task consisted of 10 items. Cronbach Alpha for pretest and posttest equalled .95 (*N*=216) and .94 (*N*=197), respectively

After factor analysis of dimension reduction was done it was noted that the three phonological tasks listed above were grouped together and were named (Basat phonological skills). The Cronbach Alpha for the combined variable for pretest and posttest equalled .62 (*N*=216) and. 52 (*N*=197), respectively.

Reading and Writing ability

Children were asked to read a series of words and two sentences as well as write. The categories of words fell into four groups: two letter words; one syllable words; two syllable words; three syllable words. The maximum score was 18. Cronbach's alpha on reading and writing ability tasks was .89. After the exploratory factor analysis of dimension reduction the reading and writing task became known as Basat reading and writing.

Reading Comprehension: Reading comprehension was assessed using Picture comprehension subtest from the BASAT. The test consisted of items containing pictures and a corresponding word to the picture. Children were required to identify which of the three words was corresponding with the picture. Cronbach Alpha for pretest and posttest equalled .63 (*N*=216) and .64 (*N*=197), respectively.

Memory for Digits: The forward digit span of the BASAT (MoE, 2003) was used as a measure of phonological memory. The test required the child to repeat back series of digits that were first spoken by the examiner. The test began with items containing two digits. The number of digits to be repeated increased from two digits for the first two items to seven digits for the last test items. The score recorded was the total number of items that the child could recall accurately on any single trial. ‘

5 General Intelligence (Pattern reasoning test)

Nonverbal cognitive skills were assessed as an indicator of general intellectual potential. As a measure of nonverbal cognitive skills, a set of items similar to the items used in the Pattern Reasoning subscale of the Kaufman Assessment Battery for Children (K-ABC). The K-ABC had been applied in Kenya, Uganda and Zambia (Bangirana, et al. 2009; Fink et al., 2012; Matafwali, 2010; Taylor et al. 2004). The children were shown a series of stimuli forming a logical linear pattern with one stimulus missing. The child was asked to choose the missing stimulus from 4 to 6 options at the bottom of the page. Cronbach Alpha for pretest and posttest equaled .80 (N=216) and .84 (N=197, respectively.

Data Analysis

Data in this study was purely quantitative and was analysed using SPSS version 19. As a first step variable totals were created from raw scores to reduce the number of variables which stood independently at the time of data collection. Secondly, data was inspected by descriptive statistics which included the Mean (M), Standard Deviation (SD), Minimum (Min.), Maximum (Max.) Cronbach Alpha Reliability Scale, Skewness and Kurtosis. This was done to show the general performance of the children on all variables as well as to signal outliers, skewed scores and normality.

Variable that were found to include outliers or extreme scores were winsorized (Field, 2013: 198). After, Exploratory Factor Analysis was conducted to reduce the number of variables and to prevent multicollineality. In order to test for the effect of HLE and SES on literacy, a mixed models multilevel analysis and regression were utilized.

Results/ Findings

Socioeconomic status and home literacy environment as predictors children's' reading emergent skills

Exploratory factor analysis on the Basat items posttest (Reading)

Table 2: Summary of results of factors analysis on basat posttest Items N=197

	Component		
	1	2	3
Alphabet Identification totals posttest	.872	-	-
Alphabet Naming totals posttest	.866	-	-
Alphabet letter sound Identification posttest	.814	-	-
Alphabet sound identification totals posttest	.763	-	-
Alphabet writing totals posttest	.743		-
Writing words with more than three syllable words posttest	-	.853	-
Writing three syllable words posttest	-	.851	-
Reads three syllable words totals posttest	-	.696	-
Writing two syllable words totals posttest	-	.645	-
Making syllables totals posttest	-	.574	-
Reads two syllable words winsorised	-	.466	-
Phonological task totals posttest	-	-	.815
TDiscriminating initial and ending sounds combined posttest	-	-	.656
Blending sounds totals posttest	-	-	.570

-Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

Table 2 shows a factor analysis that was conducted on the 15 items of the Basat (reading) posttest with varimax and keiser normalization. All the individual loadings were greater than .46, which is well above the acceptable limit of .40. Table 2 shows the loadings after rotation. Components are similar to the components found for the pretest.

Table 3: correlations of predictor and outcome variables in the study

	1	2	3	4	5	6	7	8	9	10	11
111. Age	1	-.239**	-.079	-.125	-.147*	-.001	.085	.090	.190**	.064	.073
2. Home possession		1	.052	.063	.217**	.070	-.010	-.022	-.081	-.105	-.151*
3. Reads at home			1	.890**	.091	.292**	.176*	.084	.075	.147*	.094
4. Learning Support (gets help)				1	.119	.265**	.149*	.058	.073	.104	.095
5 preschool					1	.160*	.084	.072	-.071	-.001	-.079
6. Alphabet Knowledge pretest						1	.750**	.386**	.468**	.586**	.533**
7. Alphabet knowledge posttest.							1	.323**	.680**	.574**	.716**
8. Phonological skills pretest								1	.357**	.284**	.272**
9. Phonological skills posttest									1	.438**	.625**
10. Reading and writing pretest										1	.766**
11. Reading and writing posttetst											1

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

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

Table 3 displays correlations on background and outcome variables in this study. Age correlated negatively with home possessions (r = -.24) and preschool (r = -.15), indicating that children who started school late did not attend preschool and that children not attending preschool reported fewer home possessions. Positive correlations were observed between age and phonological skills posttest (r =.19). This means that older children performed better than the younger children on this task.

Children who came from homes where they reported reading at home were also getting help when reading (r =.89) and had higher scores on alphabet pre and posttests (r = .29 and r =.18, respectively). This implies that children who read at home also enjoyed learning support and performed better than those who did not read at home in alphabet knowledge both at pre and posttests as well as in reading at pretest.

Home possession on the other hand had significant but negative correlation with reading and writing - posttest (r = -.15). This indicates that children who reported more home possessions performed poorly in reading and writing on the posttest.

Alphabet Knowledge pretest strongly correlated with phonological awareness and reading and writing pre- and posttests respectively). The case was the same for phonological awareness and reading and writing therefore confirming that alphabet knowledge and phonological awareness are precursors for reading and writing.

Table 4. Predicting basic literacy skills at the start of grade 1 controlling for age, home possessions and nonverbal intelligence (R2 = .18)

Step, Predictor	ΔR2	B (final model)
1. Age	.001	.009
Home possessions		.024
2. Nonverbal intelligence	.049	.205**
3. Preschool	.012	.112

In multivariate analyses in order to test effects of preschool on literacy skills, we controlled for home possessions, nonverbal intelligence, and age that are all related to preschool. After controlling for these variables, preschool predicted a small non-significant part of the variance in basic literacy skills, meaning that there were only minor effects of preschool on alphabetic knowledge and phonological skills beyond differences resulting from differences in nonverbal intelligence

Variables	Alphabet post test		Phonological posttest		Reading Posttest	
	T	*Sig*	t	*sig*	t	*Sig*
Intercept	-.706	*(.481)*	.820	*(.414)*	.044	*(.965)*
Home possessions	-0.192 .192	*(.848)*	-.492	*(.623)*	-1.796	*(.074)*
Reading at home	2.625	*(.009)*	1.473	*(.142)*	1.635	*(.104)*
Preschool	1.492	*(.137)*	-.652.	*(.515)*	-.545	*(.587)*

Table 5: SES and HLE predicting literacy

Table 4 shows that SES (home possessions) positively predicted reading and writing at the end of first grade. Preschool on the other hand did not have an effect on reading and writing skills in fact it had a negative effect on phonological awareness and reading posttest *(t=-.654 and -.545 respectively)*.

Mother's occupation and preschool as predictors of school achievement in children

We analysed the results of children performance on the Basat at the beginning and at the end of the year with a view of identifying the key predictor of children school achievement. The Results show that occupation of the mother is a strong predictor of school achievement (not the father's occupation). Preschool attendance was also found to be a significant predictor. Interestingly the interaction between preschool and mother occupation was significant suggesting that the mother's occupation is not predictive of children's achievement when children attend preschool but it is when they do not attend preschool. This was observed at the beginning of the year and at the of the year the results are summarised on the table 6 and figure 1 below;

Table 6: Basat at the beginning of the year: showing mothers occupation and preschool as predictors of children's school achievement

Estimates of Fixed Effects[a]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	41,314294	8,408195	215,000	4,914	,000	24,741245	57,887343
Caregiver occupation	2,563732	4,106348	215	,624	,533	-5,530123	10,657587
Mother occupation	13,000656	4,016944	215	3,236	,001	5,083021	20,918291
Preschool	38,778074	12,126107	215	3,198	,002	14,876799	62,679348
Mother occupation * preschool	-13,788925	5,311953	215,000	-2,596	,010	-24,259099	-3,318751
Caregiver occupation * preschool	-6,119578	5,758798	215,000	-1,063	,289	-17,470510	5,231353

a. Dependent Variable: Basat_pre.

Effect size (d) for mother's occupation = .31. Effect size for preschool = .91. The interaction effect is demonstrated by the **figure 1** below.

Figure 1: **mothers occupation as a predictor of children school achievement when children do not attend preschool**

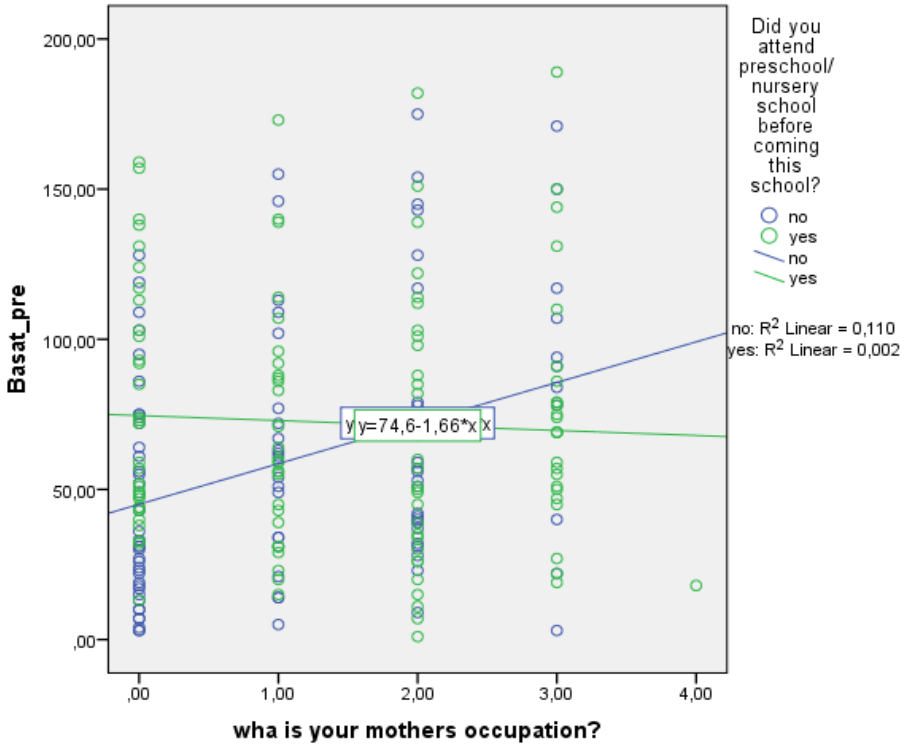

Figure1 shows that mothers' occupation is a predictor of children' school achievement when children did not attend preschool as shown by blue lines on figure 1(as occupation is higher children's scores are higher . However, mother's occupation is not a predictor of children school achievement when children attend preschool as shown by the green line. The same analyses with Basat at the end of first grade as dependent measure reveal similar results:

Table 7: Basat at the end of the year: showing mothers occupation and preschool as predictors of children's school achievement

Estimates of Fixed Effects[a]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	72,790447	11,760760	120,961	6,189	,000	49,506845	96,074049
Caregiveroccupation	-,280920	5,392307	193,365	-,052	,959	-10,916211	10,354371
Motheroccupation	18,056389	5,312894	191,475	3,399	,001	7,577073	28,535706
Preschool	38,033419	15,647983	190,988	2,431	,016	7,168357	68,898482
motheroccupation * preschool	-15,652226	6,818459	187,756	-2,296	,023	-29,102858	-2,201593
caregiveroccupation * preschool	-7,771297	7,392919	189,851	-1,051	,295	-22,354111	6,811518

a. Dependent Variable: Basat_post.

ICC equals .14, meaning that 14% of the differences relate to the school. Effect size (d) for mother's occupation = .34. Effect size for preschool = .72 (a bit weaker that with basat-pre).

Figure 2: **Mothers occupation as a predictor of children school achievement when children do not attend preschool**

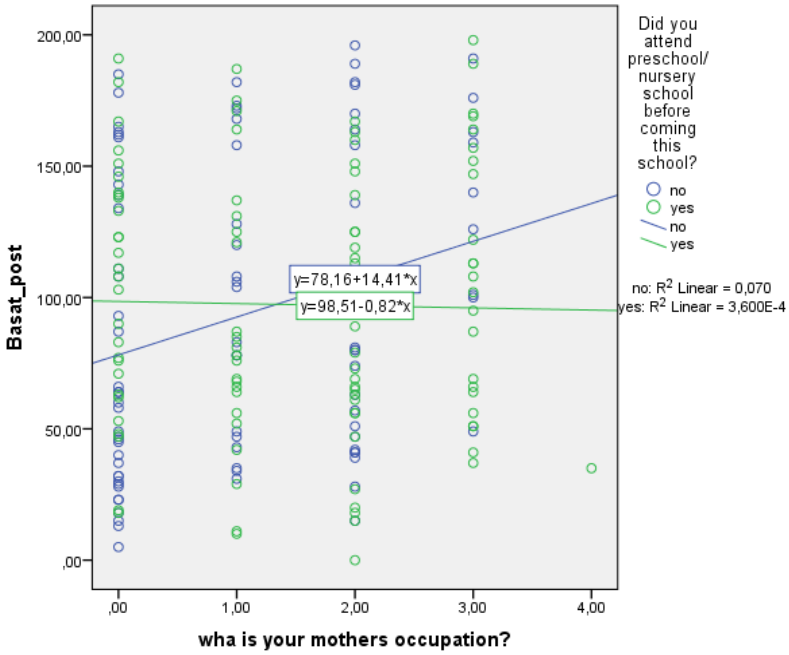

Figure 2 above shows that when children attend preschool (green line) scores are practically the same notwithstanding the mother's occupation. When children did not attend preschool (blue line) there scores do depend on the mother's occupation. As occupation is higher children's scores are higher. There is not a strong relationship between the mother's occupation and attending preschool although data shows that children from unoccupied mothers less often attend preschool and children from mothers with formal employment more. But whatever the mother's occupation children may attend preschool.

Discussion of findings

We examined how home literacy environment and social economic status are related to first graders' emergent reading skills among Zambian children in Lusaka province. We also sought to identify specific pathways in which socioeconomic status and home environment mediate first graders' emergent reading skills. The findings indicate that both home environment and socioeconomic status are key in predicting first graders emergent reading skills. Further, the mothers' occupation and preschool exposure were observed to be strong predictors of children's' emergent reading skills. Although other studies indicate that father's support is significant in influencing cognitive performance of children and overall behaviour, **(**Pougnet, Serbin , Stack, and Schwartzman , 2011), this study showed that mothers' occupation influences first graders' emergent skills if the children did not attend preschool. This implies that the influence of mothers' occupation on emergent reading skills is reduced when children attend preschool. Therefore, it can be said that both mothers' occupation and preschool exposure are key in influencing children' emergent skills.

Preschool has strong effect on children's literacy skills, however more so at the start of first grade than one year later; effect size decreases from .91 to .72. Social economic status makes a difference for school achievement, at the start of first grade and at the end. Mothers' occupation is seen to be important factor in influencing first graders emergent skills throughout.

Home literacy environment and social economic status had moderate to strong relations with outcome variables at the start of the school year. However, the strength of these relations diminished towards the end of the year. More skilled in alphabet knowledge were children coming from homes with more home possessions and a richer home literacy environment. The explanation for this could be that children with more home possessions could have been exposed to a number of alphabetic items as parents could easily provide materials needed in the home and were most likely able to take time to teach their children alphabet basics.

Moreover, since correlations were observed between home possessions and preschool, it is likely that children with preschool had more home possessions and entered first grade with emergent literacy skills which could have made them perform better at the start of grade one. However, progression in skills may

have stagnated as a result of the difference in the language of instruction making their counterparts without preschool background be at par with them in the post test. These findings are in favor of Matafwali (2010) who established lack of longitudinal effect of SES, HLE and preschool on reading and writing contrary to the literature (Ngorosho, 2011) reporting longitudinal effects of SES and HLE on reading and writing. Therefore, emphasizing the need to ensure that HLE in Zambia are improved to meet the required standards that seem to improve literacy skills in children.

To find out about the home literacy environment, this study utilized the home literacy practice index generated from the biographical data form. Questions focused on reading at home, how often children read, title of books they read and whether they received assistance when reading at home. The correlational analysis showed that HLE (Reading at home) was significantly associated with alphabet knowledge posttest. In order to check for the long-term effect, the multi-level regression revealed that literacy experience at home only contributed to outcome variables that were done concurrently but not longitudinally. It was anticipated that home literacy practices would significantly predict literacy outcomes longitudinally in line with previous research in Western Countries. Interestingly, mother's occupation accounted for school achievement at both pre and posttest.

A plausible explanation for the lack of longitudinal effect of home literacy experiences could be lack of continuity in home support after children have entered formal education. Another plausible explanation could be lack of age appropriate reading materials in the language of instruction used at school. At the start of first grade variability was observed on this variable but later diminished meaning that children could have been exposed to some kind of basic skills before formal school. To support this assertion, Matafwali (2010) contends that "In typical Zambian communities, the set of objects that surround children does not include children's books, and where books are available, they are not usually in the primary (local) language" (p.143). Further, she contends that the activities that adults and children share and the everyday situations typically lack the element of literacy events in the sense described in Western societies. This therefore shows that what western cultures describe as HLE may be different in African countries, therefore reducing its longitudinal effects. However, a study in Zambia by Chansa-Kabali (2014) reported that 8% of the variation in reading among Zambian children was related to the presence of reading materials in the home. These differences in findings may be due to the method. While this study solely relied on a questionnaire about HLE the Chansa- Kabali study incorporated other aspects of HLE such as home visits which could have accorded a chance to observe as well as get additional information from parents of children which the present study did not do. It is therefore important that an explanation of HLE be emphasized to ensure that it matches that of western countries and other African countries which have proved to be important for reading development.

Another factor that has been associated to reading and writing is socio-economic status (Raviv, Kessenich, & Morrison, 2004). In the present study, socioeconomic status was the measure of circumstances of the homes where children lived; it included a number of "possessions" that children reported to be present in the home using the home possession index which comprised items such as; television, radio, stove, electricity, running water, flushable toilet, and a car, two pairs of shoes, two pairs of clothes, shoes, sleeping on a mattress, floor tiles and the residential area the child lived. The items that were present were summed to form an index which reflected the material wealth of the home. For the purpose of coding, children who reported to have no items in the home scored zero (0) and children with all items in the home scored twelve (12). In line with previous work showing that socioeconomic status is related to literacy achievement the present study found significant associations between reading and writing at posttest with social economic status. Multilevel regression analysis also showed long term effect of SES on reading and writing. This finding is in support of Chansa-Kabali (2014) who found that 13% of the variability in reading among 72 children in her study was related to certain home possessions. The implication of this finding is that children who came from homes with more home possessions also performed well in reading and writing. It is possible that in these children's homes were also play-toys, children's books, television, videos, radio and other modern gadgets to convey literacy messages. In Zambia for example children from homes with radios have the privilege to listen to a radio programme called "Learning at Taonga market" an interactive radio instruction (IRI) which was founded as an alternative means to deliver the basic education curriculum to learners who were not able to attend Government schools. (Jere-Folotiya, 2014).

The importance of SES is supported by literature. For example, Raz and Bryant (1990) argue that children reared in poverty are at risk for illiteracy. They add that socioeconomic status is one of the strongest predictors of performance differences in children at the beginning of first grade. Also, Ramey and Ramey (1994) contend that families with low socioeconomic status lack financial, social and educational support that characterize families with high social economic status. Poor families in particular, have inadequate or limited access to financial, material, social and human resources that promote children's development and school readiness. In addition, poor parents may be illiterate and as such they may lack adequate skills for activities like reading to and with their children. Pungello et al. (2010) also reveal that family income and economic circumstances have a powerful effect on children's development. Like other risk factors, low family income affects children mainly by affecting their home environments and the parenting they receive in ways that hinder optimal development

Results revealed that children who went to preschool came from homes where they had more home possessions than those who did not go to preschool and they were on average younger. The explanation may be that if children are from homes

with low SES, their parents may not afford sending them to preschool (Ramey & Ramey, 1994). While the legal age for starting school in Zambia is seven, the majority of children with preschool were in the age range of 5 to 8. From a study into the Early Childhood Development Project (Zuilkowski, Fink, Moucheraud, & Matafwali, 2012) appeared that participation in ECE does not only improve academic outcomes but also encourages a timely enrolment of children in grade one. They further contend that it is possible that parents whose children have been exposed to ECE are motivated to enrol their children in grade one on time because they interpret their child's participation in school related activities as evidence of school readiness, a finding that the current study attest to.

Conclusion

This study revealed that home literacy environment had effects on reading and writing at the start of grade one however no long term effects of HLE were observed on reading and writing. Therefore, strengthening the inference that HLE has no long term effects on reading. Nevertheless, significant associations between reading and writing at posttest with social economic status were noted. In addition, long term effects of SES were observed on reading and writing. Mother's occupation had strong effects on emergent literacy at the beginning as well as at the end of first grade. It is therefore recommended that HLE in Zambia should be equated to HLE in western countries and other African countries which report positive effects of HLE on children's literacy skills. This study further showed positive effects of high SES on emergent literacy both concurrently and longitudinally in line with other studies in Africa. A finding which has a bearing on the living standards. It is therefore, important for the Zambian government to consider raising the standard of living of its citizenry so as to raise literacy skills. Further studies are also needed to explore the striking finding in this study that mother's occupation strengthens emergent literacy compared to father's occupation.

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