

Article

The Influence of Home Language and Literacy Environment and Parental Self-Efficacy on Chilean Preschoolers' Early Literacy Outcomes

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Abstract: We examined the effects of shared reading workshops on children's early literacy outcomes. Data was collected for 240 children, 144 of whom had their parents or caregivers participate in a shared reading workshop. The remaining 129 were included as a comparison group. Pre- and post-intervention measures of HLLE, narrative skills, alphabet knowledge, and parental self-efficacy scores were collected. Findings show higher and statistically significant scores in alphabet knowledge and narrative skills for children whose parents implemented shared reading. Parental self-efficacy increased after participating in the workshops. Correlations between HLLE, parental self-efficacy, and children's outcomes were low yet significant. To further investigate the role of HLLE as a mediator of children's outcomes, we used structural equation modeling. Results show an interaction of HLLE on children's narrative skills and alphabet knowledge.

Keywords: home language and literacy environment (HLLE); early literacy; narrative skills; alphabet knowledge



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1. Introduction

Early years' language and literacy experiences are crucial for educational attainment and social functioning (Whitehurst & Lonigan, 1998; Burgess et al., 2002; Shapiro et al., 2013; Finders et al., 2023). A child's language exposure through interactions builds neuronal networks that make up the foundation of later learning by creating a neural infrastructure that supports literacy development in children (Hutton et al., 2020). Consequently, the sooner children explore and experiment with language and literacy, the greater the impact these experiences will have on a child's cognitive and linguistic skills (Snow, 1983; Snow & Dickinson, 1991). Strong oral language skills acquired early on through informal book conversations with family members are highly correlated with later reading ability (Proctor et al., 2010; Leyva & Smith, 2016; Carroll et al., 2019; Skibbe et al., 2008; Niklas et al., 2020).

Language interactions do not always occur in the early stages of development, and there are huge differences in the frequency and quality of parent/caregiver-child interactions. Thus, numerous interventions have been designed to help family members become acquainted with home language and literacy strategies. These practices constitute one of several facets of what has been defined as home language and literacy environment (HLLE), a multidimensional construct that includes aspects such as shared book reading

frequency and teaching of numbers and letters of the alphabet. Numerous studies have documented a positive relation between frequency of book reading and children's literacy outcomes, among which are narrative skills, oral language, and code-based skills including print knowledge (Bus et al., 1995; Burgess et al., 2002; Sénéchal, 2006; Sénéchal & LeFevre, 2003). Narrative skills and alphabet knowledge can be fostered through shared reading instances (Orellana et al., 2022a; Paris & Paris, 2003; Uccelli, 2014). Other studies have also shown that exposure to shared reading experiences promotes the development of children's theory of mind (Tompkins, 2022; Adrian et al., 2005).

In Chile, a report from the Chilean Agency for the Quality of Education (*Agencia de Calidad de la Educación*, 2018) revealed that narrative skills and alphabet knowledge were the greatest predictors of reading comprehension among second-grade students. For these students, significant differences in narrative skills and alphabet knowledge were associated with socioeconomic status, with children coming from less privileged backgrounds showing lower levels of performance. However, studies also show that few parents read to their children in Chile (Strasser & Lissi, 2009; Mendive et al., 2020). Given the importance of reading for school learning and social functioning, delays in learning to read have negative consequences beyond formal schooling, including socioemotional problems, lower-paying jobs, and lower self-esteem.

The pandemic negatively affected children's literacy development. Additionally, school closings during 2020 and 2021, more than 227,000 students have deserted from school system, according to the Chilean Ministry of Education, and school attendance is below 70%; a 39% drop compared to pre-pandemic levels. These factors have already paid its toll on students' literacy skills (Valenzuela-Hasenohr et al., 2024). Efforts to ameliorate these results are not only necessary but urgent, since delays in reading acquisition have negative consequences for learning (Stanovich, 2008), especially for children who experience difficulties learning to read (Juel, 1988).

2. Review of the Literature

2.1. Early Literacy

Narrative skills. Scholars have described narrative skill as a "bridge between oral language and printed text" (Piasta et al., 2018, p. 1480; Snow, 1983). This bridge can have an important effect on children's language and literacy abilities once formal schooling begins (Piasta et al., 2018; Silva et al., 2014). Children use sophisticated language to narrate events, explain a conflict, describe characters' physical characteristics and psychological traits, and sequence events chronologically (Petersen et al., 2020). They may also learn to use adjectives to describe the context in which an event took place or the feelings that characters experienced.

Narrative skill not only encompasses recalling and retelling but also coherently organizing and interpreting information (Silva et al., 2014; McKeough et al., 2006). Being able to retell a series of events in a coherent narrative way requires children to understand both macrostructural and microstructural features of narrative discourse. The macrostructure refers to global aspects such as the way in which ideas are organized in narration, whereas the microstructure has to do with more specific linguistic components such as grammatical structures, and lexical and syntactic diversity (Košutar et al., 2022). In this sense, narrative skill also provides information about a child's oral language development.

Narrative skills begin to develop through parental interactions. Studies have found associations between the characteristics of these interactions and narrative skills (Sabourin-Guardo et al., 2022). Contextual aspects such as financial instability, socioeconomic status, and cultural capital affect the extent to which children fully develop narrative ability. For example, it has been widely documented in the literature that children coming from

socioeconomically disadvantaged homes have less exposure to early literacy experiences (Snow et al., 1998; Chatterji, 2006) and exhibit lower levels of narrative skills (Gardner-Neblett & Iruka, 2015), displaying less capacity to take perspective (Ebert et al., 2017; Weimer & Guajardo, 2005) and lower levels of language development (Vernon-Feagans et al., 2020). More studies are needed to better understand how these contextual features affect children's narrative skills and their impact on later literacy skills.

Similarly, children must activate complex cognitive processes such as memory, attention, inferencing, and theory of mind when retelling an event (Nippold & Schwartz, 1996; Curenton, 2011). In the current study, we focused on coherence, which is the overall or macrostructure of a narrative account. This structure requires a higher level of organization between story elements (Justice et al., 2006); that is, how these elements relate or are connected (T. J. M. Sanders & Maat, 2006; Cain, 2003). According to Shapiro and Hudson (1991), narration usually includes five elements: the beginning of a story (where characters and setting are presented), the setting, an inciting incident or situation that allows the story to unfold, the attempts the characters make to accomplish a goal, and the resolution.

Alphabet knowledge. One important facet of emergent literacy is alphabet knowledge, which includes knowing letters' names, sounds, and forms (Piasta & Wagner, 2010). Alphabet knowledge can predict a child's later reading and spelling ability (Storch & Whinehurst, 2002; Schatschneider et al., 2004; Piasta et al., 2022). Before formal instruction, many children begin to develop emergent literacy skills, including alphabet knowledge. Most children begin by identifying letter names, starting with the first letter in their names (Phillips et al., 2012), and later learn sounds and forms (Piasta et al., 2022). Letter knowledge follows a sequence both for phoneme and grapheme learning (Jones et al., 2013), but these sequences may vary across languages (De la Calle et al., 2018). In fact, De la Calle et al. (2018) found that Spanish-speaking children learn alphabet letters in a sequence that is different from the sequence observed among English-speaking children. For Spanish-speaking children, grapheme knowledge occurs in a sequence that differs from phoneme learning and independently.

Numerous studies have identified alphabet knowledge as an important predictor of reading comprehension and other subprocesses. Leppänen et al. (2008) showed that letter knowledge in kindergarten predicted reading comprehension and fluency in fourth grade for Finnish children. Similar results were found for less transparent, or intermediate, languages, such as Portuguese. Here, letter spelling predicted reading acquisition in first grade (Sucena et al., 2023). Bravo et al. (2006) found that letter naming predicted reading ability in grades 1 through 4. Orellana et al. (2022a) highlighted the importance of developing alphabet knowledge via verbal interactions as a means to level the playing field for children from high-vulnerability contexts before formal reading instruction begins.

Studies confirm that there are socioeconomic differences in the ways in which parents and their children talk about alphabet letters before entering school, an aspect that may be linked to the overall differences in literacy development attributed to socioeconomic factors (Ryan et al., 2006). A study by Robins et al. (2014) showed differences in the kinds of conversations that were held by parents and children from more and less affluent families. For example, lower SES families talked about letters in isolation and mainly those in their children's names. Interestingly, letter talk was embedded in questions that parents asked their children; higher SES parents tended to ask more elaborative, open-ended questions about letters in the context of words, which prompted children to make letter-sound connections. Lower SES families, on the other hand, restricted alphabet talk to alphabetic sequence, a task that is not as demanding as figuring out a letter sequence in an actual word. Differences in these literacy practices clearly illustrate early disadvantages for children coming from less privileged homes.

2.2. Home Language and Literacy Environment and Family Literacy Programs

Home language and literacy environment (HLLE) is an overarching concept that includes several literacy-related activities that parents or other caregivers and children engage in (Georgiou et al., 2021; Silinskas et al., 2020; Zhang et al., 2020). Some of these activities may be code-related or meaning-related (Sénéchal et al., 2017). Code-related activities include teaching students beginning reading skills such as identifying letters or the spelling of words, whereas meaning-related activities are informal instances in which children engage with print. These experiences are characterized by frequent, high-quality interactions between adults and children, which can be mediated by literacy resources, such as books and other printed material (Luo et al., 2021). Mendive et al. (2020) define HLLE as patterns of processes that take place, rather than as predetermined variables (Bronfenbrenner & Morris, 2006). These patterns are better understood as part of environments across which participants interact with some dynamism, which facilitates capturing the heterogeneity in the processes and characteristics that promote oral language and early literacy at home, including activities, interests, and engagement in oral language interactions (Braten & Olaussen, 2005).

Research has shown that both the quantity and quality of home literacy interactions matter for future academic outcomes (Burgess, 2011; Phillips & Lonigan, 2009; O'Fallon et al., 2022; Relyea et al., 2019). HLLE varies across socioeconomic groups, as factors such as maternal education, book access, and poverty are linked to quality and duration of interactions, limiting the possibilities of exploring printed material if there are no books at home. (Hoff, 2003; Farver et al., 2013). Some studies have reported that children and parents from low SES contexts engage in HLLE practices less frequently than those of higher SES (Burgess et al., 2002; Crosnoe et al., 2010). Therefore, given that HLLE is a multidimensional construct, research findings differ when some or all its components are included in the analysis (Burris et al., 2019).

Reading frequency. Shared reading at home is a widely recommended practice that promotes language and literacy development prior to school entry and can be considered as part of HLLE (Mol & Bus, 2011; O'Fallon et al., 2022). Reading books with young children fosters language interactions as parents or caregivers and children engage in conversations about the content, ideas, and illustrations of a book. They also point to print concepts such as letterforms, directionality in reading, or punctuation and exclamation marks. Shared reading frequency has been associated with parental use of language enrichment strategies (Anderson et al., 2019) and language and literacy outcomes in the first school years (Logan et al., 2020; Mol & Bus, 2011). It can also enhance children's interest in reading activities (O'Fallon et al., 2022) and has been demonstrated to positively impact children's literacy development regardless of socioeconomic status (Bus et al., 1995).

Parental self-efficacy: The belief in one's ability as a parent to positively affect children's development to accomplish outcomes is known as parental self-efficacy (Ardelt & Eccles, 2001). Self-efficacy, in Bandura's (1977) social cognitive theory, is an essential drive for action and is especially necessary when dealing with everyday responsibilities as a parent. When faced with stressful situations such as lack of resources, depression, or disease, some parents can be more resilient and face challenges with more confidence in their capacity to manage situations. Parents who exhibit high levels of self-efficacy tend to be more confident in their ability to enhance positive behavior, cope with stress, and help children with learning (Masarik & Conger, 2017). Evidence of parental self-efficacy in coping with stress and promoting young children's learning was observed during the recent COVID-19 pandemic, when schools and preschools were closed around the world and parents were forced to provide their children with learning activities at home while dealing with professional and home responsibilities at the same time. A study by Oppermann et al.

(2021) examined parental self-efficacy and perceived social support of nearly 8000 German parents during lockdown and showed that both were protective factors that mitigated the impact of stress, thus helping parents develop learning instances at home.

3. Methods

In the current study, we sought to determine whether children whose parents attended an eight-session workshop exhibited better alphabet knowledge and narrative skills than their peers who did not. Similarly, we were interested in determining whether HLE and parental self-efficacy were associated with children's literacy outcomes and whether HLE mediated the relation between these outcomes and the pre-intervention scores.

Design and participants. We used a quasi-experimental design to determine whether participation in the ALMA Family Literacy Program would lead to higher levels of children's narrative skills and alphabet knowledge compared to a control group. The dyads who participated in the ALMA Family Literacy Program became the intervention group in this study, and we matched them with a comparison group with similar sociodemographic variables from the same geographical regions and matching for sex, age, and socioeconomic status, but no randomization was made.

The research questions that guide the study are (a) Do students whose parents attended the Alma Shared Reading Program exhibit higher levels of alphabet knowledge and narrative skills than their peers in a control group? (b) Is parental self-efficacy positively and significantly associated with higher levels of alphabet knowledge and narrative skills after the Alma Shared Reading Program? (c) Is HLE positively and significantly associated with higher levels of alphabet knowledge and/or narrative skills, and (d) Does HLE mediate the relation between children's pre-intervention alphabet knowledge and narrative skills and their post-intervention outcomes?

Children in both groups completed assessments prior to the intervention and after its completion, while parents and caregivers completed sociodemographic information and reading at home frequency and habits. To understand the extent to which parental self-efficacy mediated the relation between participation in the program and literacy outcomes, we used a quasi-experimental design because self-efficacy was measured only among participating parents and/or caregivers.

Participants were 240 prekindergarten and kindergarten students from low-socioeconomic areas. 121 dyads (parent/caregiver and child) were included in the intervention group, and 119 in the control group. 51.7% of the students were enrolled in pre-kindergarten classrooms. Socioeconomic status was determined using the Chilean Vulnerability Index, which was 89.4%, suggesting a large percentage of low-SES families. The mean age was 5.08 years for the children in the intervention group and 5.14 years for the comparison group. There were no statistical differences for gender across groups, and 51.7% were female (63 girls in the intervention group and 61 in the control group). Spanish was the language spoken at home by most of the families in both groups, with 95% of the sample being Chilean and the remaining 5% foreigners (e.g., Peruvian, Venezuelan, Ecuadorean, or Haitian). 2.5% reported speaking a language other than Spanish at home (i.e., Creole). An institutional review board approved the study design. All participants submitted signed consent forms prior to participating in the study. The distributions are summarized in Table 1.

Table 1. Demographics.

Group	Treatment		Control		Total
N Prekindergarten	66		58		124
Gender	M	F	M	F	
	26	40	26	32	
Mean age	4.6		4.7		
N Kindergarten	55		61		116
Gender	M	F	M	F	
	32	23	32	29	
Mean age	5.6		5.6		
Total	121		119		240

3.1. Instruments

3.1.1. Parents and Caregivers

- a. Home Language and Literacy Environment Survey. Parents of both groups were asked to complete the HLLE before and after the intervention (Romero-Contreras, 2006). This questionnaire includes 7 questions about the frequency with which parents and children engage in literacy-related activities and one question about the number of books available at home. The tool is designed to capture home-based literacy practices and their characteristics (Mendive et al., 2020). These characteristics include activities that parents and children engage in often, such as talking about past events and asking adults to read to children, as well as the number of books at home. The structure of the tool is the following: The first four questions refer to how often children engage in reading activities alone or with an adult. The fifth question asks about the number of books at home. Two questions refer to how often adults help children write or read, and the last question refers to the frequency with which parents and children talk about special past events. Questions are formulated in a Likert scale format, with the exception of the question about the number of books. The tool has been used in Latin American studies (Costa Rica, Mexico, El Salvador) with adequate psychometric properties. Cronbach's alpha for both applications was good: 0.82 (pre test scores) and 0.83 (post test scores). Appendix A presents a table with the pre- and post-results, including means, standard deviations, *p*-values, and effect sizes for each of the items in the survey.
- b. Compared self-efficacy survey. This is a self-reported measure that requires parents to assess how confident they felt about interacting with their children in several literacy-related activities before and after participating in the Alma project. The survey was designed by the authors using items that were related to the strategies presented in the workshops and following M. R. Sanders and Woolley (2005), who suggest that reporting parenting practices is best predicted by task-specific measures of parental self-efficacy. The instrument includes nine questions grouped into 3 dimensions. Dimension 1 refers to "preparedness" and requires participants to rate how well prepared they felt to engage in literacy-related activities such as shared reading, talking about books, sharing, playing, and helping children regulate their emotions (5 items). Dimension 2 refers to "belonging" and asks participants to rate their sense of belonging and connection with parents in the school community (2 items). Finally, dimension 3 refers to "frequency" and asks parents to report the number of times they read and played games with their children every week (2 items). For each of these dimensions, parents were asked to rate their perceptions on a 5-point Likert scale. For example, item 1 reads, "I am capable of reading a picture book with

my child”, and parents can choose between “fully agree-agree-neither agree nor disagree-disagree-fully disagree”. Other items refer to being able to teach literacy elements (e.g., letters of the alphabet, print conventions), being able to talk with my child about emotions, etc. For the purposes of the current study, we did not include the items from dimensions 2 and 3 since they tap into parents’ perception of social inclusion within the school context and frequency of activities, and not into self-efficacy in a more explicit way. Parents completed this survey after participating in the last workshop session. Parents rated each dimension for “before participating in the program” and “after participating in the program”. Thus, two scores were computed for each dimension. The survey can be found in Appendix A. To compute the score for each dimension, we added the scores for each set of questions. Thus, the score for dimension 1 (preparedness) is the sum of 5 questions. Cronbach’s alpha for each dimension were: 0.78 (preparedness), 0.67 (belonging), and 0.56 (frequency). Appendix B describes validation procedures for the survey.

3.1.2. Children

- a. Alphabet knowledge task. Children are presented with each letter of the alphabet and are asked to give its name or sound. For each correctly identified letter (name or sound), children are given one point. The total score for this task is 27 points, and scores are interpreted using the Dialect Alphabet Task end-of-year criteria for interpretation of kindergarten scores. Because alphabet knowledge is not a required measure for Pre-kindergartners, there are no criteria for score interpretation at this level. We used the results from a previous study to interpret Pre-kindergarten students’ scores (Orellana et al., 2022a).
- b. Narrative skills. To assess narrative skills, we used a translated and adapted version of Paris and Paris (2003) Narrative Comprehension of Picture Books Task (NC task) by Silva et al. (2014). In this task, children are presented with a wordless picture book (*A boy, a dog and a frog*, by Mayer, 1967). After looking at the pictures (i.e., picture walk), children retell the story and answer comprehension questions. For the picture walk, evaluators present each illustration and introduce the story to the child, who must then observe the pictures and narrate the story. The first two questions ask children to identify characters and story setting (literal comprehension). Questions 3 and 4 require participants to infer what characters are thinking and saying and support their responses with evidence from the pictures. Questions 5 through 9 ask students to identify events and story problems and elaborate on why those events happened (inferential comprehension). Finally, question 10 focuses on the story theme and also asks students to identify the theme and support their arguments. To score students’ responses, we used Silva et al.’s (2014) rubric, where 0 points are given to children who did not respond, said they did not know the answer, or gave a response that was not related to the question being asked. One point was given to answers that identified the component in the question, and 2 points if children identified the element and elaborated on their response. Validity evidence for this rubric can be found in Orellana et al. (2022b).

The ALMA Family Literacy Initiative Intervention. The program is offered to adults who are caregivers of children who are four and five years old and takes place at the schools in high-poverty areas of various cities. This program was created in 2013 and is based on research evidence from English-speaking studies that document the impact of shared reading of high-quality books on children’s language and early literacy development, especially in high-vulnerability contexts, including South American samples. Thus, the Alma Family Literacy Program has been created to be used in Chilean low SES contexts.

Evidence shows that Chilean families have few books, and reading is not a frequent activity at home. Public policy and private initiatives such as Alma are an opportunity to use library resources at the district, school, and classroom level to generate impact and children's interest in reading through the families (Orellana et al., 2021). Enrolled participants are grouped to attend 8, 50-min workshops on a bi-weekly basis. The workshops strengthen adults' skills to promote the oral and written language of their children at home by shared reading and dialogic language games. A trained educator describes, models, and provides instances for guided practice of shared reading using carefully curated picture books and language games that participants take home to use with their children. Special emphasis is placed on activities that promote oral comprehension of the stories to develop narrative skills and print concepts. To ensure fidelity of implementation, parents had to complete two questions in an online survey to report the number of weekly shared reading and playing instances after the first and sixth workshops.

Analyses. Descriptive statistics allowed us to explore missing data and the distribution of variables of interest for both groups. There was no missing data. We then explored results by grade level to confirm that there would be differences between younger and older students. ANOVA tests showed that differences between PK and K students were statistically significant across measures and grade levels in the treatment group. Next, ANOVA was used to examine each group's scores at the onset of the study and determine that there were no significant differences between them prior to the intervention. To determine the extent to which caregivers' participation in the ALMA Family Literacy Initiative was associated with higher levels of narrative and alphabet knowledge tasks, we compared pre- and post-test scores within and across groups. Effect size measures were computed for each variable. Finally, to explore the extent to which the association between ALMA Initiative participation and increase in narrative and alphabet knowledge skills was mediated by family literacy variables, we used structural equation modeling (SEM) using R, version 4.5.

3.2. Results

We begin by reporting the descriptive statistics comparing pre- and post-measures for children. Table 2 presents the descriptives for the overall groups (treatment and control), and Table 3 presents the results by grade level (Prekindergarten and Kindergarten).

Table 2. Descriptives by group. Children's measures.

	Mean		SD		Range		Diff	p_Value	Cohen_d	n
	Pre	Post	Pre	Post	Pre	Post				
Alphabet Knowledge										
Treatment	5.621	11.052	5.400	7.453	0–22	0–27	5.431	0.000 *	0.761	116
Control	4.964	8.627	5.823	7.595	0–25	0–27	3.664	0.000 *	0.472	110
Narrative Skills										
Treatment	8.457	11.603	3.875	3.393	0–17	5–20	3.147	0.000 *	0.857	116
Control	8.145	10.673	3.993	3.373	0–19	0–17	2.527	0.000 *	0.679	110

* Differences between treatment and control group means were statistically significant ($p < 0.000$).

(a) Do students whose parents attended the Alma Shared Reading Program exhibit higher levels of alphabet knowledge and narrative skills than their peers in a control group? Table 2 shows that the overall gains and effect sizes were larger for the treatment group than for the control group in both alphabet knowledge and narrative skills. ANOVA tests showed that differences were statistically significant. When analyzing data by grade

level, both Pre-Kindergarten and Kindergarten students in the treatment group double their alphabet pre-intervention scores in the posttest and have larger effect sizes than their controls. In PK, the effect size was 0.757, and in Kindergarten 0.765 compared to the control group's effect sizes (0.466 and 0.462, respectively). ANOVA results also show that differences were statistically significant for both grade levels. When comparing results for narrative skills, treatment groups in both grade levels outperform the control groups with higher effect sizes as well (0.91 for PK and 0.808 for K). ANOVA results show that differences across groups are statistically significant. Thus, effect sizes for the intervention groups in both grade levels are moderate to high, suggesting that shared reading has a high impact on students' preliterate skills.

Table 3. Descriptives by group and grade level.

	Mean		SD		Range		Diff	p_Value	Cohen_d	n
	Pre	Post	Pre	Post	Pre	Post				
Alphabet Knowledge—PreKinder										
Treatment	5.982	11.655	5.880	7.778	0–22	0–27	5.673	0.000	0.757	55
Control	4.678	8.627	5.469	7.976	0–23	0–27	3.949	0.000	0.466	59
Alphabet Knowledge—Kinder										
Treatment	5.295	10.508	4.954	7.169	0–22	1–27	5.213	0.000	0.765	61
Control	5.294	8.627	6.246	7.208	0–25	0–26	3.333	0.000	0.462	51
Narrative Skills—PreKinder										
Treatment	8.782	11.982	3.872	2.890	0–17	5–19	3.200	0.000	0.912	55
Control	8.288	11.000	3.939	3.543	0–17	3–17	2.712	0.000	0.721	59
Narrative Skills—Kinder										
Treatment	8.164	11.262	3.887	3.781	1–17	5–20	3.098	0.000	0.808	61
Control	7.980	10.294	4.087	3.158	1–19	0–17	2.314	0.000	0.628	51

As expected, children in the kindergarten groups had higher alphabet knowledge scores than those in prekindergarten. However, PK students had slightly higher narrative skills scores. ANOVA tests showed that the differences between prekindergarten and kindergarten scores in the treatment group were statistically significant for all pre- and post-measures. In the control group, differences between Prekindergarten and Kindergarten students were statistically significant for all measures except post-intervention narrative skills.

(b) Is parental self-efficacy positively and significantly associated with higher levels of alphabet knowledge and narrative skills after the Alma Shared Reading Program? Table 4 presents the results of the self-efficacy survey by grade level. Recall that the self-efficacy survey was completed after the intervention and was only responded to by parents and caregivers of the children in the treatment group. It asks participants to rate their perceptions before and after participating in the Alma workshops. The results we present include dimension 1 (preparedness), which includes items 1 through 5. Data was obtained for 96 parents and/or caregivers. Standard deviations and ranges for each score are reported. Perceptions of Kindergarten children were lower than those of pre-Kindergarten parents for items 1 and 5. ANOVA results show that differences across grade levels were statistically significant for all items.

(c) Is HLE positively and significantly associated with higher levels of alphabet knowledge and narrative skills? Table 5 presents the pre- and post-scores for the HLE survey for both groups. Overall, students whose parents participated in the Alma project

more than doubled their alphabet scores compared to the control group in both grade levels, as shown in Table 3. Similarly, students whose parents participated in the Alma project improved their narrative skills scores by 2.43 points, whereas the control group improved their narrative skills scores by 2.94.

Table 4. Means, SD, range, and effect sizes for Self-efficacy survey (dimension 1).

Level	Mean		SD		Range		Diff	p_Value	Cohen_d	n
	Before	After	Before	After	Before	After				
How well prepared am I to read a story with my child?										
PreKinder	2.720	8.620	1.107	0.753	1–5	6–9	5.900	0.000	6.155	50
Kinder	2.652	8.609	0.948	0.774	1–5	6–9	5.957	0.000	6.855	46
How well prepared am I to talk about the story?										
PreKinder	2.620	8.700	1.123	0.614	1–5	6–9	6.080	0.000	6.642	50
Kinder	2.761	8.717	1.158	0.544	1–5	7–9	5.957	0.000	6.498	46
How well prepared am I to teach my children through play?										
PreKinder	2.740	8.740	1.306	0.565	1–5	7–9	6.000	0.000	5.819	50
Kinder	2.804	8.696	1.185	0.628	1–5	6–9	5.891	0.000	6.067	46
How well prepared am I to enjoy spending time together?										
PreKinder	3.400	8.780	1.212	0.507	1–5	7–9	5.380	0.000	5.537	50
Kinder	3.587	8.957	1.166	0.206	1–5	8–9	5.370	0.000	5.942	46
How well prepared am I to help my child regulate his/her emotions?										
PreKinder	3.100	8.500	1.389	0.814	1–5	6–9	5.400	0.000	4.682	50
Kinder	2.891	8.543	1.159	0.622	1–5	7–9	5.652	0.000	5.774	46

Table 5. Home Language and Literacy Environment Survey (HLE).

	Mean		SD		Range		Diff	p_Value	Cohen_d	n
	Pre	Post	Pre	Post	Pre	Post				
Home Language and Literacy Environment—Overall										
Control	23.017	25.941	4.641	3.863	11–32	15–32	2.924	0.000	0.677	119
Treatment	21.694	24.124	5.170	4.920	9–32	12–32	2.430	0.000	0.481	121
Home Language and Literacy Environment—PreKinder										
Control	22.603	25.948	4.515	3.476	11–32	16–32	3.345	0.000	0.824	58
Treatment	22.091	23.697	5.363	5.375	9–32	12–32	1.606	0.014	0.299	66
Home Language and Literacy Environment—Kinder										
Control	23.410	25.934	4.762	4.226	13–32	15–32	2.525	0.000	0.554	61
Treatment	21.218	24.636	4.935	4.305	10–31	13–32	3.418	0.000	0.735	55

Results show that across grade levels, HLE scores are higher for students whose parents participated in the Alma Family Literacy program and that their post-intervention scores were significantly different from those of the control group, as the ANOVA results show. HLE scores were higher among the parents of kindergarten students compared to parents of PK students. Correlations between post-intervention HLE and post-intervention alphabet knowledge were higher (0.352 **) than those between post-intervention HLE and narrative skills (0.179 **).

(d) Does HLE mediate/moderate the relation between participation in the Shared Reading Program and children's outcomes? To investigate whether the Home Language

and Literacy Environment (HLE) mediates or moderates the relationship between participation in the Shared Reading Program and children's literacy outcomes, we employed structural equation modeling (SEM). This approach allowed us to assess the potential indirect effects of HLE on children's literacy skills, including both alphabet knowledge and narrative skills.

Specifically, our analysis focused on determining whether the parental perceptions of the HLE influenced children's literacy outcomes indirectly—serving as a mediator—or whether it affected the strength or direction of the relationship between program participation and outcomes, thus functioning as a moderator. We hypothesized that higher HLE scores could either enhance or diminish the impact of the Shared Reading Program, suggesting both mediation and moderation effects were plausible.

Figures 1 and 2 present path diagrams depicting our hypothesized models for each of the two literacy outcomes. The diagrams illustrate the assumed pathways through which HLE might either mediate the relationship by contributing to children's post-intervention gains or moderate it by interacting with program participation to influence the outcomes.

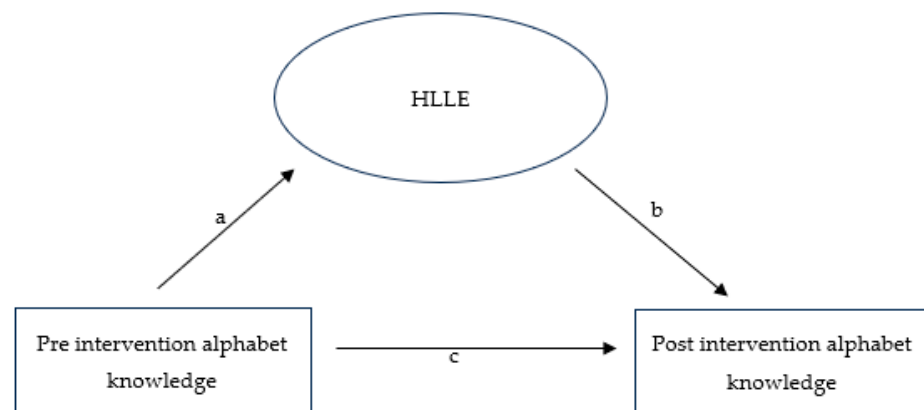


Figure 1. Pathway (a, b, c) of a mediation process for home language and literacy environment indirect effect on children's alphabet knowledge. a = Effect of pre-intervention alphabet knowledge on HLE; b = Effect of HLE on post-intervention alphabet knowledge; c = Direct effect of pre-intervention on post-intervention alphabet knowledge; ab = Indirect effect (mediation): Pre → HLE → Post; Total effect = c + ab.

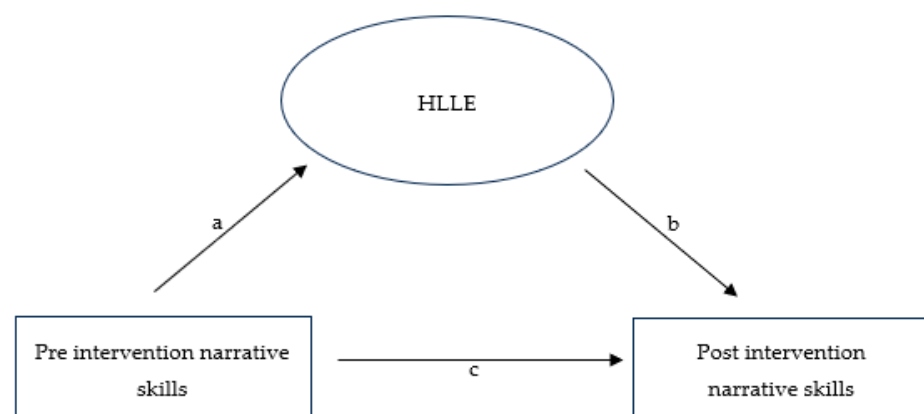


Figure 2. Pathway (a, b, c) of a mediation process for home language and literacy environment indirect effect on children's narrative skills. a = Effect of pre-intervention of narrative skills on HLE; b = Effect of HLE on post-intervention narrative skills; c = Direct effect of pre-intervention on post-intervention narrative skills; ab = Indirect effect (mediation): Pre → HLE → Post; Total effect = c + ab.

For this purpose, we constructed a theory-driven model in which HLE scores served as a mediator between pre- and post-intervention assessments of alphabet knowledge and narrative skills, analyzed separately (Alper et al., 2021; Boonk et al., 2018). In the mediation analysis, we positioned HLE as part of the causal pathway between program participation and children's literacy outcomes, hypothesizing that a richer home literacy environment would lead to greater gains in literacy skills.

However, we were unable to include parental self-efficacy as a mediator or moderator due to its measurement occurring only after the intervention, limiting its potential role in explaining changes in child outcomes.

In the moderation analysis, we tested whether HLE influenced the magnitude or direction of the effect of program participation on children's literacy outcomes, treating HLE as a potential moderator of the relationship. In both cases, we utilized pre-intervention HLE scores to capture the baseline home literacy environment.

Table 6 presents the regression coefficients along with their corresponding *t*-values and model fit statistics, providing insight into the strength and significance of these relationships. The structural equation model results for each path are the following:

Table 6. SEM model fit statistics.

Model Fit Statistics	Alphabet Knowledge	Narrative Skills
Comparative Fit Index (CFI)	0.937	0.930
Tucker-Lewis Index (TLI)	0.914	0.904
RMSEA (90% CI)	0.092 (0.06–0.12)	0.09 (0.06–0.12)
SRMR	0.078	0.077
Path Coefficients (Standardized estimates)		
pre intervention → post intervention (c)	0.840 ($p < 0.001$)	0.713 ($p < 0.001$)
HLEPRE → post intervention (b)	−0.048 ($p = 0.116$)	0.099 ($p = 0.142$)
pre intervention → HLEPRE (a)	0.200 ($p = 0.039$)	−0.045 ($p = 0.638$)
Indirect Effect (ab)	−0.011 ($p = 0.426$)	−0.004 ($p = 0.654$)
Total Effect (Total)	0.830 ($p < 0.001$)	0.709 ($p < 0.001$)

Results from the structural equation modeling (SEM) analyses (Figures 3 and 4) indicated that the effect of HLE (Home Literacy Learning Environment) scores on post-intervention outcomes for both alphabet knowledge and narrative skills was non-statistically significant. Specifically, the direct path from HLE to post-intervention scores did not reach significance for either literacy outcome, suggesting that HLE may not independently predict gains in alphabet knowledge ($p = 0.116$) or narrative skills ($p = 0.142$) following the intervention. Instead, the primary driver of post-intervention performance appears to be the direct effect of pre-intervention scores, with no strong evidence supporting HLE as a moderator or interacting factor in these relationships. These findings imply that while the home literacy environment is important, its influence on post-intervention alphabet knowledge and narrative outcomes is not straightforward and may require additional contextual or moderating factors to exert a measurable impact.

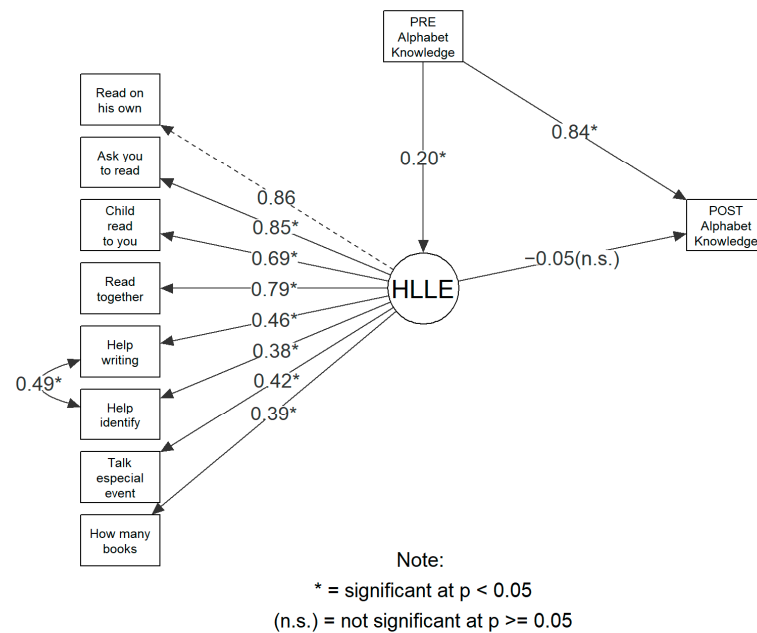


Figure 3. HLL-Alphabet knowledge.

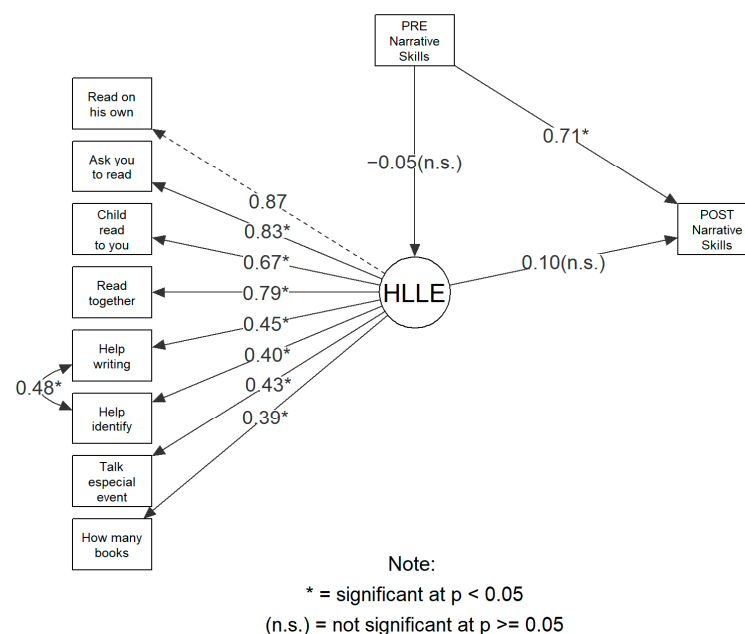


Figure 4. HLL-Narrative skills.

4. Discussion

Our data shows that shared reading positively and significantly improved Chilean children's alphabet knowledge and narrative skills when their parents participated in a shared reading program. These results are similar to those found by [Mendive et al. \(2020\)](#) for low-SES Chilean children, where mothers who either read or talked to them about past events had higher levels of vocabulary and letter knowledge. Having opportunities to observe an expert trainer model shared reading, along with ample opportunities to rehearse shared reading with other participants and receive immediate feedback, may have resulted not only in higher fidelity of implementation but also in more intentional efforts to promote alphabet knowledge and narrative skills among their children. The Alma Shared Reading Program provides extensive opportunities for parents to watch the trainers read aloud using the same picture books that parents will later take home and read to their children.

This results in a more thorough understanding and familiarity with the books, which in turn yields shared reading instances that more accurately resemble the program delivery actions. It is also possible that parents felt a higher sense of self-efficacy due to practice and familiarity with the picture books.

Our results also showed that home language and literacy environment significantly improved among program participants, with higher positive and statistically significant associations between HLLE and alphabet knowledge outcomes. Recent studies (e.g., [Wirth et al., 2022](#); [Nag et al., 2024](#)) share similar results, particularly for children in more vulnerable contexts. In our study, the highest gains were observed in items that asked parents to report the frequency with which children pretended to read (0.58 point increase) and the frequency with which children asked the adults to read to them (0.56 point increase), whereas the item with the lowest increase (0.33 point increase) was the number of books at home. This shows that the actions that parents carried out at home had a positive effect on children's preference for being read to as well as for wanting to show that they, too, could read. The lower increase in children's books at home is certainly associated with the fact that these families did not have the financial resources to buy more books, yet, despite that difficulty, some parents made efforts to invest in books. This finding is also promising in the sense that it demonstrates that improving HLLE is not only contingent on having more resources but also on implementing well-structured interventions that emphasize parental learning and systematicity.

On the other hand, HLLE per se did not prove to have a statistically significant effect on children's literacy outcomes. This means that home language and literacy environment aspects such as the frequency with which parents and their children engage in literacy-related events or the number of books at home did not independently predict the children's gains in alphabet knowledge or narrative skills. Previous studies such as [Mendive et al. \(2020\)](#) found that family literacy practices vary considerably among families within the same SES group. These findings highlight the need to promote literacy environments that contribute to learning, especially in contexts where social support and practices can compensate for risk factors associated with poverty. A 2009 study in Chile ($n = 188$ families across different SES) showed that there were similarities in the approximations to literacy observed in families of different SES levels in more developed countries and those in Chile. Parents with higher levels of education engage in shared reading with their children earlier and more often than those with less education. High-SES parents focus more on alphabet instruction than those in low-SES contexts. Similarly, parents from lower SES homes engage in conversations with their children to control their behavior or give orders, whereas parents from higher SES contexts use language to engage in conversations or explanations ([Strasser & Lissi, 2009](#)). In line with this, a national study of second-grade reading predictors showed that alphabet knowledge, word reading, and narrative skills were the components that best explained second-grade reading scores ([Agencia de Calidad de la Educación, 2018](#)). These findings highlight the need to promote literacy environments that contribute to learning, especially in contexts where social support and practices can compensate for risk factors associated with poverty.

Similarly, and as was mentioned earlier, a stronger predictor of such scores is their previous scores in the same measures. Interestingly, these results are counterfactual, specifically with regard to the role of book presence at home in explaining young children's literacy outcomes (e.g., [Manu et al., 2018](#)), yet partially with studies that include shared reading and book access as predictors of later literacy and academic outcomes ([McNally et al., 2023](#)). However, from a public policy perspective, our findings may be helpful in establishing that, rather than investing in book delivery initiatives, it may be more cost-effective to invest in training parents to adequately read books with their children. Our

findings also show how parents benefit from participating in programs such as the Alma Shared Reading Program since their level of self-efficacy improved after participating in the program.

Limitations

The current study has some limitations. One is the use of self-reported tools to collect data from parents and caregivers. While the issues with self-reported data have been widely acknowledged (e.g., social desirability, bias, etc.), they continue to be a convenient way to quickly collect and analyze data given their low cost and easy implementation. HLE data, for example, would require home visits and observations, which are very expensive. Self-efficacy, on the other hand, is by design a self-reported measure. In the current study, the fact that participants had to compare their self-efficacy perceptions before and after the implementation may result in some bias because participants might want to show that they value their participation in the intervention and that it yielded positive outcomes. Applying a pre- and post-self-efficacy survey may eliminate such bias. Similarly, applying the self-efficacy survey to both groups (i.e., treatment and control) may add validity to its results.

A second limitation is that participants were all volunteers who freely enrolled in the program, probably with a genuine interest in their children's literacy development. This certainly introduces some bias to the sample in comparison with the control group, where there could be parents who were interested or knowledgeable about how shared reading benefits children's literacy growth and parents who were not aware of this. A third limitation is the fact that participants were all from urban low socioeconomic districts, so these results cannot be generalized to other communities, such as rural populations where there may be less access to books, for example. Further research, including wider and more diverse geographical locations, can provide an enhanced understanding of how these family literacy interventions foster early literacy development among low socioeconomic children.

5. Conclusions

Research has consistently shown that pre-reading skills positively influence a child's early reading development and that family literacy practices, such as shared reading, can boost their literacy acquisition (Boonk et al., 2018). In our study, we found a positive impact of shared reading and oral language intervention training for parents on their children's early literacy outcomes. Parents and caregivers also displayed favorable attitudes towards helping their children acquire these skills through book-reading interactions and increasing the home language and literacy environment. Positive changes reported by HLE respondents show how learning opportunities were favorably impacted across all assessed areas. While these results are promising, we believe future research should examine whether the effect of shared reading interventions dilutes in the early elementary grades or impacts children's literacy development beyond the early years. Similarly, studies addressing the interactions between the variables analyzed in this study and other ecological and sociodemographic features impact children's literacy outcomes.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The original contributions presented in this study are included in the article. Further inquiries can be directed to the corresponding author(s).

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Mean, SD, Ns, Post/Pre difference, *p* value and Cohen's *d* for HLLE (overall).

Participa	Mean		SD		Range		Diff	<i>p</i> _Value	Cohen_d	n
	Pre	Post	Pre	Post	Pre	Post				
Home Language and Literacy Environment—Overall										
Participa	23.157	26.240	4.885	3.962	11–32	15–32	3.083	0.000	0.687	121
Control	21.529	23.790	4.899	4.712	9–32	12–31	2.261	0.000	0.470	119
Home Language and Literacy Environment—PreKinder										
Participa	22.985	25.561	4.744	4.329	12–32	15–32	2.576	0.000	0.566	66
Control	21.638	23.190	5.081	5.056	9–31	12–31	1.552	0.005	0.306	58
Home Language and Literacy Environment—Kinder										
Participa	23.364	27.055	5.086	3.330	11–32	15–32	3.691	0.000	0.811	55
Control	21.426	24.361	4.759	4.324	10–32	12–31	2.934	0.000	0.644	61

Table A2. Mean, SD, Ns, Post/Pre difference, *p* value and Cohen's *d* for HLLE for each item in the scale.

Item	Mean		SD		Range		Diff	<i>p</i> _Value	Cohen_d	n
	Pre	Post	Pre	Post	Pre	Post				
HLLE1—How often does your child look at or read books or magazines on his or her own at home?	2.544	2.950	0.977	0.878	1–4	1–4	0.406	0.000	0.436	239
HLLE2—How often does your child ask you to read to him or her?	2.556	3.000	0.998	0.907	1–4	1–4	0.444	0.000	0.464	239
HLLE3—How often does your child read to you (or act as if reading)?	2.594	3.042	1.020	0.883	1–4	1–4	0.448	0.000	0.468	239
HLLE4—How often do you read books with your child at home?	2.444	2.816	0.950	0.921	1–4	1–4	0.372	0.000	0.398	239
HLLE5—How often do you help your child to write letters or numbers during the week?	3.134	3.448	0.859	0.695	1–4	1–4	0.314	0.000	0.399	239
HLLE6—How often do you help your child read or identify letters or numbers during the week?	3.272	3.519	0.781	0.627	1–4	2–4	0.247	0.000	0.347	239
HLLE7—How often do you and your child talk about a special past event? (for example, a birthday celebration, a party, a family outing, or a school event that occurred in the past?)	3.322	3.531	0.889	0.709	1–4	1–4	0.209	0.000	0.258	239
HLLE8—How many children's books do you have at home (with including school books). Write the number that applies.	6.477	6.715	0.934	0.914	5–8	5–8	0.238	0.000	0.258	239

Appendix B. Psychometric Analysis for the Self-Efficacy Survey

As was indicated in the manuscript, the Self-Efficacy survey is a tool created for the Alma program to assess program implementation. As such, it includes 5 items that tap into the “self-efficacy” dimension (dimension 1), two that ask parents to compare their sense of belonging in the school community (dimension 2), and 2 items that ask parents to report how frequently they engaged in shared reading and playing. The survey asks parents to respond to each question on a Likert scale and to compare their perceptions before and after the intervention. Descriptive statistics for the self-efficacy dimension are presented in Table 4 of the manuscript. Recall that this survey was only completed by participating parents after the intervention. To further analyze these results, estimated Cronbach’s alpha for each subscale or dimension. Preparedness items yielded an alpha of 0.78, belonging had an alpha of 0.67 and frequency 0.56. Given these results we decided to use only the self-efficacy dimension. Because parents responded the items in a comparative way (i.e., before and after completing the Alma program), we compared Cronbach’s alpha for the “before” and “after” measures separately. Table A3 presents these results.

Table A3. Cronbach’s alpha, Self-efficacy dimension items (before and after).

Item	Cronbach’s Alpha	
	Before	After
Total	0.859	0.782
1a. How well prepared am I to read a story with my child?	0.851	0.728
1b. How well prepared am I to talk about the story?	0.822	0.709
1c. How well prepared am I to teach my child through play?	0.815	0.710
1d. How well prepared am I to enjoy spending time together?	0.816	0.756
1e. How well prepared am I to help my child regulate his/her emotions?	0.841	0.797

Next, we examined factor loadings considering a 1 factor and a 2 factor model. Results are presented on Tables A4 and A5. As can be observed, both Cronbach’s alphas are higher for parental perceptions before the program implementation than after, but both are acceptable. Factor loadings, on the other hand, show that a 2-factor solution is more suitable than a 1 factor. It also confirms that parental perceptions refer to two distinct time periods, that is, before and after participating in the program.

Table A4. Factor loadings, 1 factor.

	Factor 1
Before 1a	0.625
Before 1b	0.737
Before 1c	0.829
Before 1d	0.795
Before 1e	0.749
After 1a	0.002
After 1b	0.064
After 1c	0.194
After 1d	0.182
After 1e	0.102

Table A5. Factor loadings, 2 factors.

	Factor 1	Factor 2
Before 1a	0.595	0.267
Before 1b	0.735	0.024
Before 1c	0.854	−0.045
Before 1d	0.788	0.058
Before 1e	0.746	0.069
After 1a	−0.083	0.791
After 1b	−0.028	0.848
After 1c	0.140	0.681
After 1d	0.130	0.557
After 1e	0.064	0.442

References

- Adrian, J. E., Clemente, R. A., Villanueva, L., & Rieffe, C. (2005). Parent-child picture-book reading, mothers' mental state language and children's theory of mind. *Journal of Child Language*, 32(3), 673–686. [\[CrossRef\]](#) [\[PubMed\]](#)
- Agencia de Calidad de la Educación. (2018). *Informe de resultados. Estudio nacional lectura 2^a básico 2017*. Agencia de Calidad de la Educación.
- Alper, R. M., Beiting, M., Luo, R., Jaen, J., Peel, M., Levi, O., Robinson, C., & Hirsh-Pasek, K. (2021). Change the things you can: Modifiable parent characteristics predict high-quality early language interaction withing socioeconomic status. *Journal of Speech, Language, and Hearing Research*, 64(6), 1992–2004. [\[CrossRef\]](#) [\[PubMed\]](#)
- Anderson, K. L., Atkinson, T. S., Swaggerty, E. A., & O'Brien, K. (2019). Exploring the short-term impacts of a community-based book distribution program. *Literacy Research and Instruction*, 58(2), 84–104. [\[CrossRef\]](#)
- Ardelt, M., & Eccles, J. S. (2001). Effects of mothers' parental efficacy beliefs and promotive parenting strategies on inner-city youth. *J. Family Issues*, 22, 944–972. [\[CrossRef\]](#)
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. [\[CrossRef\]](#)
- Boonk, L., Gijssels, H. J. M., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24, 10–13. [\[CrossRef\]](#)
- Bravo, L., Villalón, M., & Orellana, E. (2006). Diferencias en la predictividad de la lectura entre primer año y Cuarto Año Básicos. *Psykhe*, 15(1), 3–11.
- Bråten, I., & Olaussen, B. S. (2005). Profiling individual differences in student motivation: A longitudinal cluster-analytic study in different academic contexts. *Contemporary Educational Psychology*, 30(3), 359–396. [\[CrossRef\]](#)
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner, & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (6th ed., pp. 793–828). John Wiley & Sons, Inc.
- Burgess, S. R. (2011). Home literacy environments (HLEs) provided to very young children. *Early Child Development and Care*, 181(4), 445–462. [\[CrossRef\]](#)
- Burgess, S. R., Hecht, S. A., & Lonigan, C. J. (2002). Relations of the home literacy environment (HLE) to the development of reading-related abilities: A one-year longitudinal study. *Reading Research Quarterly*, 37, 408–426. [\[CrossRef\]](#)
- Burris, P. W., Phillips, B. M., & Lonigan, C. J. (2019). Examining the relations of the home literacy environments of families of low SES with children's early literacy skills. *Journal of Education for Students Placed at Risk*, 24(2), 154–173. [\[CrossRef\]](#) [\[PubMed\]](#)
- Bus, A. G., van Ijzendoorn, M. H., & Pellegrini, A. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research*, 65, 1–21. [\[CrossRef\]](#)
- Cain, K. (2003). Text comprehension and its relation to coherence and cohesion in children's fictional narratives. *British Journal of Developmental Psychology*, 21(3), 335–351. [\[CrossRef\]](#)
- Carroll, J. M., Holliman, A. J., Weir, F., & Baroody, A. E. (2019). Literacy interest, home literacy environment and emergent literacy skills in preschoolers. *Journal of Research in Reading*, 42(1), 150–161. [\[CrossRef\]](#)
- Chatterji, M. (2006). Reading achievement gaps, correlates, and moderators of early reading achievement: Evidence from the Early Childhood Longitudinal Study (ECLS) kindergarten to first grade sample. *Journal of Educational Psychology*, 98(3), 489–507. [\[CrossRef\]](#)
- Crosnoe, R., Leventhal, T., Wirth, R. J., Pierce, K. M., & Pianta, R. C. (2010). Family socioeconomic status and consistent environmental stimulation in early childhood. *Child Development*, 81, 972–987. [\[CrossRef\]](#) [\[PubMed\]](#)
- Curenton, S. M. (2011). Understanding the landscapes of stories: The association between preschoolers' narrative comprehension and production skills and cognitive abilities. *Early Child Development and Care*, 181(6), 791–808. [\[CrossRef\]](#)

- De la Calle, A. M., Guzmán-Simón, F., & García-Jiménez, E. (2018). Letter knowledge and learning sequence of graphemes in Spanish: Precursors of early reading. *Revista de Psicodidáctica (English Edition)*, 23(2), 128–136.
- Ebert, S., Peterson, C., Slaughter, V., & Weinert, S. (2017). Links among parents' mental state language, family socioeconomic status, and preschoolers' theory of mind development. *Cognitive Development*, 44, 32–48. [\[CrossRef\]](#)
- Farver, J. A., Xu, Y., Lonigan, C. J., & Eppe, S. (2013). The home literacy environment and Latino head start children's emergent literacy skills. *Developmental Psychology*, 49(4), 775–791. [\[CrossRef\]](#)
- Finders, J., Wilson, E., & Duncan, R. (2023). Early childhood education language environments: Considerations for research and practice. *Frontiers in Psychology*, 14, 1202819. [\[CrossRef\]](#)
- Gardner-Neblett, N., & Iruka, I. U. (2015). Oral narrative skills: Explaining the language-emergent literacy link by race/ethnicity and SES. *Developmental Psychology*, 51(7), 889–904. [\[CrossRef\]](#) [\[PubMed\]](#)
- Georgiou, G. K., Inoue, T., & Parrila, R. (2021). Developmental relations between home literacy environment, reading interest, and reading skills: Evidence from a 3-year longitudinal study. *Child Development*, 92(5), 2053–2068. [\[CrossRef\]](#) [\[PubMed\]](#)
- Hoff, E. (2003). The specificity of environmental influence: Socioeconomic status affects early vocabulary development via maternal speech. *Child Development*, 74(5), 1368–1378. [\[CrossRef\]](#) [\[PubMed\]](#)
- Hutton, J. S., Dudley, J., Horowitz-Kraus, T., DeWitt, T., & Holland, S. K. (2020). Associations between home literacy environment, brain white matter integrity and cognitive abilities in preschool-age children. *Acta Paediatrica*, 109, 1376–1386. [\[CrossRef\]](#) [\[PubMed\]](#)
- Jones, C., Clark, S., & Reutzel, D. (2013). Enhancing alphabet knowledge instruction: Research implications and practical strategies for early childhood educators. *Early Childhood Education Journal*, 41, 81–89. [\[CrossRef\]](#)
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80(4), 437–447. [\[CrossRef\]](#)
- Justice, L. M., Bowles, R. P., Kaderavek, J. N., Ukrainetz, T. A., Eisenberg, S. L., & Gillam, R. B. (2006). The index of narrative microstructure: A clinical tool for analyzing school-age children's narrative performances. *American Journal of Speech-Language Pathology*, 15(2), 177–191. [\[CrossRef\]](#)
- Košutar, S., Kramarić, M., & Hržica, G. (2022). The relationship between narrative microstructure and macrostructure: Differences between six-and eight-year-olds. *Psychology of Language and Communication*, 26(1), 126–153. [\[CrossRef\]](#)
- Leppänen, U., Aunola, K., Niemi, P., & Nurmy, J.-E. (2008). Letter knowledge predicts grade 4 reading fluency and reading comprehension. *Learning and Instruction*, 18(6), 548–564. [\[CrossRef\]](#)
- Leyva, D., & Smith, M. (2016). Beyond book reading: Narrative participation styles in family reminiscing predict children's print knowledge in low-income Chilean families. *Early Childhood Research Quarterly*, 37, 175–185. [\[CrossRef\]](#)
- Logan, J. A. R., Justice, L. M., Yumus, M., & Chaparro-Moreno, L. J. (2020). When children are not read to at home: The million word gap. *Journal of Developmental & Behavioral Pediatrics*, 40(5), 383–386. [\[CrossRef\]](#)
- Luo, R., Pace, A., Levine, D., Iglesias, A., de Villiers, J., Golinkoff, R. M., Wilson, M. S., & Hirsch-Pasek, K. (2021). Home literacy environment and existing knowledge mediate the link between socioeconomic status and language learning skills in dual language learners. *Early Childhood Research Quarterly*, 55, 1–14. [\[CrossRef\]](#)
- Manu, A., Ewerling, F., Barros, A. J., & Victora, C. G. (2018). Association between availability of children's book and the literacy-numeracy skills of children aged 36 to 59 months: Secondary analysis of the UNICEF Multiple-Indicator Cluster Surveys covering 35 countries. *Journal of Global Health*, 9(1), 010403. [\[CrossRef\]](#) [\[PubMed\]](#) [\[PubMed Central\]](#)
- Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the family stress model. *Current Opinion in Psychology*, 13, 85–90. [\[CrossRef\]](#) [\[PubMed\]](#)
- Mayer, M. (1967). *A boy, a dog, and a frog*. Dial Press.
- McKeough, A., Genereux, R., & Jeary, J. (2006). Structure, content, and language usage: How do exceptional and average storywriters differ? *High Ability Studies*, 17, 203–223. [\[CrossRef\]](#)
- McNally, S., Leech, K. A., Corriveau, K. H., & Daly, M. (2023). Indirect effects of early shared reading and access to books on reading vocabulary in middle childhood. *Scientific Studies of Reading*, 28(1), 42–59. [\[CrossRef\]](#)
- Mendive, S., Mascareño Lara, M., Aldoney, D., Pérez, J. C., & Pezoa, J. P. (2020). Home language and literacy environments and early literacy trajectories of low-socioeconomic status Chilean children. *Child Development*, 91(6), 2042–2062. [\[CrossRef\]](#)
- Mol, S. E., & Bus, A. G. (2011). To read or not to read: A meta-analysis of print exposure from infancy to early adulthood. *Psychological Bulletin*, 137(2), 267–296. [\[CrossRef\]](#)
- Nag, S., Vagh, S. B., Dulay, K. M., Snowling, M., Donolato, E., & Melby-Lervåg, M. (2024). Home learning environments and children's language and literacy skills: A meta-analytic review of studies conducted in low-and middle-income countries. *Psychological Bulletin*, 150(2), 132–153. [\[CrossRef\]](#) [\[PubMed\]](#)
- Niklas, F., Wirth, A., Guffler, S., Drescher, N., & Ehmi, S. C. (2020). The home literacy environment as a mediator between parental attitudes toward shared reading and children's linguistic competencies. *Frontiers in Psychology*, 11, 1628. [\[CrossRef\]](#)
- Nippold, M. A., & Schwartz, I. E. (1996). Children with slow expressive language development: What is the forecast for school achievement? *American Journal of Speech-Language Pathology*, 5(2), 22–25. [\[CrossRef\]](#)

- O'Fallon, M. K., Alper, R. M., Beiting, M., & Luo, R. (2022). Quantity and quality of early reading (O'Fallon et al., 2022). *ASHA Journals*. [\[CrossRef\]](#)
- Oppermann, E., Cohen, F., Wolf, K., Burghardt, L., & Anders, Y. (2021). Changes in parents' home learning activities with their children during the COVID-19 lockdown—The role of parental stress, parents' self-efficacy and social support. *Frontiers in Psychology*, *12*, 682540. [\[CrossRef\]](#)
- Orellana, P., & Pezoa, J. P. (2021). Interpretación edumétrica de los resultados del test EVOC de vocabulario en español. *ESE. Estudios Sobre Educación*, *40*, 195–216. [\[CrossRef\]](#)
- Orellana, P., Valenzuela, M. F., Villalón, M., & Rosati, M. (2022a). Efectos del apoyo al ambiente familiar en lenguaje y la alfabetización de niños de 4 a 6 años en contextos desfavorecidos. *Revista Interdisciplinaria*, *39*, 107–122. [\[CrossRef\]](#)
- Orellana, P., Valenzuela Hasenohr, M. F., Pezoa, J., & Villalón, M. (2022b). Competencia narrativa: Evidencias de validez para la estandarización de su evaluación en niños chilenos. *Psykhé (Santiago)*, *31*(2), 1–18. [\[CrossRef\]](#)
- Paris, A. H., & Paris, S. G. (2003). Assessing narrative comprehension in young children. *Reading Research Quarterly*, *38*(1), 36–76. [\[CrossRef\]](#)
- Petersen, D. B., Tonn, P., Spencer, T. D., & Foster, M. E. (2020). The classification accuracy of a dynamic assessment of inferential word learning for bilingual English/Spanish-speaking school-age children. *Language, Speech, and Hearing Services in Schools*, *51*(1), 144–164. [\[CrossRef\]](#)
- Phillips, B. M., Piasta, S. B., Anthony, J. L., Lonigan, C. J., & Francis, D. J. (2012). IRTs of the ABCs: Children's letter name acquisition. *Journal of School Psychology*, *50*(4), 461–481. [\[CrossRef\]](#)
- Phillips, B. M., & Lonigan, C. J. (2009). Variations in the home literacy environment of preschool children: A cluster analytic approach. *Scientific Studies of Reading*, *13*(2), 146–174. [\[CrossRef\]](#) [\[PubMed\]](#)
- Piasta, S. B., Groom, L. J., Khan, K. S., Skibbe, L. E., & Bowles, R. P. (2018). Young children's narrative skill: Concurrent and predictive associations with emergent literacy and early word reading skills. *Reading & Writing*, *31*, 1479–1498.
- Piasta, S. B., Logan, J. A. R., Farley, K. R., Strang, T. M., & Justice, L. M. (2022). Profiles and predictors of children's growth in alphabet knowledge. *Journal of Education for Students Placed at Risk (JESPAR)*, *27*(1), 1–26. [\[CrossRef\]](#)
- Piasta, S. B., & Wagner, R. K. (2010). Developing emergent literacy skills: A meta-analysis of alphabet learning and instruction. *Reading Research Quarterly*, *45*(1), 8–38. [\[CrossRef\]](#)
- Proctor, C. P., Silverman, R. D., Harring, J. R., & Montecillo, C. (2010). The role of vocabulary depth in predicting reading comprehension among English monolingual and Spanish–English bilingual children in elementary school. *Reading and Writing*, *25*, 1635–1644. [\[CrossRef\]](#)
- Relyea, J. E., Zhang, J., Liu, Y., & Lopez Wui, M. G. (2019). Contribution of home language and literacy environment to English reading comprehension for emergent bilinguals: Sequential mediation model analyses. *Reading Research Quarterly*, *55*(3), 473–492. [\[CrossRef\]](#)
- Robins, S., Ghosh, D., Rosales, N., & Treiman, R. (2014). Letter knowledge in parent–child conversations: Differences between families differing in socio-economic status. *Frontiers in Psychology*, *5*, 632. [\[CrossRef\]](#)
- Romero-Contreras, S. (2006). *Measuring language and literacy-related practices in low-SES Costa Rican families: Research instruments and results* [Doctoral dissertation, Harvard University].
- Ryan, R. M., Fauth, R. C., & Brooks-Gunn, J. (2006). Childhood poverty: Implications for school readiness and early childhood education. In B. Spodek, & O. N. Saracho (Eds.), *Handbook of research on the education of young children* (pp. 323–346). Erlbaum.
- Sabourin-Guardo, E., Miljkovitch, R., Bernier, A., Cyr, C., St-Laurent, D., & Dubois-Comtois, K. (2022). Longitudinal associations between the quality of family interactions and school-age children's narrative abilities in the context of financial insecurity. *Family Process*, *63*(3), 1574–1591. [\[CrossRef\]](#) [\[PubMed\]](#)
- Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: Care, Health and Development*, *31*(1), 65–73. [\[CrossRef\]](#) [\[PubMed\]](#)
- Sanders, T. J. M., & Pander Maat, H. L. W. (2006). Cohesion and Coherence. In K. Brown (Ed.), *Encyclopedia of language and linguistics* (Volume 2, pp. 591–595). Elsevier.
- Schatschneider, C., Fletcher, J. M., Francis, D. J., Carlson, C. D., & Foorman, B. R. (2004). Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology*, *96*(2), 265–282. [\[CrossRef\]](#)
- Sénéchal, M. (2006). Testing the home literacy model: Parent involvement in kindergarten is differentially related to grade 4 reading comprehension, fluency, spelling, and reading for pleasure. *Scientific Studies of Reading*, *10*, 59–87. [\[CrossRef\]](#)
- Sénéchal, M., & LeFevre, J. (2003). Parental involvement in the development of children's reading skills: A five-year longitudinal study. *Child Development*, *73*, 445–460. [\[CrossRef\]](#)
- Sénéchal, M., Whissell, J., & Bildfell, A. (2017). Starting from home: Home literacy practices that make a difference. In *Theories of reading development* (pp. 383–408). John Benjamins Publishing Company.
- Shapiro, L. R., Carroll, J. M., & Solity, J. (2013). Separating the influences of prereading skills on early word and nonword reading. *Journal of Experimental Child Psychology*, *116*(2), 278–295. [\[CrossRef\]](#)

- Shapiro, L. R., & Hudson, J. A. (1991). Tell me a make-believe story: Coherence and cohesion in young children's picture-elicited narratives. *Developmental Psychology*, 27(6), 960–974. [\[CrossRef\]](#)
- Silinskas, G., Torppa, M., Lerkkanen, M.-K., & Nurmi, J.-E. (2020). The home literacy model in a highly transparent orthography. *School Effectiveness and School Improvement*, 31, 80–101. [\[CrossRef\]](#)
- Silva, M., Strasser, K., & Cain, K. (2014). Early narrative skills in Chilean preschool: Questions scaffold the production of coherent narratives. *Early Childhood Research Quarterly*, 29, 205–213. [\[CrossRef\]](#)
- Skibbe, L. E., Justice, L. M., Zucker, T. A., & McGinty, A. S. (2008). Relations among maternal literacy beliefs, home literacy practices and the emergent literacy skills of preschoolers with specific language impairment. *Early Education and Development*, 19, 68–88. [\[CrossRef\]](#)
- Snow, C. E. (1983). Literacy and language: Relationships during the preschool years. *Harvard Educational Review*, 55, 165–189. [\[CrossRef\]](#)
- Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. National Academy Press.
- Snow, C. E., & Dickinson, D. K. (1991). Skills that aren't basic in a new conception of literacy. In A. Purves, & E. Jennings (Eds.), *Literate systems and individual lives: Perspectives on literacy and schooling*. State University of New York (SUNY) Press.
- Stanovich, K. E. (2008). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *The Journal of Education*, 189(1/2), 23–55. [\[CrossRef\]](#)
- Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology*, 38(6), 934–947. [\[CrossRef\]](#)
- Strasser, K., & Lissi, M. R. (2009). Home and instruction effects on emergent literacy in a sample of Chilean kindergarten children. *Scientific Studies of Reading*, 13, 175–204. [\[CrossRef\]](#)
- Sucena, A., Garrido, C., Marques, C., & Lousada, M. (2023). Early predictors of reading success in first grade. *Frontiers in Psychology* 14, 1140823. [\[CrossRef\]](#)
- Tompkins, V. (2022). Relations between the home literacy environment and young children's theory of mind. *Cognitive Development*, 62, 101179. [\[CrossRef\]](#)
- Uccelli, P. (2014). Aprendiendo a narrar en español: Interrrelaciones entre destrezas gramaticales y discursivas en la expresión de la temporalidad entre los 2 y los 3 años de edad. In R. Barriga Villanueva (Ed.), *Las narrativas y su impacto en el desarrollo lingüístico infantil* (pp. 77–110). El Colegio de México, Centro de Estudios Lingüísticos y Literarios.
- Valenzuela-Hasenohr, F., Villalón-Bravo, M., & Orellana-García, P. (2024). Calidad de las interacciones en la lectura de cuentos en el hogar. *Estudios Sobre Educación*. [\[CrossRef\]](#)
- Vernon-Feagans, L., Bratsch-Hines, M., Reynolds, E., & Willoughby, M. (2020). How early maternal language input varies by race and education and predicts later child language. *Child Development*, 91(4), 1098–1115. [\[CrossRef\]](#)
- Weimer, A. A., & Guajardo, N. R. (2005). False belief, emotion understanding, and social skills among head start and non-head start children. *Early Education and Development*, 16(3), 341–366. [\[CrossRef\]](#)
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69(3), 848–872. [\[CrossRef\]](#)
- Wirth, A., Ehmig, S. C., & Niklas, F. (2022). The role of the Home Literacy Environment for children's linguistic and socioemotional competencies development in the early years. *Social Development*, 31, 372–387. [\[CrossRef\]](#)
- Zhang, S. Z., Inoue, T., Shu, H., & Georgiou, G. K. (2020). How does home literacy environment influence reading comprehension in Chinese? Evidence from a 3-year longitudinal study. *Reading & Writing*, 33, 1745–1767. [\[CrossRef\]](#)

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