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## Dialogic Reading Practices of Young Children at Home

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### Abstract

Frequent and high-quality reading helps children develop language and early literacy skills, which, in turn, influence their academic achievements. Few empirical studies provide insights into the ways parents engage with young children. The aim of the present mixed-method study was to identify factors that influence dialogic reading at home, based on parent questionnaires with 323 parents, and based on interviews and observations with eight parents and their two- to four-year-old children. The regression analysis showed that the most significant predictors that influenced dialogic reading at home was children's reading behaviour, children making up stories and pretending to read, as well as number of books at home, controlling for children's age, parent education, children's interest, and parent belief that dialogic reading will positively influence children's socio-emotional development. While age was not significant in this analysis, in the qualitative analysis, we found that it influenced the choice of reading material, the duration of reading, and the interaction patterns between adults and children. Children's developing language, cognitive, and socio-emotional skills also influenced their interest in stories, their ability to make up stories, and the behaviour of pretending to read. The number of books did not appear to influence the reading practices of the eight focus children. We argue that it is important to make all parents aware of the benefits of dialogic reading and encourage particularly parents of older children to continue to read, ask higher-level questions, and engage their children in conversations about text to develop both their language skills and concepts of print.

**Keywords:** Dialogic reading, home, parents, children's reading behaviour, age



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## Dialogic reading practices of young children at home

“Bedtime stories are important for your child’s development” is a common advice given to parents of young children in Western countries. It is widely known that frequent and high-quality reading helps children develop language and early literacy skills, which, in turn, influence their academic achievements (Fernald et al., 2013; Skibbe et al., 2011). Parent guides are readily available on the Internet, but the amount and type of information given differ on the practice of reading, the language use, and the material. By contrast, some, though few, empirical studies provide insights into the ways parents engage with young children (Swain et al., 2017), and several examine maternal and child factors that influence home literacy practices such as socio-economic status, language and cultural backgrounds, or language proficiency (Mol et al., 2008).

The present paper analyses parents’ dialogic reading practices in multilingual Luxembourg, a small country in Europe. Dialogic reading is an interactive way of reading where adults encourage children to talk about illustrated materials and give them feedback (Whitehurst et al., 1988). In Luxembourg, parents are likely to read in several languages on account of the high language diversity and the heterogenous population of which 53% has Luxembourgish citizenship. The country has three official languages, Luxembourgish, German, and French, but many more are spoken. A large survey of the National Youth Service with parents of children aged 0 to 4 recorded a total of 103 different languages used at home (SNJ, 2023). Approximately one third of the participating caregivers reported addressing their child in one language, which was Luxembourgish in 46% of the cases. Another third indicated two, and the final third three or four, with parents combining most frequently Luxembourgish and French or French and English. The importance of reading in one or more languages has been emphasised in the national framework for childhood and youth (MENJE & SNJ, 2021), which, we assume, has not only impacted day care centres but also parents. Since 2017, educators in Early Childhood Education and Care (ECEC) have been required to familiarize children with Luxembourgish and French and value children’s home languages, for instance by reading in multiple languages or inviting parents to the centres to read in home languages. The results of our parent survey showed that the majority of the 323 caregivers reported daily reading or telling stories to their children in ECEC. They told stories more frequently in their home language, in this case, French (34%), Luxembourgish (27%), and Portuguese (14%), and when they used “other” languages, these tended to be French, Luxembourgish and German (Kirsch & Aleksić, 2023). According to the parents, 29% of children offered words or completed lines and 40% told stories daily or every other day.

In this follow-up paper, we intend to deepen our understanding of home reading practices by using a mixed-method approach. Firstly, we aim to quantitatively identify which significant factors influence dialogic reading at home stemming from the parent questionnaires, and secondly, to qualitatively analyse the process of dialogic reading and the factors in self-recorded videos of shared reading and through interviews with eight parents. The understanding of which factors influence dialogic reading at home can contribute to training that helps parents think about, consolidate, or change reading practices. Given that training has been shown to make parents read more frequently and engage children differently (Kotaman, 2008), the article concludes with some implications.

## Dialogic reading at home

Seen from the perspective of cognitive and socio-cultural learning theories, children develop language when they receive rich, complex, comprehensible, and varied language input and use language with adults and peers. They can appropriate, transform, and begin to use new expressions and structures, especially when adults encourage interaction and model language use (Wasik et al., 2016). For example, when interacting with children, adults may adapt their speech and scaffold children’s talk (Swain et al., 2010). Shared reading is an ideal way to stimulate language and early

literacy development as children are exposed to language that is more complex than the one used in everyday situations, to new narrative structures and print concepts, as well as to a range of educational and social information (Cutler, 2023).

To promote shared reading and help parents and teachers develop effective strategies that encourage interaction and promote talk, Whitehurst et al. (1988) developed the approach of dialogic reading. They trained adults to adapt their reading to children's developing knowledge and skills and support children in the narrating process. While reading, adults were to use prompts, evaluations, expansions, and repetition – what the team called PEER sequence – and CROWD questions, that is completion, recall, open-ended, why- and distancing questions. To test the effect of dialogic reading, the researchers carried out intervention studies at home and designed combined intervention studies in children's homes and ECEC settings (Whitehurst et al., 1988, 1994). The results demonstrated children's improved listening comprehension and increases in vocabulary size. These positive findings were replicated in Canada, Australia, and South Africa as well as in Europe where the interventions were translated into several languages. While our study does not investigate any effects of dialogic reading, we wish to point out that this practice has produced significant gains in children's receptive and expressive vocabulary and narrative skills in a first language (Huebner, 2000; Kotaman, 2008; Vally et al., 2015; Zevenbergen et al., 2018) as well as gains in their emergent literacy skills (e.g., Wood et al., 2018). Several meta-studies confirmed but also nuanced these findings by disentangling mediational factors (Mol et al., 2008; Dowdall et al., 2020; Pillinger & Vardy, 2022). Given the importance of dialogic reading on children's literacy development, it is important to identify factors that influence it. Whilst a range of factors predicts dialogic reading, we focus on the factors that are relevant for the context of our study. Therefore, we present child-related factors (age, child reading interest, and specific reading behaviour) and parent-related factors (education, number of books at home, and belief that reading has a positive impact on children development).

### Child-related factors that influence dialogic reading

The age of the child, which influences their language and cognitive development, influences the parents' reading strategies as adults adapt the readings and prompts to the child's needs, interests, and abilities (Swain et al., 2017). Parents of babies and toddlers are likely to use completion prompts such as fill-the-gap questions that children can answer by pointing to an illustration or by adding the missing words. Complex open-ended prompts such as recall and distancing questions are generally used with older children as they require deeper thinking, more understanding as well as decontextualized language use. A study in Taiwan with one-year-old children has, however, shown that mothers applied many dialogic reading strategies; they used wh-questions (mainly what and where) and yes-no questions in addition to evaluations and expansions (Chang et al., 2022). Swain et al. (2017) analysed the interactions of fathers who read stories or the school's reading schemes with their five-year-olds. They found that the parents asked questions to ensure understanding and develop vocabulary but hold that adults could have asked more questions. They concluded that parents read less when children get older (Swain et al., 2017).

While age influences reading practices, there are other factors such as interest, motivation and engagement that seem to be both effects of dialogic reading and factors that influence them. For example, a survey with ECEC professionals in Luxembourg showed that the children's behaviour of narrating stories predicted the educators' engagement in dialogic reading (Kirsch & Aleksić, 2023). Furthermore, findings of our observations in three day care centres confirmed that in settings where two- to three-year-olds increased their interest in books over time and told each other more stories, the educators also read more (Kirsch, 2024). Children's attention span, storytelling behaviour and interest in reading are generally considered an outcome of dialogic reading (Kotaman, 2008; Vally et al., 2015). Researchers indicated that children had improved their attitudes toward reading and were more interested in storybooks (Kotaman,

2008; LaCour et al., 2013), highlighted increased enjoyment (Huebner, 2000; Pillinger & Wood, 2014) and reported higher reading motivation (Chow et al., 2008; de Botton et al., 2014). Intrinsic motivation, in turn, influences children's reading behaviour (Schiefele et al., 2012). In addition, in a study with Latino preschool children, Farver et al. (2006) found that children's reading interest mediated the link between parent involvement and children's receptive vocabulary.

## Parent factors that influence dialogic reading

Generally, the parents' socio-economic status (SES) is considered to be the most influential factor (e.g., Whitehurst et al., 1988; Zevenbergen et al., 2018). It has been related to the home literacy environment, and, thus, to the quality and quantity of verbal interactions with parents (e.g., Hart & Risley, 1995) and children's access to literacy (Aikens & Barbarin, 2008; Niklas & Schneider, 2010). A large survey in Greece indicated that parents from high SES backgrounds buy and read more books to their young children and engage them in more talk during shared reading than parents from low SES backgrounds (Natsiopoulou et al., 2006). Parents of lower SES, however, also promote children's literacy development (e.g., Niklas & Schneider, 2013).

While parent education and wealth are considered to be distal features of SES, number of books are regarded as proximal (Heppt et al., 2022). The first author conducted a study with 600 multilingual parents on the impact of home literacy environment on preschool children's emergent reading skills and found that parent education (heterogeneously distributed from lower to higher educational degrees) was not a significant variable, nor was their wealth. However, number of books significantly predicted children's emergent reading (Aleksić & Duruş, 2024). This goes in line with other studies that found that in order to read, children need to have access to literacy, frequently considered as availability of books at home (e.g., Burgess, 2002). Several studies have confirmed that parents who own more books engage children more often in literacy activities than those who own fewer books (Myrberg & Rosén, 2008, 2009). Given these factors, it is understandable that SES also influences the outcomes of intervention studies at home. Children with higher-income parents were found to benefit more than those from lower-income (at-risk) families (Mol et al., 2008).

Other influential factors are the parents' own language skills and beliefs. The parents' proficiency in their language(s) affects the quantity and quality of their language use, the interaction strategies with the child, as well as their impact belief (De Houwer, 1999). For example, Korean parents have been found to believe that children need to be able to read before attending school and, therefore, to invest considerable time in reading to their children (Lee, 2002; Swain et al. (2017) reported that fathers read to their children among other matters because they believed reading influenced their later school achievements. Their beliefs were based on personal experiences and vague ideas about school. Furthermore, many parents reported that one of the main goals of shared reading is bonding with their children (e.g., Swain et al., 2017), especially when shared reading is in their home language (e.g., Aleksić & Duruş, 2024). Dialogic reading does not only positively affect children's language outcomes but also their socio-emotional development and has long-term benefits for parent-child relationships (e.g., Stuckelman et al., 2022).

Beliefs can depend on parental education. Cottone (2012), for example, found that parents with higher education levels had more positive beliefs regarding the effect of reading, enjoyed reading more and rated their self-efficacy higher than parents of lower formal education. However, in Luxembourg, Aleksić and Duruş (2024) found that parent reading interest (reading for pleasure) significantly predicted children's emergent reading as reported by 600 multilingual parents, irrespective of their education and income.

In summary, this literature review has shown that several factors influence dialogic reading at home. We named them 'child-related factors': age, reading interest, and reading behaviour (children

making up stories and pretending to read), and parent-related factors: parent education, number of books at home, and belief that reading positively influences children's socio-emotional development. Furthermore, we noted a dearth of recent studies with young children in multilingual contexts as well as naturalistic studies. We, therefore, investigated the following research question in this exploratory study in Luxembourg:

What factors influence dialogic reading at home (a) as reported by parents in a survey and (b) as observed in a naturalistic study involving eight parents of children aged 2 to 3?

## Methodology

The methodology section will present the exploratory mixed-method study design followed by the description of the participant, measures, and data analysis. In each subsection, we first present the quantitative data stemming from the parent questionnaire, followed by the qualitative data from interviews and observations.

## Participants and procedure

The data of this project stem from a mixed-method research project on multiliteracies and collaboration between ECEC educators and parents. The participating educators were recruited at the end of a professional development course on multiliteracies and collaboration, offered by the research team to 20 day care centres in Spring 2021. The educators contacted the parents of the children enrolled in their centre and asked them to complete the questionnaire.

*Questionnaire.* The questionnaire existed in pen-and-paper version and was distributed to parents of the 20 day care centres who took part in our professional development course. Of the 316 parents who indicated the number of children in their household, 37% had one child, 49% two, 11% three, and 4% more than four. The majority of the 315 reporting parents (55%) indicated having completed post-secondary education and a quarter (25%) secondary education. The most spoken home languages were French (34%), Luxembourgish (27%), and Portuguese (14%). Regarding their level of education, 55% of the participants had completed post-secondary education, 25% secondary school, 12% vocational secondary school, and 8% did not complete secondary education. Concerning their mother tongues, 29% reported it to be Luxembourgish, 23% French, 19% Portuguese, while the remaining third reported 30 other languages (e.g., Italian, Spanish, Romanian, Hungarian, etc.). A third of the parents (31% of 315 respondents), reported that their child owned around 50 books, and almost another third (27%) around 20 books. The number of books varied according to the other parents, with 16% holding that their child had around 100, 8% more than 200 books and, by contrast, 18% ten or fewer.

*Interviews and observations.* The eight parents presented in this paper were recruited by the educators of the three focus centres, one Luxembourgish-dominant, one French-dominant and one Luxembourgish-German-dominant. Each centre selected three parents and their children who were observed over the academic year 2020/21. One parent dropped out for health reasons. Among the selection criteria for these nine parents and children were the home languages, children's age, and parents' socioeconomic status (SES). We aimed for a diverse sample, and, therefore, selected children aged 2 or 3 in September 2020, who were exposed to either one or more languages at home which, in six cases, included an official language of the country. Of the parents (seven mothers, one father), three had completed post-secondary education and five earned a secondary school diploma. Table 1 presents the parents' qualifications, the number of books, the languages that children heard and spoke at home and in the ECEC centre as well as their age at the beginning of the data collection. Languages in brackets indicate that children heard these languages, albeit less frequently, and were not able to speak these fluently.

**Table 1** Overview of the children's family and background and home literacy environment

Parent of	Level of education	Child's age	Number of children's books	Home Languages	Languages encountered in ECE
Etienne	secondary school	2	500	French, (Luxembourgish)	Luxembourgish, French, (Portuguese, German)
Luisa	secondary school	2	50	Portuguese, (Luxembourgish)	Luxembourgish, German, Portuguese
Tobias	post-secondary	2	50	German	Luxembourgish, German
Joyce	secondary school	3	20	Luxembourgish, German	Luxembourgish, German
Lia	post-secondary	3	50	Swiss German, Luxembourgish	Luxembourgish, French, (Portuguese, German)
Niklas	secondary school	3	200	Luxembourgish, Icelandic, (French)	Luxembourgish, French, (Portuguese, German)
Cécilia	post-secondary	3	100	French, (Italian)	French
Antonia	secondary school	3	50	Italian, Russian	French

## Measures

*Questionnaire.* A questionnaire was developed by the first author to gain information on the parents' literacy practices and existed in German, French, English, Portuguese, Italian and Serbian. The questionnaire items were based on existing questionnaires on the home literacy environment developed by different authors in the field (e.g., Burgess, 2002; Farver et al., 2006; Van Steensel, 2006). Of relevance here are questions that focus on literacy activities including reading, telling stories, conversing about stories/books, offering follow-up activities on stories/books, singing songs, chanting rhymes, engaging in alphabet games, and writing words. The parents were asked about the frequency of these events and the languages used. Examples of questionnaire items are "How often do you read books to the children?"; "How often do you tell stories (with or without a book) to your child in your home language(s)?" and "In which languages other than the home language(s)?" The participants indicated frequencies on a 7-point-Likert-scale from "never" to "daily" and chose the language(s) from a list of seven languages, adding languages if they wished to.

*Interviews and observations.* To gain insights into the eight families' dialogic reading practices, we used three methods of data collection: interviews, self-recorded observations, and the questionnaires described in the following section. Firstly, we conducted two semi-structured interviews in November/December 2020 and in July 2021 in the parents' preferred language (Luxembourgish, English, French). Parents were asked in the first interview to explain their home literacy environment as well as their child's engagement with books and in the second to reflect on changes over time. The interviews lasted on average 50 minutes and totalled 13.5 hours. Secondly, we asked the parents twice a year to send us pictures or videos of reading practices. We received 79 pictures (at times with written explanations) and 21 videos totalling 2.5 hours. Finally, we asked the parents to complete the above-mentioned parent questionnaire in May 2021.



## Data Analysis

*Questionnaire.* After the missing value analysis, 323 questionnaires could be analysed. To identify the significant factors that influence dialogic reading at home, we employed multivariate regression.

*Interviews, video-recordings, and pictures.* All audio-and video-recordings were transcribed verbatim in the original language. We subjected the interviews to a thematic analysis (Braun & Clarke, 2006) and coded the language use, the adults' reported reading strategies (e.g., PEER sequence, CROWD questions), the children's storytelling behaviour (e.g. making up stories), their interest in literacy and their engagement (e.g., asking, correcting), as well as changes over time (e.g., choice of books, development of attention span, strategies). To analyse the pictures and videos received from the parents, we classified them first according to the type of activities which comprised children playing; singing; mark-making; drawing; listening to digital stories; telling stories; pretend reading; pretend writing and reading together with a parent. Next, we zoomed in on the interactions between the adults and children who read and told stories alone or to each other. These video data came from seven parents and amount to 2 hours. To analyse the interactions, we followed the approach to conversation analysis of Seedhouse (2005) and examined the speech acts of the parents and children based on the PEER sequence (prompts, evaluations, expansions, repetitions) and CROWD questions (completion, recall, open-ended, why- and distancing questions), in each video and across all videos. In a next step, we related similarities and differences to children's age and the number of books. Finally, we compared the findings of the interviews and video material before we triangulated these with questionnaire items of the parent questionnaire that related to the frequency of reading, the language use, children's practice of making up stories, completing lines, and pretending to read.

## Findings

### Quantitative findings

To analyse the reading practices at home, we proceeded similarly as in the educator survey (Kirsch & Aleksić, 2023) and created a composite we named here "dialogic reading at home" based on typical activities in which adults and children engage during dialogic reading, as described in the literature review. Our composite includes the following five items: parents reading to children, parents telling stories, parents pointing out words, children completing words (possibly based on parents asking completion questions), and children asking questions of characters or events in the story (possibly based on parents doing the same) (Kirsch & Aleksić, 2023). Based on the literature review and the qualitative findings, we wished to explore the extent to which the parents' dialogic reading practice was influenced by the following variables: (1) child-related factors: (a) age, (b) child reading interest, and reading behaviour, (c) making up and telling stories, and (d) pretending to read, and (2) parent-related factors: (a) parent education, (b) number of books owned by child, and (c) parents' beliefs about the positive effect of reading on the child ("reading to children/telling stories in a language other than the home language will have a positive effect on children's social and emotional development", hereafter 'parent belief'). Age was a variable that was split into 4 groups: (1) children aged 0-1 (19%; N=62), (2) aged 2-3 (48%; N=155), (3) aged 3-4 (8%; N=27), and (4) children older than 4 (8%; N=26). The information for 53 children (16%) was missing.

We first conducted a correlational analysis. Table 2 shows the correlations between the outcome variable, dialogic reading at home, and the variables found relevant in the literature: age, child reading interest, and children reading-related behaviours: making up stories and pretending to read as well as parent-related factors: parent education, number of books at home, and parent belief. Dialogic reading correlated significantly with all variables except with children's age. Positive significant correlations were found with children asking to be read ( $r = .21$ ), making up stories ( $r = .48$ ), pretending to read ( $r = .46$ ),

parent education ( $r = .13$ ), number of books ( $r = .32$ ), and parent belief ( $r = .21$ ), all significant at 0.01 level. The variables with the highest correlations were children's reading behaviour (making up stories and pretending to read) and the number of children's books at home, which we expected to be the main predictors in the regression analysis.

**Table 2** Correlation coefficients between the variables and dialogic reading

	1	2	3	4	5	6	7	8
1. Dialogic reading	-							
2. Age	.06	-						
3. Child read interest	.21**	-.05	-					
4. Making up stories	.48**	.11	.20**	-				
5. Pretending to read	.46**	.00	.25**	.41**	-			
6. Parent education	.13**	-.08	.02	.02	.14*	-		
7. Number of books	.32**	-.03	.20**	.11	.14*	.38**	-	
8. Parent belief	.21**	.03	.06	.18**	.17**	.07	.19**	-

Notes. N = 265;  $p < .05$ . \*  $p < .010$  \*\*  $p < .001$ \*\*\*

The regression analysis showed that the data met the assumption of independent errors (Durbin-Watson value = 2.11), and multicollinearity was not found (VIF = 1.18). The most significant variables were variables related to children's reading behaviour: (1) making up stories ( $\beta = 0.31$ ,  $p < .001$ ; 95 % CI [0.42, 0.95]) and (2) pretending to read ( $\beta = 0.30$ ,  $p < .001$ ; 95 % CI [0.45, 1.05]) as well as (3) number of books at home ( $\beta = 0.20$ ,  $p < .001$ ; 95 % CI [0.36, 1.40]) controlling for children's age, children asking to be read to, parent education, and parent belief that reading/telling stories in languages other than the home language will have a positive effect on children's socio-emotional development (Table 3). Children's age and parent education were not significant factors.

Children pretending to read and making up stories as well as number of books at home explained 35 % ( $R^2 = 0.35$ ,  $F(7, 225) = 17.97$ ,  $p < .001$ ). The most significant predictor was children making up stories that alone explained 23% of the dialogic reading variance ( $R^2 = 0.23$ ,  $F(1, 248) = 74.85$ ,  $p < .001$ ).

**Table 3** Factors influencing dialogic reading at home

Variable	95% CI for B				$\beta$	$R^2$	$\Delta R^2$
	B	LL	UL	SE B			
Constant	10.27	6.68	13.85	1.82		.37	.37***
Child-related factors							
Age	.01	-.01	.02	.01	.05		
Child read interest	.06	-.23	.34	.14	.02		
Making up stories	.68***	.42	.95	.13	.31***		
Pretending to read	.75***	.45	1.05	.15	.30***		
Parent-related factors							
Parent education	-.15	.28	-.80	.50	-.03		
Number of books	.88***	.36	1.40	.27	.20***		
Parent belief	.48	-.43	1.40	.47	.06		

Note. CI = Confidence interval; LL= lower limit; UL = upper limit; \* $p > .05$ . \*\* $p > .01$ . \*\*\* $p > .001$ .



## Qualitative findings

In the following section, we will outline the reading practices of the eight families, analyse examples in relations to the PEER sequence and CROWD questions and illustrate that children's age combined with their language skills predicted their reading behaviour as well as the parents' dialogic reading practice.

### Overview of dialogic reading practices

All eight parents reported in the interviews and questionnaire that they regularly read bedtime stories. Apart from Luisa's parents who read once a week, all other parents read every night. Two families explained a change in the bedtime routines in July 2021: Etienne and Lia experienced joint bedtime readings with their older brother and younger sister, respectively, which meant listening to more and, in Etienne's case, also to more complex stories.

The language use during the readings depended on the families. The parents of Luisa and Tobias reported reading in Portuguese and German, respectively, while the six other families read in two languages. There were two different scenarios. In two families, the father and mother read in a different language. For example, Niklas' father read a book in Icelandic and his mother read the same one in Luxembourgish. In the remaining families, one of the parents read in both their home language and an official language of the country. For example, Joyce's mother tended to read in German and, more rarely, in her first language Luxembourgish, because her daughter communicated with her in German, possibly because she heard this language frequently in her day care centre.

### Age-related storytelling practices

The children's language, cognitive and socio-emotional development – all related to age – influenced the shared reading practices. Most parents read one or two books and, over time, adapted the number and complexity of the stories to children's language skills. Parents selected simpler stories when the children were younger or when they read in a language children spoke less well. For example, when Antonia's mother read in Russian to her daughter who was mainly exposed to Italian, she chose stories with rhymes and repetitive structures and let her daughter complete lines as she believed this to contribute to language learning (interviews, July 2021).

Reading practices also changed with children's cognitive and socio-emotional development. The parents of the older children Cécilia, Joyce and Niklas continued to read to them, but they also offered them audiobooks and other digital devices to satisfy children's interests and growing independence (interviews, July 2021). The mothers of two younger children also reported changes in interest and behaviour. Etienne had become "calmer and more patient" and Tobias had increased his "attention span" (interviews July, 2021). As a result, the parents read for longer periods and their sons were more engaged. For example, Tobias began to ask more questions and anticipate the story (interview July, 2021). Asking questions and volunteering words were done occasionally by Tobias, Luisa, and Etienne, the three younger children, whereas the older children commonly did so. Cécilia, Joyce and Antonia were reported to asking questions very frequently, and Cécilia, Joyce, and Niklas to offering words very frequently.

Children's reading interest, making up stories (e.g. the most influential factor based on the survey) and pretend reading were similarly age-dependent. Once the younger children were interested to follow stories, they asked to be read to. The older children also asked parents to read books but, on such occasions, some tried to take the lead and pretended to read. Storytelling and role-play appeared to be activities only the older children engaged in. Antonia, Cécilia, Joyce, and Lia, for example, were reported to frequently tell stories to their dolls. However, all children appeared to make up stories when they looked at books on their own. The video of Joyce shows that the girl carefully looked at the pictures in the book and narrated a story based on one or two details of the pictures. Although she adopted a

story-telling voice and made full sentences in German, the lack of coherence made her story difficult to understand. Compared to the other children, Joyce spoke the most. Niklas and Cécilia were leafing through books in two other videos. Niklas was speaking and singing in what may have been Icelandic while Cécilia was muttering in French. The girl's mother explained that she loved turning pages (interview, November 2020) and had expressed a wish to learn to read (interview, July 2021). Both Cécilia and Joyce were saying that they were reading and asked their parents to listen to them read. By July 2021, Joyce pretended to read three to four times a week to her mother thereby sliding her finger underneath the words. In the evening, mother and child took it in turn to read or listen. Etienne was the only younger child who engaged in pretend reading which the mother explained as being a result of Etienne imitating his older brother. Like the other children, he enjoyed turning the pages and, when overexcited, turned them too soon.

As children developed, became more vocal and showed more interest in books and readings, the interaction patterns between parents and children changed.

### Age-related interaction patterns

This section demonstrates that the parents of the younger children (inadvertently) followed the PEER sequence and CROWD questions while those of the older children did so to a lesser extent. The parents of Etienne and Tobias sent in eight videos that document the practice of dialogic reading. A brief representative excerpt of Etienne's mother reading "Dear Zoo" in French with her then three-year-old son follows.

#### Excerpt 1. Dialogic reading with a three-year old

	Speaker	Utterance
1	Mother	[Je l'ai rendu au zoo. Alors ils m'ont envoyé un.] I returned it to the zoo. So they sent me a
2	Child	[Gion]. Lion
3	Mother	[Un lion. Il était trop] A lion. It was too
4	Child	[Fragile.] Fragile.
5	Mother	[Fragile ? Féroce. Grrrr.] Fragile? Fierce. Grrrr.
6	Child	[Féroce.] Fierce.

Etienne's mother looked at the pictures with Etienne which the boy labelled following her completion questions and pointing (lines 1, 3). Etienne filled the gaps but at times mispronounced a word (line 2) or offered a wrong adjective or noun (lines 4). The mother systematically evaluated his answers: she corrected (lines 3, 5) and, at times, expanded by adding information (line 5). For example, she made the sound "grrr" and a gesture to help Etienne understand the meaning of "fierce". Twice, she asked a follow-up question (line 5), possibly to make him think about his choice of words. Repetitions were made both by the mother (line 5) and the child (line 6) which may help the child remember the word. Applied to the PEER sequence and CROWD questions, we notice that in this short sequence the mother used prompts, evaluations (e.g., corrections), expansions (e.g., adding information) and repetitions as well as questions (e.g., completion questions, follow-up question). Lia's mother used the same approach when reading to Lia's younger sister although she did not expand her daughter's answers. However, she provided additional input through songs that related to the books, singing in her home language and in English. The reading pattern differed, however, for Luisa whose mother read less frequently and in a more traditional way as revealed in the videorecording. In general, the analysis of the dialogic reading strategies of family members who read to younger children comprised the following categories: Prompts/CROWED questions (e.g., completion

prompts; closed wh-questions to request labels for characters, locations, or actions); evaluations that either confirmed correct answers or rephrased incorrect ones; expansions that added information; and repetitions. In addition, parents provided input and answered children's questions.

The reading practices of the older children radically differed, and the PEER sequence was less visible. The parents read the longer and more complex stories for approximately half a minute or more before they were interrupted by the children who commented or asked questions. The mothers of Joyce, Cécilia, and Lia and the father of Niklas also shared that their children corrected them, for instance when the child anticipated details of a story too early and then explained that the parent read incorrectly or "too fast" (interviews, July 2021). The role of the adult appeared to consist of reading and answering questions rather than prompting, expanding though giving explanations and giving feedback. The children asked questions and evaluated. Repetitions were only observed in Cécilia's data where the mother frequently repeated her children's utterances. In general, communication centred on the content rather than the language and its accuracy. An example illustrates the point. During a 10-minute event, Joyce's mother read a German book to her four-year-old daughter. Joyce commented in German on specific details, for example, on the fire in the Winter market, suggesting the horses needed fire not to melt, or on the foal in the box, indicating it had to hide. The mother corrected her daughter's misconceptions, explaining in Luxembourgish that horses do not melt and that the foal needed to stay in the box to avoid an injury. She agreed that the foal may get injured and, only on this occasion, recast the daughter's utterance to correct a mistake before she continued reading. Throughout the story, she helped Joyce keep track of the plot and connect the isolated details Joyce had focused on. While the interaction patterns of the families on the self-recorded videos shared this pattern, there were some differences: parents spent different amounts of time talking about the content and made different connections between the story and personal experiences or general knowledge. In summary, parents used the PEER sequence and CROWD questions differently depending on the age of the child. While parents of younger children read short texts and appeared to apply this sequence, the parents of older children read longer texts and followed the child's lead. Explicit prompts and repetitions were rarely observed though parents still at times evaluated their children's language and provided explanations to ensure comprehension.

### Parent-related factors

Parent education and number of books were not important as reported by parents in eight cases. As can be deduced from Table 1, the number of books did not reflect the parents' educational qualifications. Five of the parents earned a secondary school diploma and three had completed post-secondary education. The latter worked as a lawyer, vet, or held a higher position in a business. Only one of these three families was among those that owned more than 100 children's books. From the interviews presented above, we know that Joyce, the child with the lowest number of books, read the most and listened frequently to audiobooks. Etienne's mother, a teacher, read a lot and had 500 books which she used in her classes.

## Discussion

The aim of this study was to identify factors that influence dialogic reading at home, quantitatively, based on parent questionnaires with 323 parents, and, qualitatively, based on interviews and observations with eight parents and their children. In the quantitative analysis, dialogic reading was defined as a composite variable based on typical activities in which adults and children engage during dialogic reading: parents reading to children, parents telling stories, parents pointing out words, children completing words, and children asking questions of characters or events in the story (Kirsch & Aleksić, 2023). In the qualitative data, dialogic reading followed the PEER sequence (adults were use prompts, evaluations, expansions,

and repetition) and CROWD questions (completion, recall, open-ended, why- and distancing questions) (Whitehurst et al., 1988).

Based on the literature review, we wished to explore whether dialogic reading at home was influenced by the following variables: (1) child-related factors: (a) age, (b) child reading interest, and reading behaviour, (c) making up and telling stories, and (d) pretending to read, and (2) parent-related factors: (a) parent education, (b) number of books owned by child, and (c) parents' beliefs about the positive effect of reading on the child social and emotional development. The regression analysis showed that the most significant factors were two child-related factors, that is, making up stories and pretending to read, and one parent-related factor, number of books at home, all controlling for children's age, children asking to be read to, parent education and parent belief that reading will have a positive effect on children's socio-emotional development. Children pretending to read and making up stories as well as number of books at home explained 35% of dialogic reading variance, while the most significant predictor was children making up stories that alone explained 23% of the dialogic reading variance.

Making up stories and pretending to read based on developing language and narrative skills is typically associated to the outcomes of dialogic reading (Dowdall et al., 2020; Pillinger & Vardy, 2022; Zevenbergen et al., 2003). Furthermore, studies have shown that parents who own more books are more likely to engage children in reading activities than those who have fewer books (Hart & Risley, 1995). In a study by the first author with 600 multilingual parents in Luxembourg, number of books was a significant factor for children's emergent reading, irrespective of parent education and wealth, which was also confirmed in the interviews with 32 families (Aleksić & Duruş, 2024). Children's age, their reading interest, and parent education were not significant factors. Although studies show that parents with higher educational levels read more frequently with their children than those who have lower qualifications (e.g., Myrberg & Rosén, 2009), in the above-mentioned study with 600 parents, parent education was not a significant factor for children's emergent reading (Aleksić & Duruş, 2024), which is in line with the present findings. Children's reading was not a significant factor contrary to some studies that show that it mediated the relationship between parent involvement and children's receptive vocabulary (e.g., Farver et al., 2006). Parent belief that dialogic reading in languages other than home languages has positive effects for children's socio-emotional development was not found significant. More studies that will explore how dialogic reading influences children's socio-emotional development and parent beliefs about shared reading are necessary. We comment on children's age in the following section.

The qualitative study based on interviews, questionnaire items, and video-recordings in eight families has shown that these parents regularly read to their children, a finding which is reminiscent of studies elsewhere in the UK and Australia (Swain et al., 2017; Taylor et al., 2016). The qualitative data showed that the most important factor was children's age; it influenced the choice of reading material, the duration of reading, and the interaction patterns between adults and children. Children's developing language, cognitive, and socio-emotional skills also influenced their interest in stories, their ability to make up stories, and the behaviour of pretending to read. The number of books did not appear to influence the reading practices of the eight focus children.

The quantitative and qualitative findings do not match entirely in relation to the number of books and the relevance of age. The survey results appear to confirm the relationship between dialogic reading and the number of books which is used frequently as proximal feature of SES. In our case, the families who owned more books were more likely to engage children in dialogic reading than those who had fewer. By contrast, the findings of the eight case studies indicate that all parents read to their children, and all had books. The parents who had the highest degrees did not necessarily own the highest number of books and those who had the lowest number did not read the least. For example, Joyce had few books, but she had access to digital storytelling devices as well. Thus, the number of books or, more accurately, the access to reading material, predicted neither the children's nor the parents' reading behaviour. It is important to note, however, that the eight parents volunteered to take part in our study on collaboration

and multiliteracies which is an indication of their interest in literacy. Furthermore, they all had completed secondary school and can, therefore, not be compared to at-risk families or low-income parents studied elsewhere (Mol et al., 2008).

The relevance of age became apparent in the qualitative study where data was collected over the period of 10 months. Age was not relevant in the survey which may be down to two methodological issues: we had not been allowed to ask for children's date of birth as it may enable readers to identify the child and we only collected data at one point in time. By contrast, data were collected over eight months in the qualitative study. The eight parents noticed the language, cognitive, and socio-emotional development of their children as well as the resulting changes in their children's and their own engagement in shared reading practices. As a result, their interaction patterns changed, with parents of the younger children reading more as the children's attention span increased and as children showed more interest in books. Similar findings have been reported elsewhere (Kotaman, 2008; Taylor et al, 2016; Vally et al., 2015). By contrast, parents of the older children asked fewer questions and gave children more space to engage more actively. This is possible because children had developed print concept such as directionality and awareness that pictures carry meaning. This finding is reminiscent of the UK based study where parents, firstly, read less as children got older, and second, could have asked more questions to contribute to learning (Swain et al., 2017). Other studies confirm that adults adapt strategies to the children's age, meaning, their skills, needs, and interests (Chang et al., 2022; Lee, 2002; Mol et al., 2008

Cognitive and language development (in a first and additional language) enable children to express themselves more aptly and tell stories. The parents reported in the survey and the interviews that the children made up stories and pretended to read. Similarly, dialogic reading can increase children's sustained attention (Vally et al., 2015) and improve their enjoyment of and interest in reading (Chow et al., 2008; LaCour et al., 2013). Our qualitative data appear to show that the model of dialogic reading propels itself: while dialogic reading leads to increased interest in literacy and children's interest pushes parents to read more.

## Conclusion

The study has several limitations. Firstly, we could not examine the influence of age in the survey for ethical reasons. Second, the number of focus parents was small, the qualitative data set limited, and all parents had earned at least a secondary school diploma. Furthermore, they had decided to take part in our study which testified to their interest in literacy. Although parents differed in relation to language, cultural, and socio-economic backgrounds, this indicates a bias in our study toward more educated and higher-income families. Another limitation is that we did not account for the number of audio books, for example, which may be an important factor. In addition, although one of the selected predictors was parent belief that dialogic reading in languages other than the home language will influence children's socio-emotional development, which was non-significant, we did not directly observe the link between dialogic reading and children's socio-emotional development. This may be important for future studies. Parents spoke several languages at home and future studies could focus on the development of children's multiliteracies. Nevertheless, we argue that the mixed-method study contributes to the literature on account of the complementarity and richness of the findings. Unlike other studies, we observed that children's reading behaviour predicts parental engagement in dialogic reading and illustrated the interplay between child and parental factors. Furthermore, we provided insights into the efforts that parents made to read and tell stories and the dialogic reading strategies they used.

Our study has some implications. We argue that it is important to make all parents aware of the potential benefits of dialogic reading and encourage particularly parents of older children to continue to read, ask higher-level questions, and engage their children in conversations about text to develop both their language and narrative skills and concepts of print. We suggest that future longitudinal studies

could investigate changes in parental strategies, examine the role of siblings during dialogic reading, and assess multilingual children's language development.

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### Ethics

The research project has been approved by the Ethics Review Panel of the University of Luxembourg under the reference ERP 19-050.

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