

Article

Revisiting the Home Literacy Environment in the Digital Age: Insights from a High-SES Context

Besjanë Krasniqi ^{1,*} , Julie A. Grossman ², Susan Sonnenschein ¹ and Michele L. Stites ³ ¹ Department of Psychology, University of Maryland Baltimore County, Baltimore, MD 21250, USA; sonnensc@umbc.edu² Prince George's County Public Schools Sasscer, Upper Marlboro, MD 20772, USA; julieagrossman@gmail.com³ Department of Education, University of Maryland Baltimore County, Baltimore, MD 21250, USA; mstites@umbc.edu

* Correspondence: krasniqib@umbc.edu

Abstract

Decades of research have documented the critical role of parental practices, beliefs, and resources in shaping children's literacy development. This study examined how home practices shape children's literacy engagement across both digital and traditional formats. Parents of children aged 4–9 years ($N = 357$) filled out a Qualtrics survey about the home learning environment, including beliefs, confidence, attitudes, resources, and practices. Results showed that while parents' beliefs and traditional literacy engagement were linked to encouragement for digital reading, children's independent digital reading was best predicted by parents' own digital reading, shared digital reading, and encouragement to read on devices. Device availability and general encouragement to use technology were not significant. Children's audiobook use was predicted primarily by shared digital reading. These findings extend the home literacy environment literature by showing that while traditional practices remain central, their expression in the digital age depends on parental modeling and encouragement. The results highlight that in the digital era, parental engagement and shared reading experiences, and not access alone, are central to fostering children's digital literacy development.

Keywords: home literacy environment; digital reading; home activities; academic socialization; parental beliefs



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1. Introduction

Children are surrounded by more digital technology today than in any previous generation. This has transformed how children access and engage in literacy activities, as well as how much they prefer such activities compared to traditional print books (Hare et al., 2024; Kucirkova, 2019). These early experiences with reading are very important for children's literacy development (Kalil et al., 2025; Neumann, 2016). Decades of research show that the home literacy environment plays a crucial role in supporting vocabulary growth, comprehension, and later academic achievement (Burgess et al., 2011; Niklas & Schneider, 2013; Schmitt et al., 2011). While there are many advantages in using digital technology for reading, many parents still prefer print books for their own reading (Kucirkova & Littleton, 2016) or when reading with their children (Hare et al., 2024; Kucirkova & Grøver, 2024). However, parental practices may need to adapt as children, often described as “digital natives” (Prensky, 2001), have grown up surrounded by technology and show increasing

interest in digital texts (Kucirkova, 2019). This study builds on these perspectives by examining the role of home environmental factors in shaping children's digital reading and audiobook use.

1.1. Home Literacy Environment

The home literacy environment (HLE) refers to the practices and interactions that support children's language and literacy, such as reading books, teaching letters (Niklas & Schneider, 2013; Rodriguez & Tamis-LeMonda, 2011; Sénéchal & LeFevre, 2014), materials available in the home, such as the number of books (Niklas & Schneider, 2013), and parents' beliefs and attitudes that shape children's opportunities to engage in these activities at home (Rodriguez & Tamis-LeMonda, 2011). Aside from creating opportunities for literacy, these practices and resources play a significant role in children's language and reading development. HLE significantly and positively predicts early vocabulary, phonological awareness, reading, and spelling (Burgess et al., 2011; Niklas & Schneider, 2013). Its influence emerges early, supporting both receptive and expressive vocabulary growth as early as the second and third years of life (Schmitt et al., 2011). Even after controlling for socioeconomic status, HLE continues to predict language comprehension in infancy and toddlerhood (Schmitt et al., 2011).

The impact of HLE does not end in the preschool years but carries forward into formal schooling. Evidence from a three-year longitudinal study by Georgiou et al. (2021) shows that home reading-comprehension activities at Grade 1 predict higher reading accuracy and comprehension by the end of Grade 2. As children's skills improve, however, parents tend to scale back both comprehension activities and direct teaching in Grade 3, indicating a reactive adjustment to children's performance (Georgiou et al., 2021). These findings reaffirm the critical role of HLE in shaping children's reading development, even as the nature of parental involvement shifts over time. Extending into later development, data from the Programme for International Student Assessment (PISA) collected in multiple countries shows a positive association between literacy activities in early childhood and reading online at age 15 (Notten & Becker, 2017).

Building on this evidence of long-term influence, research has also examined the beliefs and motivations that guide parents' involvement in home literacy activities. In general, parents are more likely to initiate home activities if they think their children will enjoy them, they enjoy these activities themselves, and if they believe these activities are important for skill development (Sonnenschein et al., 2022). Parents typically emphasize the importance of the home environment for children's early literacy skills as well as the importance of parental assistance and engagement (Stites et al., 2025). They are also more likely to feel more confident when helping with reading and literacy tasks compared to other subjects (Sonnenschein et al., 2022; Stites et al., 2025). Ultimately, children's reading comprehension is influenced more by parents' involvement and their expectations for their children's literacy development than by simply having literacy materials at home (Dong et al., 2020).

Literacy practices and resources, however, are not limited to only physical artifacts. In today's increasing and rapid advancements in digitalization, parents and children are constantly engaging in activities on their digital devices throughout their everyday routines (Kaban & Karadeniz, 2021). In fact, the availability of digital devices at home has increased tremendously over the last several decades, from 8% of families with children between 3 and 18 years of age in 1984 (Ryan, 2018) to 95% of such families in 2017 (National Center for Education Statistics, 2022). More recently, with COVID-19 and the increase in virtual instruction, the use and availability of digital tools at home have grown even more (Sonnenschein et al., 2021), with parents noting that their children are using digital

devices more each day now than before COVID-19. Taken together, these trends suggest that literacy opportunities are being reshaped not only by increased access to technology but also by shifts in how families incorporate digital tools into everyday learning. In line with this growing presence of digital media, the number of studies investigating digital reading has also been increasing (Çeliktürk Sezgin, 2022; Sonnenschein et al., 2023).

As digital tools become a central part of children's literacy experiences, it is important to consider parents' roles in navigating and supporting these experiences. Reading habits in the home and family literacy resources play a significant role in shaping children's reading performance in both digital and paper formats (Peras et al., 2023). In general, parents prefer print books when reading with their children (Hare et al., 2024; Kucirkova & Grøver, 2024). They believe that shared book reading using traditional print formats is an intimate and embodied activity. Moreover, they are more willing to let the children take the lead when reading with print books, whereas with digital books, they tend to retain greater control (Kucirkova & Grøver, 2024). Building on these preferences, research shows that parents adopt different approaches to selecting books depending on whether the format is print or digital (Kucirkova & Flewitt, 2022). For instance, for print books, they make their own choices, follow school recommendations, or receive books available from their relatives. For digital books, choices are influenced more by their children's interests or by recommendations made by their children's friends or other parents (Kucirkova & Flewitt, 2022).

Parents who report reading books every day typically use print books, with only a small number using digital books (Kucirkova & Littleton, 2016). Previously, when asked about their children's preferences, parents reported that their children read and enjoyed traditional print books more than digital books (Strouse & Ganea, 2017). Yet, more recent studies report that children prefer and tend to engage with digital books more, likely due to their enhanced features (Hare et al., 2024; Kucirkova, 2019). For instance, digital books often include static and animated illustrations which can be combined with or without music and sounds (Sari et al., 2019).

Parents' engagement with technology is closely tied to their attitudes about children's use of digital devices and the benefits of digital literacy opportunities. Parents who identify as frequent technology users tend to display more positive attitudes toward their children's use of digital devices (Brito et al., 2017). In turn, children who frequently use tablets to write are more likely to have higher print awareness, print knowledge, and phonological awareness (Neumann, 2016). When parents provide their children with more frequent digital literacy activities at home, children are more likely to enjoy reading both printed and digital texts (Ozturk & Ohi, 2018). Conversely, when parents hold negative attitudes about the role of technology for young children's learning, their children are less likely to engage in digital literacy activities (Ozturk & Ohi, 2018). These parents might have concerns about interactive e-books, such as screen time, reduced interest in print books, exposure to inappropriate content, and attention span (Kucirkova & Littleton, 2016). Despite these concerns, access to well-designed resources can offer important benefits. For instance, a digital library for shared reading has been shown to significantly improve children's literacy skills by 0.29 standard deviations (Kalil et al., 2025).

Aside from parental factors, socioeconomic status (SES) is another key factor that warrants attention in this field. SES has consistently been shown to predict the quality of home literacy environment (Ergül et al., 2017; Kirby & Hogan, 2008), literacy resources in the home (Niklas & Schneider, 2013), as well as children's literacy skills and achievement (Lecheile et al., 2020; Li et al., 2025; Olsen & Huang, 2022; Peras et al., 2023; Shi et al., 2024). These SES-related differences appear in both digital and print formats, with children from higher SES families showing a clear advantage (Peras et al., 2023). In contrast, children from lower SES families often start school with lower literacy skills and reading attitudes

(Hemmerechts et al., 2017), and they tend to experience widening literacy gaps as they progress through their schooling (Buckingham et al., 2013). They are also more likely to experience a delayed parental involvement in literacy activities, which ultimately affects reading literacy in primary school (Hemmerechts et al., 2017).

This parental involvement, however, might not be uniformly beneficial. For instance, Andersen et al. (2021) found that parents from low SES were more likely to get involved in problem-solving activities in more ways that are considered unconstructive. This included higher performance-oriented teaching (e.g., children are told to get the right answer, regardless of whether they have learnt how to do the task), higher control (e.g., parents pressure their children in an intrusive manner), and higher negative affect (e.g., parents expressed frustration, annoyance, or hostility toward the child; Andersen et al., 2021). Taken together, these findings suggest that home-based parental involvement in literacy and reading activities is also shaped by broader contextual factors like SES (Hemmerechts et al., 2017).

1.2. Theoretical Framework

This study is based on two theoretical frameworks: the bioecological theory of human development (Bronfenbrenner & Morris, 2006) and the academic socialization theory (Taylor et al., 2004). The bioecological theory of human development suggests that child development is influenced by proximal processes within nested environmental systems (Bronfenbrenner & Morris, 2006). At the microsystem level, shared reading activities of children with their parents, device availability and use, and parental encouragement directly shape early literacy experiences (Niklas & Schneider, 2013; Rodriguez & Tamis-LeMonda, 2011; Sénéchal & LeFevre, 2014; Sonnenschein et al., 2022). The mesosystem captures connections between home and school, such as when teachers provide reading recommendations, or reflect support and resources that parents would like to receive from them (Stites et al., 2025). The exosystem includes indirect influences, such as parents' socioeconomic resources, which might affect the availability of digital devices and reading materials at home (Niklas & Schneider, 2013), the home literacy activities parents provide in the home (Ergül et al., 2017; Kirby & Hogan, 2008), which might ultimately affect children's literacy skills and achievement (Lecheile et al., 2020; Li et al., 2025; Olsen & Huang, 2022; Peras et al., 2023). At the broadest level, the macrosystem reflects cultural beliefs and norms about risks of technology use and the potential influence on children, including screen time or perception of children as "digital natives" (Prensky, 2001). Together, these systems situate HLE within a larger ecological context.

Complimenting this, the academic socialization theory highlights that parents are crucial in preparing their children's early academic experiences through their own individual experiences, behaviors, and social and cultural characteristics (Hoover-Dempsey et al., 2005; Taylor et al., 2004). Academic socialization goes beyond direct involvement in schoolwork. It includes how parents convey values, expectations, and attitudes to their children about education (Hoover-Dempsey et al., 2005; Taylor et al., 2004). This includes beliefs about the importance of home learning environments to promote early literacy skills, importance of parental assistance and engagement (Sonnenschein et al., 2022; Stites et al., 2025), their expectations for what their children enjoy and the reading format they prefer (Strouse & Ganea, 2017), as well as the attitudes they have toward reading (Brito et al., 2017). Moreover, parents are more likely to engage with their children when they believe it is their responsibility to help with learning, as well as when they feel confident to do so (Hill, 2022; Sonnenschein et al., 2022).

1.3. Present Study

The present study contributes to existing research on the home literacy environment by situating children's digital reading and audiobook use within family contexts. While decades of research have documented the critical role of parental practices, beliefs, and resources in shaping children's literacy development (Burgess et al., 2011; Niklas & Schneider, 2013; Schmitt et al., 2011), far less is known about how these influences operate in an era where digital resources, reading practices, and audiobook use are increasingly embedded in children's everyday lives. Prior work has typically emphasized traditional HLE indicators, while giving comparatively limited attention to digital specific practices, including parental encouragement to read on digital devices, parents' own digital reading habits, as well as shared digital reading routines. As a result, it remains unclear how these practices relate to one another, and which digital factors best predict children's digital reading and audiobook use. To address these gaps, the present study examined how multiple components of the home literacy environment shape children's literacy engagement across both digital and traditional formats. It moves beyond traditional measures of home literacy to capture the ways in which families are navigating print and digital resources. Specifically, the present study addressed the following research questions:

1. How are parents' beliefs, confidence, and attitudes related to home literacy activities and digital-specific home literacy practices?
2. How are home literacy resources and parental literacy practices related to children's digital reading and audiobook use?
3. Which digital factors in the home literacy environment (digital resources, parental digital encouragement, modeling, shared digital reading) best predict children's digital reading and audiobook use?

2. Method

2.1. Participants

This study was reviewed and approved by the Institutional Review Board at the researchers' academic institution as exempt research (Protocol Number #1023). Participants were 357 parents of children aged 4–9 years old living in the U.S. The majority of participants were mothers (99%), with an average age of 39.73 years ($SD = 4.21$). Children's mean age was 7.03 years ($SD = 1.40$), and 43% of them were female. Fifty-three percent of parents reported having two children (53%), while 21% reported having only the focal child. At the time of data collection, about 88% of participating parents were employed. With respect to education, most parents held advanced degrees: 26% had a doctoral degree, 41% a master's degree, and 22% a bachelor's degree. See Table 1 for all demographics.

Table 1. Demographic Information.

	% or Mean (SD)
Child's gender (% girls)	43%
Child's age (years)	7.03 (1.40)
Birth order of participating child	
Oldest	64%
Middle	8%
Youngest	29%
Respondent (%Mothers)	99%
Parental age (years)	39.73 (4.21)
Level of Education	
High school or less	1%
Some college	10%

Table 1. *Cont.*

	% or Mean (SD)
Bachelor's degree	22%
Master's degree	41%
Doctoral degree	26%
Employed (%Yes)	88%
Household income in 2021	
Under \$25,000	1%
\$25,000–\$49,999	1%
\$50,000–\$74,999	6%
\$75,000–\$99,999	8%
\$100,000–\$124,000	20%
\$125,000 or more	64%
Living location	
Large City	14%
Small City	17%
Suburb	60%
Rural	9%

2.2. Measures

The study used an online Qualtrics questionnaire that asked parents about their home learning environment and the activities that their children engaged in independently, with parents, or with other family members. After providing consent, parents completed an adapted version of the Language Learning and Math Achievement (LLAMA) project (LeFevre et al., 2010). In the current survey, titles of books and videos were adapted for cultural appropriateness to be common for US rather than Canadian children. Questions about literacy importance and parental confidence were also added to the original survey. For the purposes of this study, we focused only on items assessing the home literacy environment. We assessed home literacy environment components: parents' beliefs, confidence, attitudes toward literacy, resources at home, home literacy practices/activities, and digital reading practices. Data were analyzed using SPSS (Version 29). Preliminary descriptive analyses and bivariate correlations used pairwise deletion to maximize available data. For all linear regression models, listwise deletion was applied. The analytic sample size varied slightly across models and is reported accordingly.

Parents' beliefs were assessed by asking parents about "How important is academic achievement in reading," "Rate the importance of assisting your child with reading." Items were rated on a five-point Likert-type scale, where 1 = unimportant and 5 = extremely important. Parents' confidence was assessed by asking parents "How confident do you feel assisting your child with reading." Similarly, items were rated on a 5-point Likert-type scale, where 1 = extremely not confident, and 5 = extremely confident. Positive attitudes toward literacy were measured by items "I was good at reading and writing in school," "My job involves reports and writing," "I find reading enjoyable," and "I avoid situations involving writing." These items were also rated on a 5-point Likert-type scale, where 1 = strongly disagree and 5 = strongly agree. The last item was reverse-coded. A composite mean score was created with these four items, and internal consistency between the items was acceptable (Cronbach's alpha = 0.703), which is common for variables with fewer items.

The home literacy activities variable was assessed by asking parents how often they do the following activities together with their children: "We visit the library for children's books," "I help my child read English books," "I teach my child to recognize printed words," "I encourage my child to write stories," and "I encourage my child to explain a story in their own words." These items were rated on a 5-point Likert-type scale, where 1 = rarely or never, and 5 = almost daily. Cronbach's alpha was $\alpha = 0.68$. Although this

is below the conventional threshold for internal consistency, this coefficient likely reflects the heterogeneity across items. Some activities, such as helping children read English books and teaching them to recognize printed words, were rated as highly important by nearly all parents, resulting in low variability. In contrast, items such as visiting the library or encouraging story writing showed lower means and greater variability. This combination of uniformly high ratings on some items and wider spread on others likely reduced inter-item correlations, contributing to the modest alpha. This modest reliability should be considered when interpreting results, particularly with respect to the precision of associations involving this composite.

Parents were also asked to estimate the number of children's books available in the home. This item was rated on a 6-point Likert-type scale, where 1 = 0–25 books, 2 = 26–50, 3 = 51–75, 4 = 76–100, 5 = 101–199, and 6 = 200 or more. We also addressed the availability of digital devices in the home, whether parents encouraged their children to use them, and whether they encouraged their children to use them specifically for reading. Skip logic was applied so that parents who did not report having a digital device at home were directed to the next set of questions. Responses for these questions were coded as No/Yes (0/1).

In addition, digital device use was assessed by asking parents: "How often do you read using a kindle, iPad or other electronic device?", "How often does your child read using a kindle, iPad or other electronic device?", "How often do you and your child read together using a kindle, iPad or other electronic device?", and "How often does your child listen to audiobooks using a kindle, iPad or other electronic device?". These items were rated on a 9-point Likert-type scale, where 1 = never, and 9 = more than 7 times a week.

As shown in Table 1, descriptive statistics indicate that the SES indicators, such as household income, employment status, and parental education, had a sharply skewed distribution. For instance, household income was highly concentrated in the highest categories, with a mean score of 7.43 out of 8, a negative skewness (−2.64), and very high kurtosis (9.60). Similarly, nearly all respondents were reportedly employed (88%), producing a strong positive skewedness (2.29) and elevated kurtosis (3.28). Lastly, parental education was above average, with a mean of 3.80 out of 5, a negative skewness (−0.59), and negative kurtosis (−0.21). Next, a composite SES variable was created using these three indicators: annual household income, employment status, and parental education level. Because these indicators were measured on different scales, they were standardized (z-scored) prior to the computation. Higher levels of this SES composite score reflect higher socioeconomic status, and it was included as a covariate in our analysis.

2.3. Procedure

Data collection occurred in Fall 2022. The survey link was distributed through listservs and shared on various social media platforms to invite parents of young children to participate. There were no incentives provided for completing the survey, which may have resulted in the current sample size consisting of highly educated and employed mothers from high-income households. The first page of the survey included the consent form, which informed participants about the aims of the study and clarified that continuing with the questionnaire indicated consent. Participation was voluntary, and completing the questionnaire took approximately 25–30 min.

3. Results

3.1. Home Literacy Environment: Descriptive Findings

Most parents reported that their children's academic achievement in reading ($M = 4.65$, $SD = 0.68$), and their own role in helping them with reading ($M = 4.24$, $SD = 0.89$) was very important. On average, parents were reportedly confident in supporting their chil-

dren's reading ($M = 4.43$, $SD = 0.85$) and expressed neutral to positive attitudes toward literacy ($M = 3.39$, $SD = 0.44$). When asked about the home literacy activities, parents reported engaging in these activities slightly more than once per week on average ($M = 3.38$, $SD = 0.80$).

On average, parents reported having about 150 children's books in the home. About 36% of parents reported having 200 or more children's books at home, 27% reported between 101–199, and 19% between 76–100. Smaller proportions reported fewer than 75 books. Nearly all of the participants (98%) reported having a digital device (tablet, computer, or similar) in the home. Approximately 60% encouraged their children to use digital devices in general, and 50% specifically encouraged their children read on a device. In a typical week, parents reported reading on a digital device themselves about 4.34 times on average ($SD = 3.29$) and reading together with their children about twice on average ($M = 1.95$, $SD = 1.76$). Children reportedly read about 2.74 times independently ($SD = 2.17$) and listened to audiobooks about 2.15 times ($SD = 2.01$).

Follow-up analyses revealed no significant age-group differences (ages 4–5 vs. 6–9) across any variables ($p > 0.05$), thus age was not considered as a covariate in subsequent analyses. Similarly, no significant gender differences were found ($p > 0.05$), suggesting that parents of boys and girls showed comparable responses on all measures.

3.2. Home Literacy Environment: Relations Between Variables

Multiple Pearson's correlation analyses were run to test the relations between study variables. The results are presented in Table 2.

Table 2. Correlations between Study Variables.

	% or Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12
1. Digital device availability in the home (% yes)	98%												
2. Encouragement to use digital devices (% yes)	60%	0.13 *											
3. Encouragement to use digital devices for reading (% yes)	50%	0.13 *	0.51 **										
4. Parents' own digital reading	4.34 (3.29)	0.01	0.02	0.03									
5. Children's digital reading	2.74 (2.17)	0.11 †	0.24 **	0.43 **	0.30 **								
6. Parent-child shared digital reading	1.95 (1.76)	0.07	0.15 *	0.26 **	0.30 **	0.56 **							
7. Child audio book use	2.15 (2.01)	0.02	0.03	0.13 *	0.23 **	0.35 **	0.39 **						
8. Literacy activities	3.38 (0.80)	0.07	0.09	0.17 **	0.06	0.17 **	0.28 **	0.09					
9. Confidence to help with reading	4.43 (0.85)	0.07	0.01	0.00	0.07	0.06	0.05	0.00	0.23				
10. Importance of academic achievement in reading	4.65 (0.68)	0.04	0.08	0.02	−0.01	0.04	0.03	−0.11	0.03	0.24 **			
11. Attitudes toward literacy	3.84 (0.44)	0.09	0.02	−0.06	0.19 **	0.07	0.03	0.03	0.06	0.13 *	0.10		
12. Importance of helping children with reading	4.24 (0.89)	0.13 *	0.12	0.20 **	−0.05	0.08	0.11	−0.03	0.31 **	0.35 **	0.32 **	0.00	
13. Children's books available in the home	4.71 (1.28)	0.10	−0.12 †	−0.03	0.11 †	0.12 †	0.02	0.14 *	0.08	0.09	0.04	0.10	0.04

Note. ** $p < 0.01$, * $p < 0.05$, † $p = 0.054$ – 0.070 .

3.2.1. Beliefs, Confidence, and Attitudes

Parents' beliefs about the importance of helping their children with reading were significantly related to home literacy activities, $r(290) = 0.31$, $p < 0.001$, confidence in helping their children with reading, $r(322) = 0.35$, $p < 0.001$, and the importance of academic achievement in reading, $r(319) = 0.32$, $p < 0.001$. Moreover, beliefs were also significantly

related to having a digital device in the home ($r(268) = 0.13, p = 0.038$) and with the amount parents encouraged their children to read on a digital device ($r(256) = 0.20, p = 0.001$).

Parents' confidence in assisting their children with reading was significantly related to home literacy activities, $r(290) = 0.23, p < 0.001$, the importance of academic achievement in reading, $r(319) = 0.24, p < 0.001$, and to their attitudes toward literacy, $r(281) = 0.13, p = 0.024$. Parents' attitudes toward literacy were related to parents' own digital reading ($r(272) = 0.19, p = 0.002$). Interestingly, parents' confidence in assisting with reading was not significantly related to any of the digital reading variables, including parents' own reading, shared reading with their children, children's independent reading, or children's audiobook use ($p > 0.231$). Similarly, parents' attitudes toward literacy were not related to other literacy variables ($p > 0.05$).

3.2.2. Home Literacy Activities and Resources

Parents who engaged in home literacy activities were more likely to encourage their children to read on the computer or tablet, $r(260) = 0.17, p = 0.005$. However, this engagement was not significantly related to encouragement of general use of digital devices ($p = 0.158$). Engagement in home literacy activities was also positively related to reading together with their children on a device, $r(270) = 0.27, p < 0.001$, and to their children's independent reading on a device, $r(268) = 0.17, p = 0.004$. In contrast, home literacy engagement was not significantly related to children's audiobook use or parents' own reading ($p > 0.131$).

The number of children's books in the home was only related to the frequency of children's audiobook use, $r(271) = 0.14, p = 0.018$, but not to reading together, children reading on a device, parents' reading on a device, parents' views of the importance of reading, parents' confidence to help with reading, or engagement in literacy activities ($p > 0.05$).

3.2.3. Digital Device Use and Encouragement

Overall, digital device access in the home had only small yet significant correlations ($r_s = 0.13$) with parents' encouragement of their children to use digital devices in general and for reading, as well as parents' beliefs about the importance of helping their children with reading. Pearson's correlation analyses revealed that parents who encouraged their children to use digital devices were significantly more likely to encourage them to use these devices specifically for reading too, $r(259) = 0.51, p < 0.001$, and their children were reportedly more likely to read on a device by themselves $r(266) = 0.24, p < 0.001$, or with their parent, $r(268) = 0.15, p = 0.013$. Moreover, encouraging children to use digital devices specifically for reading was significantly related to both children's digital independence, $r(256) = 0.43, p < 0.001$, and shared reading, $r(258) = 0.26, p < 0.001$, as well as children's audiobook use, $r(259) = 0.13, p = 0.041$.

Parents' own reading on a device was significantly related to children's independent and shared reading on a device ($r_s = 0.30$), and children's audio book listening ($r = 0.35$). Shared reading on a digital device was significantly related to children's independent reading, $r(266) = 0.56, p < 0.001$, and audiobook use, $r(269) = 0.39, p < 0.001$. Finally, children's independent digital reading was related to audiobook use, $r(268) = 0.35, p < 0.001$.

3.3. Predicting Children's Independent Digital Reading and Audiobook Use

Two multiple linear regression analyses with a hierarchical entry were run. In step one, we examined whether digital device availability, parental encouragement for general use of digital devices, parental encouragement for reading-specific use of digital devices, parents' own digital reading practices, and parent-child shared digital reading practices jointly predicted children's digital reading and audiobook use. In step two, SES was added

to the model to test whether it accounts for variance beyond the variables included in the initial model (See Table 3 for the full regression analysis output).

Table 3. Summary of the regression models with hierarchical entry predicting children’s independent reading and audiobook use.

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>CI</i>		<i>VIF</i>
						LB	GB	
<i>Predicting children’s digital reading</i>								
Step 1								
Constant	−0.24	0.99		−0.24	0.707	−2.20	1.71	
Digital device availability	0.88	0.99	0.04	0.88	0.379	−1.08	2.83	1.03
Encouragement for general digital use	−0.05	0.26	−0.01	−0.21	0.837	−0.56	0.45	1.37
Encouragement for digital reading	1.39	0.25	0.32	5.51	<0.001	0.89	1.89	1.43
Parents’ own digital reading	0.11	0.03	0.17	3.36	<0.001	0.05	0.18	1.11
Parent–child shared digital reading	0.52	0.06	0.42	8.10	<0.001	0.39	0.65	1.18
Step 2								
Constant	−0.21	0.99		−0.21	0.831	−2.16	1.74	
Digital device availability	0.84	0.99	0.04	0.85	0.395	−1.11	2.80	1.03
Encouragement for general digital use	−0.02	0.26	−0.00	−0.08	0.945	−0.53	0.49	1.38
Encouragement for digital reading	1.35	0.25	0.31	5.35	<0.001	0.86	1.85	1.44
Parents’ own digital reading	0.12	0.03	0.18	3.47	<0.001	0.51	0.18	1.11
Parent–child shared digital reading	0.51	0.06	0.42	7.97	<0.001	0.39	0.64	1.18
SES	−0.29	0.19	−0.07	−1.53	0.127	−0.66	0.08	1.02
<i>Predicting children’s audiobook use</i>								
Step 1								
Constant	1.59	1.10		1.06	0.292	−1.00	3.32	
Digital device availability	−0.12	1.10	−0.01	−0.11	0.910	−2.28	2.00	1.03
Encouragement for general digital use	−0.18	0.28	−0.04	0.91	0.363	−0.29	0.80	1.36
Encouragement for digital reading	0.25	0.28	0.06	0.91	0.363	−0.29	0.80	1.42
Parents’ own digital reading	0.07	0.04	0.11	1.89	0.061	−0.00	0.14	1.11
Parent–child shared digital reading	0.40	0.07	0.35	5.64	<0.001	0.26	0.53	1.18
Step 2								
Constant	1.15	1.10		1.05	0.296	−1.01	3.31	
Digital device availability	−0.12	1.10	−0.01	−0.11	0.916	−2.28	2.05	1.03
Encouragement for general digital use	−0.19	0.28	−0.05	−0.67	0.505	−0.75	0.37	1.37
Encouragement for digital reading	0.26	0.28	0.07	0.95	0.345	−0.29	0.81	1.44
Parents’ own digital reading	0.07	0.04	0.11	1.85	0.066	0.00	0.14	1.12
Parent–child shared digital reading	0.40	0.07	0.35	5.64	<0.001	0.26	0.54	1.19
SES	0.08	0.21	0.02	0.37	0.715	−0.33	0.48	1.03

Note. SES = Socioeconomic Status; *B* = unstandardized coefficient; β = standardized coefficient; LB = Lower Bound; GB = Greater Bound.

In Step 1, children’s independent digital reading was regressed on digital device availability, parental encouragement to use digital devices in general, parental encouragement to use digital devices for reading, parents’ own digital reading practices, and shared reading practices. The overall model explained 42.4% of the total variance in children’s digital reading, $F(5, 249) = 36.65$, $p < 0.001$, $f^2 = 0.74$, indicating a large effect size. Parents’ own digital reading ($b = 0.11$, $p < 0.001$), shared digital reading ($b = 0.52$, $p < 0.001$), and encouragement to read on devices ($b = 1.39$, $p < 0.001$) were all significant predictors. However, device availability and general encouragement to use devices were not significant predictors of children’s independent digital reading ($p > 0.377$). When SES was added to the regression model in Step 2, the increased explained variance was only 0.5% and this change was not

statistically significant, $\Delta R^2 = 0.005$, $p = 0.127$ (See Table 3). This indicates that SES was not a significant predictor of children's digital reading.

In the second regression model, similarly, children's audiobook use was first regressed on digital device availability, parental encouragement to use digital devices in general, parental encouragement to use digital devices for reading, parents' own digital reading practices, and shared reading practices. The overall model explained 17.2% of the total variance in children's audiobook use, $F(5, 252) = 10.49$, $p < 0.001$, $f^2 = 0.21$, indicating a medium effect size. Shared digital reading was the only significant predictor of children's audiobook use ($b = 0.40$, $p < 0.001$). Parent digital reading was a marginally significant predictor ($b = 0.07$, $p = 0.061$). Device availability, general encouragement, and encouragement to read on devices were not significant predictors ($p > 0.360$) of children's audiobook use. When SES was added to this model in Step 2, the explained variance remained relatively the same, $\Delta R^2 = 0.00$, $p = 0.715$. Thus, SES was not a significant predictor of children's audiobook use.

4. Discussion

The present study extends the home literacy environment literature by examining how parents' beliefs, confidence, attitudes, and literacy practices relate to children's engagement in digital reading and audiobook use. Consistent with prior research on the central role of HLE in shaping children's literacy development (Burgess et al., 2011; Niklas & Schneider, 2013; Schmitt et al., 2011), the current results suggest that while foundational HLE processes remain central, their expression in the digital age depends on parental modeling and encouragement related to technology.

Parents who viewed helping their children with reading as important reported higher engagement in more traditional literacy activities and were more likely to have digital devices in the home and to encourage their children to engage in digital reading. This finding aligns with the academic socialization theory, which posits that parents' values and expectations about learning shape children's academic experiences (Taylor et al., 2004; Hoover-Dempsey et al., 2005). Prior work shows that parents who perceive literacy as valuable are more likely to engage in literacy at home (Sonnenschein et al., 2022). The current findings extend this literature by showing that these associations now extend to engagement in digital activities, which is consistent with research suggesting that parental attitudes guide children's digital literacy use (Brito et al., 2017; Ozturk & Ohi, 2018).

While parents' confidence in assisting with reading was modestly related to home literacy activities, it was not related to children's digital behaviors. This pattern may reflect parents' varying familiarity with digital tools. Even confident readers may lack digital self-efficacy when guiding children's technology-based literacy (Kucirkova & Littleton, 2016). Prior qualitative work has similarly shown that parents comfortable with print may perceive e-books as less "authentic" literacy experiences (Hare et al., 2024; Kucirkova & Grøver, 2024), which could explain the insignificant associations between confidence and children's digital reading.

Parents who engaged more frequently in home literacy activities also reported greater displays of encouragement for their children to read digitally and more frequent shared engagement in digital reading. This supports research showing that rich home literacy environments foster engagement across modalities (Neumann, 2016; Ozturk & Ohi, 2018). However, the number of children's books in the home was only related to audiobook use. This finding underscores that traditional resources and digital media may function complementarily (Ozturk & Ohi, 2018) rather than competitively.

Encouragement to use digital devices specifically for reading, rather than general device use, was a particularly strong predictor of children's independent digital reading.

Similarly, parents' own digital reading practices and parent–child shared digital reading were strong predictors of children's independent digital reading, jointly accounting for over 40% of the variance. These results parallel prior evidence that parental modeling is a key mechanism for literacy socialization (Liu et al., 2024). Modeling might expose children to literacy behaviors and signal their value, while shared reading might provide opportunities for scaffolding, such as prompting, questioning, and elaboration. These could ultimately enhance engagement, comprehension and motivation. From the bioecological perspective (Bronfenbrenner & Morris, 2006), such shared literacy activities represent proximal processes that drive development through sustained, reciprocal interaction between parent and child. In contrast, device availability and general encouragement to use technology did not significantly predict digital reading outcomes, echoing evidence that access alone is insufficient without meaningful engagement (Dong et al., 2020; Segers & Kleemans, 2020).

Children's audiobook use was predicted primarily by shared digital reading, and, to a lesser extent, parents' own digital reading practices. This suggests that audiobooks may extend shared reading experiences by providing another route for language exposure and story engagement, which is an increasingly relevant mode of literacy in the digital landscape (Best, 2020). However, given that this model explained less variance than children's independent digital reading, additional influences such as school assignments, parents' own audiobook use, peer culture, and availability of audiobooks through streaming services may also be impacting children's audiobook use.

Although SES is typically a strong predictor of children's HLE, it did not emerge as a significant contributor to children's independent digital reading or audiobook use in our analyses. This pattern should be interpreted in consideration of the sample's highly restricted SES range. As noted earlier, most participants reported very high household incomes, high levels of parental education, and almost all were employed. Within the bioecological model, SES functions as a part of the exosystem. This is an indirect contextual influence that shapes children's development through parents' access to economic, educational, and material resources. These factors can determine the availability of digital devices and reading materials at home (Niklas & Schneider, 2013), the literacy activities that parents provide (Ergül et al., 2017; Kirby & Hogan, 2008), and ultimately children's literacy skills and achievement (Lecheile et al., 2020; Li et al., 2025; Olsen & Huang, 2022; Peras et al., 2023). However, when most participants possess similarly high levels of exosystem resources, SES might no longer differentiate families' digital literacy practices. Thus, the present findings should be interpreted as reflecting patterns within high-resource households. These patterns may not generalize to lower-SES or socioeconomically diverse populations. Future research drawing on samples with greater SES variability is needed to clarify how SES shapes children's digital reading practices in broader ecological contexts and populations.

4.1. Implications

These results highlight the importance of incorporating and prioritizing parental modeling and guided co-reading within the initiatives aiming to foster early digital literacy. Programs might teach parents how to integrate digital texts into shared reading routines, engage in reflective discussion during screen-based reading, and select developmentally appropriate digital materials (Kucirkova & Grøver, 2024; Peras et al., 2023). Educators may also find it helpful to recommend evidence-based e-book platforms to parents that support joint engagement rather than solitary use. In addition to access-focused programs, interventions should explicitly target parents' digital skills and confidence, as parents' comfort with technology shapes how effectively they can scaffold digital reading experiences. Parent workshops or coaching models could incorporate hands-on demonstrations of e-books, fea-

tures that promote dialogic reading, and strategies for adapting shared-reading techniques to digital formats.

Importantly, interventions should recognize variability in parental comfort and attitudes toward technology and include strategies to increase parents' digital confidence, especially among those from less technologically experienced backgrounds (Brito et al., 2017; Ozturk & Ohi, 2018). Developers and publishers also play an important role. They are recommended to design e-book materials that are shared-reading friendly, such as by minimizing distracting features, enhancing opportunities for conversation prompts, and including built-in scaffolds for adults to support families' engagement.

Finally, educators can help bridge home and school continuity by recommending digital books appropriate for children's development and modeling how to use interactive features in a productive way. Embedding digital literacy guidance in school communication, family workshops, or library partnerships could help ensure that digital reading is used to maximize learning rather than simply increasing screen exposure.

4.2. Limitations and Future Directions

Several limitations warrant consideration. Although SES was included as a covariate in the regression models, the sample was highly educated and primarily composed of mothers, which limits generalizability to more socioeconomically and culturally diverse families. Future work should include a more diverse sample to explore whether similar patterns hold in lower-SES contexts, where disparities in digital access persist (Rideout & Katz, 2016). Additionally, this study relied on parent self-reports. Though parent reports are a common and practical approach in home-literacy research, these measures may not capture all nuances of children's digital engagement and therefore should be interpreted with some caution. Observational or mixed-method designs could better capture parent-child interactions and contextual nuances of digital literacy use. This study's cross-sectional design captures a single time point, and it prevents us from drawing conclusions about causality or developmental change over time. For instance, parents' practices might influence children's digital reading and audiobook use, but children's digital interests or behaviors may also shape how their parents engage with them. Therefore, future studies are recommended to employ longitudinal designs to trace how early digital reading experiences change over time, the parental role in supporting these experiences, and how they predict later reading motivation and comprehension.

5. Conclusions

In summary, this study contributes to growing evidence that the home literacy environment continues to shape children's literacy trajectories, even in the digital era. Parental modeling, encouragement, and shared engagement emerged as the strongest predictors of children's digital reading, while access alone was insufficient. These findings reaffirm that the social dimensions of literacy remain foundational, even as literacy tools evolve. Promoting digital literacy therefore requires supporting not only children's access to technology but also parents' capacity to integrate digital media into rich, interactive reading experiences that sustain the essence of learning together.

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Abbreviation

The following abbreviation is used in this manuscript:

HLE Home Literacy Environment

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