

# Learning at home: What preschool children's parents do and what they want to learn from their children's teachers

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## Abstract

This study investigated the beliefs parents of preschoolers ( $N=126$ ) have for facilitating their children's reading and mathematics development. The study used an online survey distributed via social media to examine parents' views of their children's home-based reading and mathematics engagement, parents' confidence to support their children's reading and mathematics development, and the information they received and would like to receive from their children's teachers. The results demonstrated three patterns: (1) parents prioritized children's reading over their mathematics development, (2) the difference in children's reported engagement in such activities may come from parents lacking confidence in how to foster their children's mathematics skills, and (3) almost two-thirds of the parents wanted to receive more information from their children's teachers, typically about children's progress and activities and apps to do with their children at home. Preschool teachers play an important role in supporting home learning of reading and mathematics. Preschool teachers and parents need to collaborate on home-based activities that support such learning. We have demonstrated that even highly educated parents may lack the confidence to support their young children's academic growth, particularly in mathematics, and so the support teachers provide to parents is critical.

## Keywords

early childhood education and care, literacy development, mathematics, parental viewpoints, parent involvement, home learning

The preschool years are a critical time for children to develop a foundation of early reading and mathematics skills (Serpell et al., 2005; Sonnenschein et al., 2016; Watts et al., 2014) because the reading and mathematics skills that children display in kindergarten predict their academic skills

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as they go through school. For example, based on evidence from six large-scale data sets in the U.S. and Canada, Duncan and his colleagues (Duncan et al., 2007) found the early academic skills, particularly mathematic ones, that children have at the start of kindergarten were strong predictors of children's performance during later elementary school (see also Nguyen et al., 2016). Serpell et al. (2005) found a similar relation for reading skills. How children acquire such skills depends upon what occurs at home and school, and communication between the two settings (Bronfenbrenner, 1979; Epstein, 2001; Mapp, 2003).

There is a large body of research showing that the academically related activities children do at home during their preschool years are associated with their early educational development (e.g. McCormick et al., 2020; Sonnenschein and Sawyer, 2018). For example, the frequency of reading different types of books is positively associated with the development of children's reading skills (Sénéchal and LeFevre, 2002; Serpell et al., 2005). A similar relation holds for mathematics activities and skill development (Susperreguy et al., 2021; see Blevins-Knabe, 2016, for a review), although the relation is less clear cut for mathematics than literacy and varies, to a degree, across demographic groups (Elliott and Bachman, 2018). Other research shows that parents' beliefs about their role in their children's learning and how to foster academic skills is positively and significantly related to the frequency of children's engagement in relevant reading and mathematics activities (e.g. Sonnenschein et al., 2016). However, more inquiry into parent beliefs is needed. One important but understudied area is what information parents want to receive from their children's teachers to assist learning at home.

This study documents the beliefs parents of preschoolers have about their role in their children's reading and mathematics development, how confident they feel about assisting their children with reading and math at home, what kinds of information (e.g. activity ideas, support, progress notes, etc.) they receive from their children's teachers, and what additional information they would like their children's teachers to provide to better inform home learning. This introduction begins with a description of the theoretical framework underlying our research, then provides a brief summary of relevant research on the topic, and finally presents our research questions.

### *Theoretical framework*

This research reflects academic socialization theory (e.g. Puccioni, 2015) and Bronfenbrenner's (1979) ecological model. Parents' academic socialization includes parents' attitudes, values, goals, expectations, and beliefs about education as well as the opportunities and activities they make available to their children (Puccioni, 2015; Taylor et al., 2004). For example, Swain and Cara (2019) discussed the role that family resources, parental literacy beliefs and activities and attitudes, parental beliefs and understanding, and family literacy activities and practices play as part of the home literacy environment or parents' academic socialization. Hoover Dempsey et al. (2005) discussed that parents must believe they have the relevant skills with which to assist their children, and the time to do so, to be involved in their children's education. Relatedly, Pomerantz and Moorman (2010) reviewed how parents socialize their children's skill development and motivation to succeed at a task. This implies that parents must believe they have the relevant skills with which to assist their children. However, we know very little about how confident parents feel about their ability to socialize their young children's early academic skills (cf. Cannon and Ginsburg, 2008; Missall et al., 2015).

Parents' socialization is associated with children's academic development (Fredricks and Eccles, 2002; Puccioni, 2015; Sonnenschein and Galindo, 2015). For example, children's exposure to various literacy-related activities is associated with their literacy skills (Serpell et al., 2005). How parents socialize their children's academic development is grounded in cultural models shared by members of a cultural group (Keels, 2009; Suizzo et al., 2014) but also may reflect family

income, parents' educational level and their knowledge of children's development (Sonnenschein, 2002; Sonnenschein and Sun, 2016).

The ecological model notes that children's development occurs in several overlapping contexts (e.g. microsystems) and stresses that these contexts need to work well together (mesosystems) to optimize children's development (Bronfenbrenner, 1979). For example, Epstein (2001) talked about overlapping spheres of influence in which parents and educators together exert an influence on children's learning. Relatedly, Hoover Dempsey et al. (2005) talked about the importance of home and school factors in predicting parents' involvement in their children's education. Thus, in addition to parents viewing it as their role to assist their children and having the relevant skills to do so, parents must be made to feel welcome by their children's schools. And, they need to know what teachers expect them to do with their children and feel able to do so. However, we know relatively little about what information parents want to or actually do receive from their children's teachers.

In short, the theoretical framework underlying this study combines several important perspectives. We consider parents' beliefs about how to facilitate their preschool children's reading- and mathematics-related activities at home but we also consider what relevant information parents want and do receive from their children's teachers. This broader perspective, particularly what parents want to learn from their children's teachers, is missing in much of the current research on children's academic socialization.

### *Parents' socialization of children's early reading and mathematics skills*

**Reading.** Research on parents' socialization of children's early literacy development has included documentation of parents' beliefs, children's relevant activities, and related development. Participation in reading-related activities at home is positively related to the development of early reading skills (e.g. Braken and Fischel, 2008; Burgess et al., 2002; Gottfried et al., 2015; Hood et al., 2008; Sénéchal and LeFevre, 2002; Serpell et al., 2005; Stephenson et al., 2008). Most studies that have documented the frequency of children's engagement in activities have considered the number of times a child does an activity but not for how long. The number of minutes a child engages in an activity gives a more nuanced measure than just focusing on the number of times.

Research on early reading has also considered parents' beliefs about their role in socializing their children's educational skills. Serpell et al. (2005) showed the importance of an approach that engaged children's interest and tried to make it fun for the child. Such an approach was positively and significantly related to children's engagement in activities and reading development. Sonnenschein and colleagues (Sonnenschein et al., 2016, 2018) found that most parents in their sample of low-income families ( $N=70$ ) strongly believed that children should engage in reading activities at home and they should assist their children with these activities. However, children engaged in reading activities only once to several times a week, less than others find optimal (see also Raikes et al., 2006; Serpell et al., 2005). These data beg the question of what other factors might play a role in whether parents and children engage in reading-related activities? Two such factors are whether (1) parents have confidence in their knowledge of what to do; and (2) they receive relevant information from the children's teachers about what to do. These factors have not been well-addressed in the literature.

**Mathematics.** As with research on literacy development, research on parents' socialization of young children's mathematics skills has taken two general approaches, sometimes in the same study. One is to document children's activities and parents' beliefs. The other is to investigate relations between home activities, parents' beliefs, and children's outcomes. Research shows that, as with reading, parents support the importance of children engaging in mathematics activities at home and the need to assist them with such activities (Sonnenschein et al., 2016). Although it

appears self-evident that engaging in mathematics activities at home should be related to children's skills, the research evidence is equivocal (Missall et al., 2015; see Blevins-Knabe, 2016 for a review). This lack of consistent relation may reflect inconsistencies between the types of mathematics activities children engage in and the specific mathematics skills assessed (Blevins-Knabe, 2016). As with research on reading, research on mathematics also considered the number of times and not the amount of time children engaged in activities. Research also did not generally consider how confident parents were to assist their children, what information they received from their children's teachers, or what they wanted to receive.

We are aware of only two studies that considered the confidence that parents of preschoolers had to assist their children with mathematics. Cannon and Ginsburg (2008) asked 37 middle-income parents of preschoolers how confident they felt to assist their children with mathematics. Most of the parents reported not feeling very confident. Missall et al. (2015) asked a similar set of questions to 70 parents of preschoolers. Their sample was more diverse. Most reported feeling moderately comfortable. It is not clear what accounts for the difference in responses, but more research on the topic is warranted.

*Comparison between reading and mathematics socialization.* The fairly limited research comparing parents' socialization of children's reading and mathematics skill shows that parents view reading as more important than mathematics (Blevins-Knabe and Musun-Miller, 1996), see it as more important for their children to engage in reading than mathematics at home, and to assist their children with reading more than with mathematics (Blevins-Knabe and Musun-Miller, 1996; Sonnenschein et al., 2016). However, conclusions that can be drawn from these two studies are limited: the samples were relatively small, limited to low-income families and/or data were collected over 10 years ago. Given the recent emphasis on the importance of STEM, parents' socialization beliefs and practices may have changed.

### *Parent and teacher partnerships*

As noted in a previous section, several theories stress the importance of communication between parents and teachers (Epstein, 2001; Hoover Dempsey et al., 2005). Forming partnerships between parents and teachers has led to improved educational opportunities for children, particularly minority children (Montoya-Avila et al., 2018). Unfortunately, there often is a lack of communication or only limited communication between parents and teachers. Research by Serpell et al. (2005) illustrates the unrecognized divergent viewpoints that parents and teachers may have. Serpell et al. asked parents and teachers of third grade children whether they agreed with each other about how children were doing in school, and then asked them to note the children's relative strengths and weaknesses. They found that teachers and parents shared few common views on how children were faring with their schoolwork. That is, although parents and teachers reported that they shared similar views, in actuality, what parents viewed as weaknesses of their children, the teachers often viewed as strengths and vice versa.

Although there have been some studies focusing on improving communication between parents and teachers (e.g. Hughes and Greenhough, 2006; Wanat, 2010), we still know very little about what information or activities parents would like to receive from their children's teachers and what they do receive, particularly for parents of young children. Nevertheless, such information is important. For example, Sonnenschein et al. (2018) reported that low-income Latinx parents discussed the importance of information they received from their young children's (preschool through grade 1) teachers for guiding what they did at home to assist with their children's mathematics development.

## *The present study*

Despite the large and growing body of research on parent influences on children's early academic development, there are still some important gaps in our knowledge (Baker and DeWynngaert, 2018). This study addresses those gaps by providing information on three issues. One, what are parents' views of the importance of the home for fostering children's reading and mathematics skills? We ask about children's involvement in reading and mathematics activities and parents' assistance with the activities and compare the two academic domains. This study extends prior research on this topic by providing a more current sample than has been used in the past. Given an increased societal emphasis on the development of mathematics skills in the past 10 years, parents' attitudes and practices may have changed.

Most studies that assess the frequency of children's engagement in activities do not consider how much actual time children spend in activities. However, that seems like an important metric to document. This study asked about frequency and actual time spent engaging in reading and mathematics activities.

Two, how confident do parents of preschoolers feel to assist their children with reading and mathematics activities? As reviewed previously, there is fairly limited information on this topic. But, for parents to engage in the activities with their children, they need to feel confident that they have the skills to do so.

Three, what information about reading and mathematics activities do parents report receiving from the children's teachers and what information do they want to receive? As noted in the prior review, although there is much theoretical support for the importance of such communication between parents and teachers, there is relatively little, if any, empirical documentation on the topic.

Increasing our knowledge of preschool children's academically relevant home experiences, and areas parents want additional information or lack confidence to proceed on their own, provides an important basis for teachers to build upon and establish effective connections with parents. Presumably such linkages should improve the academic competencies children have when starting school which will serve as an important foundation for them to build upon as they proceed through school.

## **Method**

### *Participants*

Parents were recruited via multiple social media sites targeting parents of preschool children. In the United States children attend preschool from about ages 2 through 5 years with most being 3 or 4 years old. Our final sample was 126 but numbers varied by specific question. One hundred and five parents responded to the question about demographic information (97(94%) mothers, 5 (5%) fathers and 1 (1%) aunt). The mean age of respondents was 36.87 years (23.01–49.26,  $SD=4.46$ ). Although the respondents came from varying locations around the US, most were White (88%) and had at least a bachelor's degree (92%). This is consistent with other studies using online surveys (Galea and Tracy, 2007; see Table 1 for specific questions).

### *Measure and procedures*

Parents were invited to complete an anonymous, online Qualtrics survey consisting of 38 questions. These included questions about the parent's demographic background, amount, and type of contact with the school and teacher, child's engagement in reading and mathematics activities, parent's confidence to engage in reading and mathematics activities with the child (see Table 2 for sample questions).

**Table 1.** Study 1 demographic characteristics of the sample ( $N = 105$ ).

Variable	$M(SD)$ or %
Parent age (years)	36.87 (4.46)
Relation to child (%)	
Mother	94
Father	5
Aunt	1
Race/ethnicity (%)	
Asian	2
African American/Black	3
Latino/a/x	4
White	92
Other	4
Highest educational degree (%)	
HS/GED	2
Some college or vocational/technical/AA	6
BA/BS	30
Post-Graduate	63
Income (%)	
<25,000	2
25,000–49,000	1
50,000–74,000	7
75,000–99,000	13
100,000–124,000	17
125,000+	58
Child gender (% female)	40
Child age (years)	4.98 (0.85)
Type of school child attends (%)	
Head start or Judy center	2
Public pre-K	13
Private pre-K	75
Home or informal care	1
Other	9

Percentage totals may exceed 100% due to rounding.  $N$  represents respondents that provided demographic data.

## Data

Data were downloaded from Qualtrics into SPSS version 25.

## Results

We conducted preliminary correlational analyses to determine whether children's gender should be a relevant factor in analyses, given that some authors have found differences in how parents socialize their children depending upon children's gender (e.g. Jacobs and Bleeker, 2004; Jacobs et al., 2005). Children's gender was not significantly correlated with any other variables so is not considered further here.

**Table 2.** Sample items from parent questionnaire.

	Response type
How important do you think it is for your child to do [reading/math] activities at home?	Likert (1-5)
How important is it for you to help your child with [reading/math] at home?	Likert (1-5)
How many days per week does your child do [reading/math] activities at home during the school year?	Select 1–7
On average, how many minutes per day does your child engage in [reading/math] activities at home during the school year?	Open-ended
How confident are you that you know what to do to support your child's learning in [reading/math]?	Likert (1-5)
Does your school provide the following to support your child's Reading or math learning? Parent/teacher conferences Academic themed events Family engagement nights Workshops	Select all that apply
Does your school provide the following to support your child's [reading/math]? Books Notes or updates on progress Instructions for reading/math activities to do at home Music or songs Informational newsletters or pamphlets Toys or games Reading/math worksheets/homework Recs for apps, websites, or video games Links to websites about reading/math	Select all that apply
What would you like to receive more of from your child's teacher to help your child's [reading/math]? Books Notes or updates on progress Instructions for reading/math activities to do at home Music or songs Informational newsletters or pamphlets Toys or games Reading/math worksheets/homework Recs for apps, websites, or video games Links to websites about reading/math	Select up to 3
How satisfied are you with the [reading/math] information/materials/activities your child's teacher sends home?	Likert (1-5)

Reading and math questions were asked as separate items. Demographic questions are not included in this table.

### *Parents' views of the importance of the home for fostering children's reading and mathematics skills*

Consistent with prior research (e.g. Sonnenschein et al., 2016), the majority of the parents said it was very important for their children to engage in reading activities at home (86%;  $M = 4.83$  out of

5;  $SD = 0.47$ ) and to assist their children with such activities (77%;  $M = 4.69$  out of 5;  $SD = 0.63$ ). Fewer parents, but still the majority, (68%;  $M = 4.55$  out of 5;  $SD = 0.72$ ) said it was very important for their children to engage in mathematics activities at home and to assist their children with such activities (70%;  $M = 4.63$  out of 5;  $SD = 0.62$ ). Again, consistent with prior research (Sonnenschein et al., 2016) parents more strongly emphasized the importance of their children engaging in reading than mathematics activities,  $t(122) = 5.07, p < 0.001$ . Interestingly, however, there was only a borderline effect for the comparison between how important parents viewed assisting their children with reading and mathematics,  $t(123) = 1.71, p < 0.09$ . That is, they viewed assisting with reading and mathematics as of similar importance.

The majority of parents (65%,  $M = 6.18$  out of 7,  $SD = 1.32$ ) reported their children engaged in reading activities 7 days a week, for, on average, 29.41 minutes a day,  $SD = 1.32$ . Almost no child (2%) engaged in reading activities 2 or fewer days per week. Results for children's mathematics engagement had more variability and occurred with lower frequency. That is, unlike with reading, where the majority of children engaged in reading activities every day, children engaged in mathematics activities 3, 4, 5 or 7 days a week (15%, 23%, 18%, and 22%, respectively). Seventeen percent of the children reportedly engaged in mathematics activities two or fewer days per week. When children did engage in mathematics activities, they did so on average 16.90 minutes per day ( $SD = 25.71$ ). Children reportedly spent more minutes per week reading ( $M = 158.39, SD = 69.60$ ) than engaged in mathematics activities ( $M = 69.43, SD = 64.30$ ),  $t(103) = 13.02, p < 0.001$ .

### *Parents' confidence to assist their children with reading and mathematics activities*

Forty percent of the parents reported that they were very confident (and an additional 25% were confident) in supporting their children's reading development ( $M = 3.90$  out of 5,  $SD = 1.11$ ). Fewer were confident about supporting their children's mathematics learning: 32% of the respondents were very confident (and an additional 24% were confident) that they knew what to do ( $M = 3.63$  out of 5,  $SD = 1.21$ ). Another way to consider parents' confidence in their knowledge of how to assist their children with reading and mathematics, is that 35% of these highly educated parents were not confident about assisting their children with reading and 44% were not confident about assisting their children with mathematics. Parents were more confident about assisting with reading than mathematics,  $t(125) = 4.45, p < 0.001$ .

### *Reading and mathematics information parents report receiving from teachers and what information do they want to receive?*

Seventy-one percent of the parents indicated that their child's preschool had parent/teacher conferences to support the child's development. Between 10% and 38% of the families reported that their children's schools offered other activities to engage and inform families about their children's learning (family engagement nights, workshops, academic themed events). However, 19% reported that their child's school offered no such activities. When asked about a wide array of activities/information that teachers could send home to support children's reading (e.g. books, progress notes, reading activities, music, websites), fewer than a third of the parents reported receiving any of these sources of activities/information from their child's teacher. Twenty-four percent indicated that their child's school did not provide such information. With mathematics information and activities, 37% of the parents reported that their child's school did not provide any information about activities that parents could do at home with their children.



**Table 3.** Information, materials, and activities parents would like to receive more of to support learning at home.

Items	Reading (%) ( <i>n</i> =81)	Math (%) ( <i>n</i> =127)
Books	22	17
Informational newsletters or pamphlets	7	6
Instructions for activities to do at home	51	42
Links to websites about reading or math	12	8
Music or songs	20	22
Notes or updates on progress	53	35
Recommendations for apps, websites, or video games	41	19
Toys or games	43	45
Worksheets/homework	24	28
Other	4	2

Participants selected up to three choices from list.

The majority of parents reported wanting to receive more information to support their children's reading (61%) and mathematics (64%). As Table 3 indicates, parents generally wanted to receive information for "fun" reading or mathematics activities they could do at home with their children. And, about a third of the parents, wanted more information about their children's reading and mathematics progress. Despite wanting teachers to send home more activities and information, they generally were satisfied with the information they did receive. Forty-three percent of the parents reported being moderately to very satisfied with the reading materials ( $M=3.09$  out of 5,  $SD=1.23$ ) and 41% were moderately to extremely satisfied with the mathematics materials ( $M=3.19$  out of 5,  $SD=1.09$ ) However, 33% were only slightly satisfied or not at all satisfied with the information they received about reading activities. And, 24% were only slightly satisfied or not at all satisfied with the information they received about mathematics activities.

## Discussion

This study extended prior research on parents' socialization of their young children's early academic skills by addressing three questions. One, what are parents' views of the importance of the home for fostering children's reading and mathematics skills? Two, how confident do parents of preschoolers feel to assist their children with reading and mathematics activities? Three, what information about reading and mathematics activities do parents report receiving from their children's teachers and what information do they want to receive?

Three related patterns resulted from the data collected in this study. One, parents prioritized reading development over mathematics development. Although parents thought reading and mathematics were important as indicated by their ratings and the frequency with which children engaged in such activities, reading was consistently rated higher than mathematics. That is, parents rated their children engaging in reading activities at home as significantly more important than engaging in mathematics activities. Children also more frequently engaged in reading than mathematics activities. A similar pattern was found with data collected from over 10 years ago when there was less of a societal emphasis on Science, Technology, Engineering, and Mathematics (STEM) activities (e.g. Blevins-Knabe, 2016; Sonnenschein et al., 2016). For example, the data in Sonnenschein et al. (2016) were collected in 2006. And, as the data in this study show, children not only engage in reading activities more times per week than in mathematics activities, the amount of time they

devote to reading and mathematics activities differs and favors reading. Such a pattern is troubling given the importance of children's mathematics skills at school entry for subsequent academic development (Duncan et al., 2007) and the importance of mathematics skills for future vocational outcomes (Blevins-Knabe, 2016; National Mathematics Advisory Panel, 2008; Siegler et al., 2012; Sonnenschein and Dowling, 2019). This is particularly concerning given what Ginsburg et al. (2008) argue is the ubiquity of opportunities for young children's mathematics engagement at home (see also Metzger et al., 2019).

As many have noted, (see Blevins-Knabe, 2016; National Mathematics Advisory Panel, 2008; Sonnenschein and Dowling, 2019 for reviews), children in the U.S. score lower than those in other countries on various measures of mathematics. Within the U.S., there are demographic differences in children's math skills at the start of school and as children progress through school (Sonnenschein and Dowling, 2019). If we are to narrow or close these differences, something we should be striving to do, young children must engage in more mathematics activities at home so that they start school with stronger mathematics skills.

Two, although parents may think that reading is more important than mathematics, the difference in children's reported engagement in such activities may come from parents lacking confidence in how to foster their children's mathematics skills. Twenty percent of the highly educated parents in this study reported lacking confidence about how to facilitate their children's mathematics learning. Another 25% were only moderately confident. This was more than the percentage that lacked confidence in fostering their children's reading skills. This pattern replicates what was found by Cannon and Ginsburg (2008). A related line of research by Susan Levine and her colleagues (e.g. Maloney et al., 2015) has shown that many parents exhibit anxiety about doing mathematics which interferes with their interactions in mathematics tasks with their young children.

It is interesting that the well-educated parents in this study (and in Cannon and Ginsburg, 2008) were less confident about how to foster their preschool children's mathematics than reading skills. It also illustrates the important role that preschool teachers can play for helping increase learning activities at home for children. As others have argued (e.g. Sonnenschein and Dowling, 2019), the role of parents in their young children's early education is critical. However, other research typically has failed to consider parents' knowledge or confidence in that knowledge. If parents lack knowledge of how to facilitate their children's learning or lack confidence in their skills to do so, they are less likely to provide their children with relevant learning opportunities (Hoover Dempsey et al., 2005).

Three, as various theorists have argued, relations between home and school are critical (e.g. Bronfenbrenner, 1979; Epstein, 2001; Mapp, 2003). If parents lack knowledge about how to facilitate their children's academic development, teachers can play an important role in providing such knowledge (e.g. Sonnenschein et al., 2018). However, prior research has not considered what knowledge parents have, what information teachers provide, or what information parents would like them to provide. Research has shown that the resources at preschools populated with middle- and high- income children far exceeds those in places populated by low-income children (Bassok and Galdo, 2016). The parents in the present study whose children primarily attended private preschools and had family incomes of at least \$100,000 per year (75% of respondents) no doubt had many resources available to them to facilitate their children's learning. And yet, even these parents wanted to receive more information from their children's teachers.

Parents generally wanted two main sources of information from their children's teachers. They wanted more progress notes to inform them of how well their children were doing. They also wanted activities and apps that they could do with their children at home that were fun and engaging for the children. The importance of making activities engaging and the relation with children's academic development has been illustrated in work by Serpell et al. (2005) and Sonnenschein et al.

(2016). For example, engaging children's interest in reading activities was associated with their reading development (Serpell et al., 2005).

### *Limitations and future research*

The majority of the participants in this study were educated and White. As noted previously, such a pattern is common with online surveys (Galea and Tracy, 2007). Nevertheless, the restricted sample may limit our ability to extend our conclusions to other demographic groups. Despite the homogeneity of our sample, our findings can still provide valuable insights for the discussion of school and home partnerships and the needs of other groups of parents. We know that low-income Black and Latinx parents also highly endorse the importance of their children participating in reading and mathematics activities at home and assisting with such engagement (Sonnenschein et al., 2016). However, the frequency of reported participation by low-income children in the Sonnenschein et al. (2016) was lower than in this study. We suspect that parents with more limited education may feel less confident in their abilities to guide their children's early learning of reading and mathematics skills. However, that is an empirical question that future research should consider. And, as we discussed above, the quality of preschools/childcare facilities that children from other demographic groups attend may be more limited. Such limitations could include the information teachers provide to parents. We know that low-income Black and Latinx parents also highly endorse the importance of their children participating in reading and mathematics activities at home and assisting with such engagement (Sonnenschein et al., 2016). However, the frequency of reported participation by low-income children in the Sonnenschein et al. (2016) was lower than in this study. Note those children and families were recruited from Head Start centers where families earned 185% or less of the U.S. federal poverty level. We suspect that parents with more limited education may feel less confident in their abilities to guide their children's early learning of reading and mathematics skills. However, that is an empirical question that future research should consider. And, as we discussed above, the quality of preschools/childcare facilities that children from other demographic groups attend may be more limited. Such limitations could include the information teachers provide to parents. Again, however, this is an empirical issue that can be resolved by future research.

Recruitment through social media has many advantages. That is, one can easily and quickly reach many people. However, this means of recruitment also meant that we were not able to recruit parents who do not look at social media.

Although we recruited from social media sites for parents of preschoolers, we did not ask the age of the children. However, we did ask parents if they had more than one preschool child to answer questions based on the older or oldest child. Future research should explore whether parents' responses would differ with the age of the preschool child.

Another limitation to this study is that we did not define what we meant by confidence. This is consistent with how the few others who have asked parents questions about confidence have done it (e.g. Cannon and Ginsburg, 2008). However, it is possible that parents may have differing definitions which could affect their other responses. Moreover, lacking confidence is not necessarily synonymous with lacking knowledge and skills. These are interesting issues that future research should disentangle.

This study only asked parents what information teachers provided. We did not query teachers. Would teachers' views confirm what parents are saying? Other research of ours collected from a small sample of teachers at Head Start centers suggested that teachers viewed themselves as offering such suggestions, at least for mathematics (Stites et al., 2021). However, just because teachers offer such suggestions does not mean that parents will use them (Simons, 2019). In addition, teachers may be sending home suggestions, but parents may not always realize it! The key seems to be

improved communication between teachers and parents. Teachers should attempt to tailor their communications to take into account parents' beliefs about their role in their children's learning, skills levels, and available time (Hoover Dempsey et al., 2005).

In short, this study is an important component of answering the larger question about how best to support parents in sustaining learning at home. We argue that even highly educated parents often lack the confidence to support their young children's academic growth, particularly in mathematics. This demonstrates a critical need for teachers to communicate activities and ideas for parents to support learning in the home. If we hope to support the important relationship between the school and home for learning, these considerations need to be addressed.

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