ABSTRACT

Child and Parent Mobile Media Use and Child Development: An Exploratory Study

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Children 2 to 5-years-old are spending increasingly more time on technology, averaging two hours a day on mobile media, such as tablets and smartphones. The evidence, though, concerning how children's development is impacted by such technology use is relatively limited, specifically regarding smartphones and tablets. The goal of this exploratory study is to determine how the amount of time parents and their children spend on technology, including television, smartphones, and tablets, relates to children's fine motor, gross motor, and social skills. This mixed-methods study collected quantitative data from parents and observational data from teachers in a childcare center in the Southeastern United States ($N = 22$ parent-child dyads). Multilevel regression analyses illustrated that children's time spent watching television was negatively associated with children's gross motor skills. Additionally, percentage of time parents used mobile media independently (separate from their children), was associated with increased children's social skills. The results of this study demonstrate that mobile media may not contribute to children's development compared to other traditional media such as television.

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CHILD AND PARENT MOBILE MEDIA USE AND CHILD DEVELOPMENT: AN EXPLORATORY STUDY

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By

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CHAPTER ONE

Introduction

Children 2 to 5-years-old are spending increasingly more time on technology. To date, children are spending approximately two hours a day on smartphones (Radesky, 2020; Radesky et al., 2020). The evidence, though, concerning how children's development is impacted by such technology use is relatively limited, specifically regarding mobile media use, which refers to smartphones and tablets. Concerning overall screen use, the American Academy of Pediatrics (AAP) states that children ages 2 to 5-years-old should spend one hour maximum per day in front of a screen (Hill et al., 2016). These recommendations for screen time, however, are based on studies that focus on television, and do not include smartphones and tablets. The goal of my study is to determine how the amount of time parents and their children spend on technology, particularly mobile media, is related to children's fine motor, gross motor, and social skills.

It is important to study the relationship between the amount of time spent on smartphones by a parent and their child because an increasing amount of time spent on smartphones by parents may affect the quality of the relationship between a parent and their child (McDaniel & Radesky, 2018). If a child feels like they have to compete for the attention of their parent over the parent's smartphone or if a child's needs are not met as readily because a parent is distracted by their smartphone, children may not get the support they need to promote their motor and social development (Kildare & Middlemiss,

2017). Further, children's interactions with their peers may be impacted as a result of the security of their attachment with their parent.

Children's use of technology, however, may have positive impacts. For example, applications such as FaceTime enable children to stay in regular contact with family members who may live far away (Berridge & Wetle, 2020). Overall, it is important to be cognizant of how children are engaging with technology and how much time they are spending on screens each day (Hill et al., 2016). Children need parent-to-child, peer-to-peer, and hands on activities as they develop their biosocial, cognitive, and psychosocial spheres.

Literature Review

Prior to reviewing the literature on children's mobile media use and their development, it is important to provide a theoretical foundation for this investigation. Social learning theory can be applied to the relationship between the amount of time a parent and their child spends on mobile media and the child's development. Social learning theory focuses on the idea that most human behavior is learned by modeling others observed in various settings (Bandura, 1977). Thus, if a child is regularly observing their parent on a smartphone, then they may begin to model this behavior too. If young children form the idea that it is normal to spend multiple hours per day on a smartphone, then, in later years, they may use this idea to guide their personal technology use. Children, then may spend more time on mobile media and other technology as opposed to spending time by themselves and with peers engaging in different types of play that are a key part of a child's motor and social development (Ihm, 2018). Technology is passive entertainment that does not stimulate the brain in the same way

that active play does (Elkind, 2007). Thus, children's developmental lack of fine motor, gross motor, and social skills could be related to modeling their parent's mobile media use.

Children and parental smartphone use may be related to poorer children's development due to the ideas solidified in social learning theory. The main premise is that children's development may be hindered because parents' increased smartphone use takes away from the parent-child relationship (Kildare & Middlemiss, 2017). As of 2020, 49% of children ages 0-2 in the United States have interacted with a smartphone (Auxier et al., 2020). The percentage of smartphone use increases to 62% for children ages 3-4 (Auxier et al., 2020). These percentages are indicative of smartphone use beginning at very young ages. If children become accustomed to technology in early childhood, they may continue these habits into later childhood and adulthood. Further, smartphone use can hinder the development of a child's social skills because they are interacting with a device rather than in social settings with their peers (Turkle, 2016). Generally, spending too much time on smartphones may negatively affect children's development because children are passively taking information in as opposed to learning through hands-on activities.

Socio-demographic factors can largely relate to the possession and use of technology for families. In a study with children aged 9 to 16-years-old, usage patterns were correlated to the child's home life, school environment, and their relationship with their parents (Terras & Ramsay, 2016). Additionally, the technology practices of parents were found to be potentially predictive of their children's current and future technology use (Terras & Ramsay, 2016). It is crucial, then, that parents do their best to manage their

work-life balance in a way that maximizes the amount of time they can spend with their children. Then, children will likely spend less time using technology because they are able to participate in activities with their parents. Engaging in interactive activities is likely to support fine motor, gross motor, and social skills.

One study considered how smartphone addiction can be related to a child's lack of offline social engagements. Ihm (2018) found that children averaging 12-years-old who had more in-person activities and interactions with others were less addicted to their phone (Ihm, 2018). Children, in this case, were less addicted to their phone because they had social support without the use of their phone. Social support was qualified as formal organizational membership, quality of relationship with parents, and size of peer group (Ihm, 2018). The findings of this study are significant because it shows the importance of social interactions for children. If a child develops early habits of depending upon technology instead of face-to-face interactions with other people, then their social support networks could be lacking in the future. Face-to-face interactions are vital because children learn how to verbally and nonverbally express their needs and desires to others (Turkle, 2016). Children also learn social cues and how to appropriately speak to an adult versus a peer. Social cues and context-specific situations cannot be replicated with the use of smartphone conversations. Further, it is important that children do not depend on technology use to emotionally regulate because that could also have future negative implications on children in various situations (Radesky et al., 2020). Although emotional regulation is not the focus of this thesis, it still provides context of understanding the relationship between mobile media use in families and children's development. Children should be involved in activities that promote peer interactions and help children practice

emotional regulation without the use of technology (Radesky et al., 2020), and these activities could support gross and fine motor development.

A child's social interactions may be influenced by how much time their parent, too, spends on technology. Children are keenly aware of their mother's responsiveness which was measured in a recent study by the mother's promptness and contingency to her child's signal (Lederer et al., 2022). The conclusion derived from this study was that mothers were less involved with their child, in terms of responsiveness and quality of the conversation, when they were in the condition where they used their smartphone (Lederer et al., 2022). Mothers who were less responsive to their child directly resulted in the child performing more poorly on their vocabulary test. Therefore, it is important that a child's parent (or parents) do their best to interact with their children without the distraction of their phone. Technology-free interactions may promote stronger relationships between a parent and their child while also benefitting their child cognitively (Kildare & Middlemiss, 2017). When spending time on a smartphone, children may miss out on the opportunity to learn from adults, peers, and the world around them because their attention is consumed by technology.

The Present Study

In my study, parents of children, ages 2-5, self-report their amount of smartphone and other technology use over the last 24 hours by using the screen time feature in the settings on their phone. This approach involved parents submitting a screenshot of their technology use over the past 24 hours and identifying how they used their device, as well as identifying the amount of time children used different devices. Using the screen time feature minimizes inaccurate reports of the time parents spend on their phone, which are

prone to bias (Yuan et al., 2019). Additionally, parents provided a percentage breakdown of how much of the child's mobile media time was used by themselves versus with someone else, like the parent.

This study also aims to capture children's development – specifically, their fine motor, gross motor, and social skills – using accurate observational measures, as opposed to parent reports, which are likely to be biased (Yuan et al., 2019). To assess a child's development, an observational tool, the Ages and Stages Questionnaire (ASQ-3; Squires & Bricker, 2009) was used. This tool provides measures of child development based on age and was developed by child development experts to determine the proximity of children to appropriate developmental milestones. This tool has achieved consistent content and construct validity (see Feldman, 2020 for a review). Teachers completed the ASQ-3 on paper while observing the children in the classroom and outside. I transposed this data into SPSS for analysis. Given the literature on children's and parent's technology use, I hypothesize that both a high amount of smartphone use by children and their parents will be negatively associated with a child's fine motor skills, gross motor skills, and social skills.

CHAPTER TWO

Methods

Procedures

The goal of this study is to determine if there is a correlation between the amount of time a child and their parent spends on technology, and the child's peer interactions. Such a correlation would likely promote more research in this field of study and have implications for more closely monitoring the amount of screen time a child has per day. To determine the proposed relationship, a quantitative, comparative design study was employed. This study focuses on the peer interactions of children 2 to 5-years-old who attend the Piper Center at Baylor University in Waco, Texas. The Piper Center is accredited by the National Association for the Education of Young Children (NAEYC). The Piper Center families were recruited via email. Once parents chose to participate, they were asked to fill out an online survey that took about ten minutes to complete. The first page of the survey requested consent for their child to be observed. If the parent did not consent for their child to be observed, they were not included in the study. Participants nor their children received any compensation for participating in the study.

Children were observed using the ASQ-3, an observational tool for children's development. Each child was observed by their teacher in the fall of 2023 or the spring of 2024. Children were observed for about ten minutes each, in their classrooms and outside. While observed, teachers filled out the ASQ-3 using pen and paper which was

later transposed to SPSS by me. All aspects of this study were approved by the appropriate institutional review board (Approval #: 2113780-3).

Participants

Of the 22 parents who consented to participate in this study, 20 were White, one was Hispanic, and one was Asian. The average parent age was 36.9 years (*SD* = 5.55; Range 25 to 47). Six parents had one child (27.27%), nine parents had two children (40.91%), and seven parents had three children (31.82%). The average age of the oldest child was 6.45 (*SD* = 3.57; Range: 2 to 17) and the average age of the youngest child was 2.77 (*SD* = 1.46; Range 0 to 5). Only two parents had stepchildren. See Table 1 for details.

Table 1.

Demographic information for study sample (N = 22).

	Variable	Frequency
Gender	Male	10 (45.45)
	Female	12 (54.55)
Race	White	20 (90.91)
	Asian	31 (4.55)
	Hispanic	1 (4.55)
Number of Biological Children	1	6 (27.3)
	2	9 (40.9)
	3	7 (31.8)
Age of Oldest Child		6.45 (3.57)
Age of Youngest Child		2.77 (1.46)
Length of Parent Relationship in Months		135.45 (47.97)
Parent Age		36.90 (5.55)
Hours Worked Per Week		38.80 (4.68)
Socioeconomic status		63.23 (15.59)

Note: Categorical data is presented as counts with column percentages in parentheses. Continuous data is presented as means with standard deviations in parentheses.

Measures

Fine Motor Skills

This variable was measured using the fine motor skills checklist in the ASQ-3 (Squires & Bricker, 2009). The six-item checklist measured fine motor skills according to children's age. This scale is adjusted for age, but still includes six items. For example, a fine motor item on the 36-month checklist is, "When drawing, does your child hold a pencil, crayon, or pen between her fingers and thumb like an adult does?" A fine motor item on the 48-month checklist is, "Does your child color mostly within the lines in a coloring book or within the lines of a 2-inch circle that you draw?" Responses were not yet (*0*), sometimes (*5*), and yes (*10*). Teachers completed this scale within the last six months of this study. The fine motor subscale of the ASQ-3 has demonstrated acceptable validity and reliability (Singh et al., 2017).

Gross Motor Skills

This variable was measured using the gross motor skills checklist in the ASQ-3 (Squires & Bricker, 2009). The six-item checklist measured gross motor skills according to children's age. This scale is adjusted for age, but still includes six items. For example, a gross motor item on the 36-month checklist is, "Does your child walk up stairs, using only one foot on each stair. She may not hold onto the railing or wall." A gross motor item on the 48-month checklist is, "Does your child climb the rungs of a ladder of a playground slide and slide down without help?" Responses were not yet (*0*), sometimes (*5*), and yes (*10*). Teachers completed this scale within the last six months of this study.

The gross motor subscale of the ASQ-3 has demonstrated acceptable validity and reliability (Singh et al., 2017).

Social Skills

This variable was measured using the personal-social checklist in the ASQ-3 (Squires & Bricker, 2009). The six-item checklist measured personal-social skills according to children's age. This scale is adjusted for age, but still includes six items. For example, a personal-social item on the 36-month checklist is, "When your child is looking in a mirror and you ask, "Who is in the mirror?" does she say either "me" or her own name?" A personal-social item on the 48-month checklist is, "Does your child tell you the names of two or more playmates, not including brothers and sisters?" Responses were not yet (*0*), sometimes (*5*), and yes (*10*). Teachers completed this scale within the last six months of this study. The personal-social subscale of the ASQ-3 has demonstrated acceptable validity and reliability (Singh et al., 2017).

Parent's Technology Use

Parents reported the total amount of time, in minutes, they spent on their smartphone in the last 24 hours. Then, parents reported how many minutes they spent on each of their top five most used apps in the 24-hour time period. Parents also reported how much time their phone use was for work, leisure, or other, using percentages that totaled 100%. Parents also reported how much of their phone use was by themselves or with someone else using percentages that totaled 100%.

Children's Technology Use

Parents also reported the total amount of time, in minutes, their child watched television, used a tablet, used a smartphone, or used another form of technology in the

last 24 hours. Parents then listed which form of technology their child had engaged the most with during the 24-hour period. Using percentages, parents reported how much time their child used their own device, their parent's device, or someone else's device (totaling 100%).

Data Analysis

Data for this study was analyzed using frequency and descriptive statistic functions in SPSS. Data was also analyzed using bivariate correlation and linear regression analyses. For the regression analyses, the dependent variable was children's motor and social skills. The independent variables were children's and parent's technology use. Control variables were not included due to the small sample size to reduce multicollinearity.

CHAPTER THREE

Results

Based on correlation analyses (see Table 2), children's television use was negatively associated with children's gross motor skills and children's social skills. Additionally, parents' smartphone and tablet use were negatively associated with children's fine motor skills. The percent of time parents spent on a screen alone, however, was positively associated with children's personal social skills. Correlational analyses did not show a statistical significance between the time a child watched television and their fine motor skills. Additionally, there was no statistical significance between a child's laptop, tablet, or smartphone use and their gross, fine motor, or personal social skills.

Table 2.

Correlations, Means, and Standard Deviations of Study Variables.

Variable	Mean	SD	Gross Motor	Fine Motor	Personal Social	Child TV Use	Child Laptop/ Tablet Use	Child Smartphone Use	Parent Smartphone/ Tablet Use	Smartphone/ Tablet Work Use	Smartphone/ Tablet Leisure Use	Smartphone/ Tablet Other Use	Percent of Screen Time Alone
1. Gross motor skills	8.94	1.26	---	.38	.05	-.52*	.24	-.31	-.11	-.24	.04	-.02	.10
2. Fine motor skills	7.58	2.17		---	.41	-.19	.15	.09	-.48*	-.29	.38	-.03	.17
3. Personal social skills	8.60	1.55			---	-.50*	.18	-.01	-.23	.22	.03	.41	.66**
4. Child TV Use	49.40	52.79				---	-.13	-.09	.15	-.19	.27	-.25	-.36
5. Child Laptop/Tablet Use	17.94	29.85					---	-.01	-.16	.02	-.23	.41	.09
6. Child Smartphone Use	7.20	13.08						---	-.11	.51	-.43	.17	-.54*
7. Parent Smartphone/Tablet Use	135.50	114.14							---	-.15	.12	-.16	-.26
8. Smartphone/Tablet Work Use	30.42	26.83								---	-.69**	.23	.34
9. Smartphone/Tablet Leisure Use	56.63	34.51									---	-.50*	.20
10. Smartphone/Tablet Other Use	8.21	15.16										---	.01
11.Percent of Screen Time Alone	80.00	27.44											---

Note: Children's motor and social skills are measured on a scale of 0, 5, and 10, with higher scores meaning more of that behavior. Children's media use is measured in minutes. Parents' media use is measured in minutes. Percent screen time is out of 100%.

** $p < .01$; * $p < .05$.

Multilevel regression analyses (see Table 3) illustrated that children's time spent watching television was negatively associated with children's gross motor skills. Additionally, percentage of time parents used mobile media independently (separate from their children), was associated with increased children's social skills. No statistical difference was shown in a child's fine or gross motor skills when they used technology by themselves or with others.

Table 3.

Regression results predicting child development based on family technology use.

	Fine Motor Skills	Gross Motor Skills	Social Skills
Model 1			
Intercept	6.75 (2.24)*	9.72 (1.43)***	5.39 (1.41)**
Minutes Child Watching Television	-.30 (.01)	-.53 (.01)*	-.37 (.01)
Minutes Child Using Smartphone	.06 (.02)	.11 (.01)	.01 (.01)
Minutes Child Using Tablet	-.15 (.06)	-.24 (.04)	-.10 (.04)
Minutes Parent Using Mobile Media	-.25 (.01)	.11 (.00)	-.12 (.00)
Model 2			
Percentage Using Technology Separately	.30 (.02)	-.08 (.01)	.78 (.01)**
Percentage Using Technology Together	.49 (.04)	-.09 (.02)	.41 (.02)
R^2	.22	.39	.57

Note: Percent using technology separately refers to percent parents and children used mobile media independently of each other.
*** $p < .001$; ** $p < .01$; * $p < .05$.

When using multilevel regression analyses to consider how children's fine motor skills were related to technology use, there were no statistically significant variables. The time a child spent watching television or using a smartphone or tablet by themselves or with others was not related to their fine motor skills. Additionally, the time a parent spent on mobile media was not associated with child's fine motor skills. The R^2 value is 0.22 meaning that 22% of the variance in children's fine motor skills can be attributed to the independent variables in this model.

When using multilevel regression analyses to consider how children's gross motor skills were impacted by technology use, the statistically significant variable was the amount of minutes a child watched television. Specifically, the amount of time a child watched television was negatively associated with their gross motor skills. The time a child spent using a smartphone or tablet by themselves or with others was not associated with their gross motor skills. Additionally, the time a parent spent on mobile media was not associated with their child's fine motor skills. The R^2 value is 0.39 meaning that 39% of the variance in children's gross motor skills can be attributed to the independent variables in this model.

When using multilevel regression analyses to consider how children's social skills were associated with technology use, the statistically significant variable was the percentage of time children and parents spent using technology separately. Specifically, the percentage of time children and parents spent using technology separately was positively associated with children's social skills. The time a child spent watching television or using a smartphone or tablet with others was not related to their social skills. Additionally, the time a parent spent on mobile media was not associated with their child's social skills. The R^2 value is 0.57 meaning that 57% of the variance in children's social skills can be attributed to the independent variables in this model.

CHAPTER FOUR

Discussion

The results of this study illustrate varied relationships between the type of technology that children and parents use and children's motor and social skill development. Television appears to negatively relate to children's development compared to mobile media, possibly since television is a form of passive entertainment and does not involve interaction (Pagani et al., 2013). Smartphones and tablets, however, were not associated with children's gross motor, fine motor, or social skills. These results support that technology itself may not directly relate to children's development, but rather how technology, such as smartphones and tablets, is used by parents and children (Hill et al., 2016). It is important that parents are cognizant of the way they and their children use technology in order to support their children's development.

The current study found that television was negatively associated with children's gross motor skills and social skills, but not fine motor skills. Television viewing may hinder children's development because children learn how to respond to and initiate social cues through face-to-face interactions (Turkle, 2016). If children spend an increasing amount of time passively consuming television, they may not actively learning and practicing essential social skills (Pagani et al., 2013). Television possibly hinders gross motor skills because children passively watch television. Instead of walking around or engaging in physical activity, children are likely sitting down as they watch television and not practicing gross motor skills, like walking or jumping (Elkind, 2007). Television

may not negatively impact fine motor skills, though, because children may be completing an activity, such as coloring, that uses fine motor skills while they watch television in the background. One could argue that working a remote, if children are using a remote, could also support fine motor skill development, which involves the coordinaton and movement of small muscles. Children may also engage in small motor movements while watching television, like playing with their fingers. These small body movements may not improve fine motor skills but can explain why there is no relationship between fine motor skills and television use. Generally though, television appears to be negatively related to children's development, both directly and indirectly, in a variety of developmental domains.

This study also found little support for the relationship between children's mobile media use and children's development. The null effects for mobile media could be representative of both positive and negative effects of mobile media use (Yadav & Chakraborty, 2022). On mobile devices, children can spend time on apps that increase their learning by answering questions on a variety of topics or practicing vocabulary (Yadav & Chakraborty, 2022). Children can also waste time by playing games or watching videos that are not contributing to learning (Kulakci-Altintas, 2020). These different affordances of mobile media could cancel each other out, justifying the null finding. Future studies should examine what children and parents do on mobile media to better understand these effects. Another factor could be how much time children spend on mobile media. If they aren't spending that much time on smartphone or tablets, then it wouldn't be expected that there would be a relationship between mobile media use and children's development. It should be noted that data is correlational in nature, so it is

possible that children's development may predict children's mobile media use. More information is needed to better understand the role of mobile media for children's development.

Parents' mobile media use was also unrelated to children's fine motor, gross motor, or social skills. Similarly, the affordances of parental mobile use may offset the drawbacks. For example, parents using mobile devices to stay in touch with others can promote family cohesiveness through frequent dialogue (Berridge & Wetle, 2020). Children may model this behavior accordingly. Additionally, parents can readily access a multitude of resources through quick searches on search engines. Whether it is informational, educational, or for entertainment, parents can use their phones both independently and with their children. On the other hand, sometimes parents' mobile use may distract from the parent-child relationship, which could hinder children's development (Lederer et al., 2022). Parents may use mobile devices to engage in social media or watch content that could distract them from engaging in interactions with their children, thus possibly limiting opportunities for interaction and play, both of which are important for development (Kildare & Middlemiss, 2017). Longitudinal data is needed to better understand how parental mobile media use predicts children's behavior. Future studies are encouraged to examine parents' reasons for using their smartphone or tablet to provide more context for these findings.

Also, when parents used mobile media without their children, there was a positive relationship with children's social skills. This finding could be due to the fact that children observed how their parent engaged in conversations on the phone and modeled these behaviors in future conversations (Bandura, 1977). Further, children may have had

more time to play with their siblings or other peers, facilitating their own games, without parental involvement, if their parent spent more time independently on mobile media (Toth & Manly, 2019). Interactions with others could have helped support children's social skills. There is research that shows that children often seek out the company of others when they may not receive attention from parents (Toth & Manly, 2019), and these possible interactions could support children's social skills. More information is needed to understand family dynamics in order to justify this rationale.

These results also contribute to social learning theory because children and parents who engaged with technology less may have had more opportunities to spend uninterrupted time together. As young children are developing, they should spend time with their parent in the absence of technological distractions (Kushlev & Dunn, 2019). Time spent interacting with parents promotes the development of children's gross motor, fine motor, and social skills as they spend a greater amount of time acquiring new abilities by modeling their parent's behavior (Bandura, 1977). While watching television and using applications on mobile media can be passive activities, children may watch a show or engage in a mobile media activity with their parents that stimulates conversation (Yadav & Chakraborty, 2022). This interaction may be beneficial for children because it promotes family dialogue. Children are then able to incorporate an active element into their television viewing (Yadav & Chakraborty, 2022). On the other hand, little interaction between children and parents could hinder a child's ability to learn new skills (Kildare & Middlemiss, 2017). Overall, the results of this study provide some support for social learning theory.

Taking the results of this study into consideration, there are recommendations that can be given to parents and families to best support children's development. It is recommended that parents follow the AAP's screen time recommendations for young children, particularly when it comes to television. Regarding mobile media use within families, it is recommended that screens not take away from conversations and interactions among family members (Kushlev & Dunn, 2019). Screen time use should be moderated with the goal of maximizing hands-on-activities and minimizing technology use. Additionally, rather than consuming screen time, research supports that families engage in play together (Elkind, 2007). Ultimately, technology should be used, with careful consideration, in families to ensure that it is not taking away from familial interactions (Kushlev & Dunn, 2019). It should be noted though that these recommendations need further validation and testing due to the small sample size.

Limitation and Conclusions

While this study replicates some findings of past studies concerning increased television viewing among children hindering children's development (Pagani et al., 2013), it is not without its limitations. First, the results of this study are not generalizable due to the study's small sample size and homogeneity. Children in this study were almost all white and from two-parent homes. Future studies should recruit larger and more diverse sample sizes. Parents were also asked to self-report their phone use over the past 24 hours, which may have not been representative of the average amount of time they spend on their phone. Further, since this is a cross-sectional study, a cause-and-effect relationship cannot be determined among variables. It would be helpful to conduct a longitudinal study, with a larger sample size, incorporating a more diverse group of

parents and children to see if these results would replicate. It is also suggested to review inter-class correlations between variables in this study. Additionally, the timing between ASQ-3 data collection and parents filling out the survey is inconsistent meaning that some teachers' data was collected before parents reported their technology use, which could lead to claims that children's behaviors may predict mobile technology use. Future studies should look at these two variables (mobile media use by parents and children, and children's development) simultaneously. Subsequently, further research should be conducted looking specifically at smartphone and tablet use among children and how that impacts their development as they age. A longitudinal study could be insightful to see if there are any associations between children who have high smartphone or tablet use as a child and their academic performance in high school, for instance. Researchers should also examine what children and parents do on their mobile devices to see if that impacts children's development.

Generally, the results of this study highlight the importance of intentional decision-making when it comes to parental and child screen use. While no direct correlations were identified in this study between smartphone or tablet use and a child's gross motor, fine motor, or social skills, parents are recommended to be mindful of screen use in their families. Knowing that children form habits from what they are used to doing and seeing, parents should model and enforce responsible technology use.

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