

Should Technology Be a Concern for Parents of Preschoolers?

Traditional play and technology play are two ways that young children engage in play today. Parents struggle with the amount of time allocated for technology play because their kids want it often. This article provides insights from a study focused on whether technology should be a concern to parents and parental perceptions about children's play.

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Due to an influx of new technology, children today have more options for how they engage in play through technology than ever before. Computers, tablets, handheld video games and parents' cell phones are among the numerous technologies that affect children's playtime. Children are opting to play with technology much more readily than with other forms of play as indicated in the following scenario.

My son is glued to his tablet. He wants to play it all the time. When he is told not to use it, I often hear the words, "I'm bored." I suggest reading a book or playing outside but those options are not popular. We have some kids in our neighborhood, but not many, so playing outside with other kids is not something that is always an option. Many spend time playing inside. A few minutes later, "I'm bored, can I watch TV?" I offer other suggestions but none seem to help. He continues to want to return to his tablet to play the next popular app he has discovered. My son is 9 years old but this behavior has been prevalent even when he was in preschool. I have tried to limit his play with technology but will find him sneaking into his room and playing it when he is not supposed to. The allure of technology has become so great that it is the number one choice when playtime is an option.

The scenario above is probably something many parents (like many of us) can relate to well. They struggle with the amount of time allocated for technology play because their kids want it, often wondering, "How do we manage technology? Should we manage technology?" Those are the questions we wrestle with as we try to balance the types of experiences we want our children to have as they are growing, developing and learning. In this article we discuss parental perceptions of how chil-

dren play and their children's use of technology. It is important to note that we define traditional play as interactions with people and objects that are not technological in nature. Further, we define technology play as any play that incorporates a form of technology in its use.

Parents and Technology

Parents are responsible for providing children with opportunities to play and exposure to technology as they see fit. Access to home technology use may be heavily dependent upon parental education, lifestyle, cultural practice, and family. We have found that aside from children's age, parents are a contributing factor to the use of media (Slutsky and DeShetler, 2016). Understandably, parents serve as providers and therefore directly impact the availability and use of technology in the home.

A point of view to consider is the possible relationship between children's media use and parental education. Anand and Krosnick (2005) examined whether the mother and fathers' education had an impact on the technology in which children engaged. The researchers found that children of both mothers and fathers with less education watched more television. Children of fathers who had some college education or who graduated college spent more time on computers than those whose fathers had the lowest level of education. Therefore, parental education may be a catalyst in predicting some aspects of children's technology use. Anand and Krosnick explain that other factors such as parental values should be examined. "The values that more educated parents bring to child rearing lead them to discourage television viewing more and to advocate other activities instead" (p. 557).

For parents, technology may serve in the capacity of a babysitter in the home (Plowman, 2013). Plowman addresses the lifestyle of today's parents, commenting that technology is an attractive alternative due to the exhaustion caused by work. Technology serves in this role to occupy the child's time while the parent is provided an opportunity to do something else. Plowman (2013) reports that parents also feel that a balance between traditional play (non-technology) and technology use is necessary. This suggests that parents may still place importance on more traditional play like creative, dramatic and constructive play.

Shiakou and Belsky (2013) conducted research on parental attitudes toward children's play. The researchers conducted a study of 142 Greek/Cypriot parents of children between the ages of 4 and 7 who were enrolled in preschool. The demographic information collected included parents' age, education, income, and hours of employment. The researchers reviewed previous studies about parents' perceptions of children's educational programs and their beliefs about play. Through this process and in the collection of data from their study, an overarching theme emerged. They discovered that parental differences were rooted in cultural practice and as a result, parental beliefs affected the ways in which children played. According to the researchers, "parental attitudes toward play and learning differ within...cultures, and that the parental practices used to encourage children academically and the time allocated, or left, for play also differs between cultures" (p. 21).

Hofferth (2010) examined children's home technology use, achievement, and behavior, and the rela-

tionship with parental involvement. The study consisted of children between the ages of 6 and 12 who lived with their mothers. Participants were asked to record the child's activities over a 24-hour period. Hofferth (2010) discovered that technology use was dependent upon attributes of parental education and family income. Moreover, children's dependence upon their parents creates a control system in which the parents' characteristics determine the children's media use. Therefore, factors such as parental education, lifestyle, culture, and income play an important role in the availability and use of technology in the home. In this study, the researchers wanted to understand parents' perceptions regarding their children's play and use of technology.

Parental backgrounds help determine children's media use.

Should Technology Use be Limited?

Some parents believe that technology should be used in moderation (Slutsky and DeShetler, 2016). Parents carry a certain set of beliefs that impact how their child plays and engages with technology, and these perceptions also determine whether they feel the need to set limitations. At the present time, little information is available to guide parents in determining what kind of limitations should be placed on technology use especially at the preschool age (Hofferth, 2010; Neumann, 2015). According to Hofferth (2010), few

studies of children's technology use exist that compare similar groups of children or break data down by age. In order to establish guidelines to aid parents in setting limitations, research is needed that examines the context of use: How preschoolers use technology such as tablets and for what reasons (Neumann, 2015). Wiles, Schachtner, and Pentz (2016) argue that young children benefit most from human interaction and that parents who allow any screen time "should do everything in their power to engage in screen time with their children in active ways" (p. 1).

Regardless of the experience, digital devices have entered into the picture and are a prominent fixture in children's daily lives. Before we can understand how technology impacts the development of preschool children, further research is warranted to delineate children's activities and what parents attribute to their reasoning for promoting or rejecting technology use in the home as there seems to be a gap. It is important to highlight not only the parental beliefs that affect the amount and type of technology used in the home, but also how decisions may have emerged from cultural practice and personal experiences.

The Study

Our study focused on whether technology should be a concern to parents: Specifically, we wanted to learn about the parents' thoughts and beliefs about their children's play and technology use. The researchers focused on:

- parents' perception of what they considered play to be
- the different ways in which their children played

- how often they played indoors and outdoors
- how much time they engaged in technology play

A total of 6 (5 female, 1 male) parents were recruited to participate in open-ended interviews focusing on their children's play. All six parents had a preschool child between the age of 3 and 5 and agreed to be individually interviewed for about 30 minutes.

The interview consisted of eight open-ended questions. The first four questions focus on children's play and the last two directly center on technology use. These interviewees completed a consent form but demographic information was not collected to maintain anonymity. Four interviews took place at the home of parent 5, one interview was done at the home of the first author and the remaining interview with parent 1 was done at the first author's office. A limitation of this study is that we did not collect information regarding the parents' level of education, income, life style, or culture.

Results of the Study

The themes that emerged from these data were as follows:

- commonalities in the traditional forms of play
- regular use of digital toys and tablets
- belief that limitations on technology use are necessary
- the belief in technology use for educational purposes

The researcher began by asking each parent to think of their preschool child between the ages of 3 and 5. Parents were asked eight open-ended questions. To start the interview, the researcher asked what

Interview Questions

1. What do you consider play?
2. Discuss the different ways you see your preschool child playing.
3. On a typical day, how much time do you estimate our child plays outdoors? What types of things does he/she play?
4. On a typical day, how much time does your child play indoors? What types of things does he/she play?
5. On a typical day, how much time does your child play with technology? What types of things does he/she play?
6. How should technology be used by a preschooler?
7. What are your preschooler's favorite things to do with technology?
8. Thinking about your preschooler, what are the advantages and disadvantages of technology?

parents considered as play. Four parents (parents 2, 4, 5, and 6) provided examples of traditional (non-technology) forms of play only while two parents (parents 1 and 3) gave activities that included both traditional forms of play and technology. The only technology play mentioned was the iPad. It is important to note that parent 1 explained her reasoning for how her preschooler plays. She stated, "We like play to be with objects and not all technology." She continued that they try to limit the technology because it is everywhere and her child is capable of accessing technology by himself.

Next, parents were asked to discuss the different ways they see their preschool child playing. Four parents (parents 1, 2, 4, and 6) only provided traditional forms of play in their explanation while the remaining two (parents 3 and 5) gave examples of both technology and traditional play, although just one of the latter two parents also listed technology and traditional play in the first question.

Responses to this question overlapped somewhat with question one. As an example, parents responded with outdoor activities, playing pretend, and the iPad.

In question three, the researcher asked parents how much time their child played outdoors on a typical day, and what types of things they played (*see Table 1*). Five parents prefaced their answer by rationalizing the amount of time based on the weather. Of all the outdoor play discussed by the parents, the majority of activities required a large open space or an outside environment.

Following the discussion of outdoor play, parents were asked how much time their child played indoors and what types of things they played (*see Table 2*). The amount of time reported varied greatly among the interviewees. Likewise, some parents only mentioned traditional forms of play while another parent only listed electronic activities.

For question 5, the researcher asked parents how much time their child played with technology and what types of things they played (*see Table 3*). The amount of time ranged from .25 hours to 2-4 hours. Each parent interviewed said that his/her child played with a tablet device, which was the most common technology activity.

After parents discussed how their child engaged in technology play, the researcher asked interviewees how they felt technology should be used by a preschooler. Parents 1 and 2 both said that technology should be limited and each indicated that it should be supervised or monitored. Five parents (parents 2, 3, 4, 5, and 6) responded that technology is positive for reasons such as exposure, learning, and education. Parent 3 said she thinks that children should use technology to get used to a keyboard and because her child will use it in college and elementary school. She indicated that technology helps her child know where the letters are on the keyboard and the preschool utilizes an iPad and desktop computer. Parent 4 believes that the iPad “might be good for learning sequence of events” and that technology provided good learning tools. Additionally, parent 6 feels that technology is beneficial for education and gets children excited about learning.

Although parent 2 felt that technology should be used by a preschooler “for exposure and educational games,” she felt that it should be used in moderation and in a limited way. This interviewee also felt that technology needs to be monitored. Similarly, parent 1 had concerns about the amount of technology used by her preschooler. She said that her child “gets crazy” if they say no and he “gets very en-

Table 1: Interview Question: Outdoor Activities

Parent	Time Playing Outdoors	Outdoor Activities
1	1-1.5 hr/day	Ride on car
2	2 hr/day	Swing-set, dolls, bike riding, water toys, snow
3	2 hr/day	Riding bike, swing-set, slides, t-ball, swimming, waterpark
4	2 hr/day	Swings, scooter, big-wheel, sand, bike carrier, grocery
5	2 hr/day	Swing-set, sports, swimming, John Deere
6	2-3 hr/day	Riding bike, running, chalk, swings, Jeep, fishing

Table 2: Interview Question: Indoor Activities

Parent	Time Playing Indoors	Indoor Activities
1	(The rest of time)	Star Wars/Minecraft games, computer, PlayStation, iPad
2	4-6 hr/day	Pretend, kitchen, cooking, dolls, books, Legos
3	2-5 hr/day	Movies, puzzles, crayons, watercolor, flashcards, iPad
4	12 hr/day	Puzzles, Legos, kitchen, cleaning, laundry
5	3 hr/day	Basketball, board games, puzzles, books, math, technology
6	3 hr/day	Dolls, dress-up, doctor set, movies, cars, puzzles, LeapPad

Table 3: Interview Question: Technology Activities

Parent	Time Playing Technology	Technology Activities
1	1-1.5 hr/day	Netflix, TV, iPad, Minecraft, computer
2	2-4 hr/day	TV, Kindle
3	1 hr/day	Skype, digital toys, Z-Tech, LeapFrog, cell phone, iPad
4	.25 hr/day	iPad, alphabet toy
5	2.5 hr/day	iPad, Kindle, iPod, Xbox, cell phone, Wii, Raz-Kids
6	2 hr/day	Movies, iPad, LeapPad, cell phones

grossed.” Further, with their second child, “technology was a lifesaver” to occupy their older son but, now that the younger child is older, they are trying to pull back technology and “limit it more” with their son.

To understand which technology activities preschoolers enjoy the most, the researcher asked parents about their child’s favorite things to do with technology. Tablet apps and electronic games were the most

popular activities in which all parents stated their child enjoyed these the most. (See Table 4)

The final interview questions asked parents to think about their child and explain what they feel were the advantages and disadvantages of technology. Five parents (parents 2, 3, 4, 5, and 6) believed that technology use by their preschooler was beneficial for learning. Parent 5 stated, “Technology advances him.” Parent 6 said that technology is advantageous because it provides “more learning when we don’t have time,” offers children more detail, and makes concepts easier for them to comprehend.

Aside from the learning aspect, interviewees also explained that technology will be useful to prepare their children for what to expect in school. Parent 1 commented that her child will be using more technology once he enters school and that “everything is more technology based.” She added that a lot of classrooms

Table 4: Interview Question: Favorite Technology

Parent	Favorite Technology Activities
1	Minecraft game, Netflix, educational/ Cartoon-based shows, Discovery channel
2	Looking at pictures on cell phones, Kindle ABC and 123 games
3	A-Z, counting, singing, Wheels on the Bus, Kids on the Bus, and Monkey apps
4	Five Little Monkeys and Mr. Potato Head apps
5	Xbox, iPod music, iPad apps, sports-based technology, Raz-Kids, Township app
6	Electronic books, iPad games, movies

use technology and her child is going to see it more, specifically emphasizing an increase in the availability and use of technology. She felt as though media was everywhere and stressed a “more, more, more” mentality as to the abundance, use, and dependence upon it. Parent 4 stated, “The whole world has technology so the more advanced, the better they’ll be.” and so they are not afraid of it. Overall, parent 4 felt that technology was beneficial to her child. Parent 5

explained that the advantage of technology is that her child “can use it all when he enters school.” Further, she said that technology will help with testing since all of the tests are electronic now, and this parent believes that her child will be ahead of other kids in this sense.

All of the interviewees were able to identify disadvantages to technology use as well. Both parents 1 and 5, who have a preschool son, described a problem with breaking their child



Courtesy of Westminster School for Young Children, Nashville, TN

Find the balance between traditional and technology play.

away from technology. Parent 1 explained, “You need to focus and get in his face. It’s hard to transition him away.” Similarly, parent 5 said, “He’s addicted to it. He craves technology.” and gets obsessed. In addition to the addictive nature, parent 1 expressed concern about her child’s eyes as did parent 5. Parent 1 also worries about her child sitting around and being inactive. She thinks that he is better focused when he gets out and exercises. Parent 3 also said that she wants her child “to be active and do other things and get exercise.”

Furthermore, three parents (parents 2, 3, and 4) indicated that they felt technology could be time consuming and were concerned with the amount of time that their child spent on technology. Parents 1 and 2 were worried that technology limited social interaction. Parent 2 said technology caused a “lack of exposure to other learning things.” Parent 4 said that a disadvantage of technology by her preschooler is that “There’s stuff they could get into.” She also told the researcher, “I’m not sure how much it stimulates imagination and creativity. I want them to play pretend.” Lastly, parent 6 was concerned that his child was not really reading with electronic books, just listening. He added that with paper, meaning the traditional hardcopy format of a book, she was “trying to learn” how to read the words opposed to simply following along.

Results of the interviews reveal overlap in the types of activities in which children engage and parental beliefs about their children’s play and technology use. A distinct role of technology emerged. Parents discussed its educational benefits and explained that their children played with technology for entertainment. Advantages of technology centered

on learning and exposure to various media tools. Meanwhile, common disadvantages that surfaced were concerns about overuse, addiction, harm to the eyes, and inappropriate content. In most of the interviews, parents described a need for balance between technology and traditional play.

Discussion

In the interviews, parents were asked how much time their child spent playing with technology as well as outdoors. Most of the parents who were interviewed indicated that their child spent less time engaged with technology than playing out-

side. The majority (n=4) said that their child spent two hours per day outside. Parent interviews were completed at the beginning of June when temperatures were warm, providing more opportunity for outdoor play. Perhaps parents’ responses reflected how they preferred to balance their preschoolers’ activities. Several had mentioned that they felt the need to limit their child’s time with technology and some discussed balancing traditional play with digital devices.

The last interview question asked what parents believed about technology use by their preschooler. In general, advantages centered



Parents should actively engage children, whether doing a science experiment or playing with technology

Courtesy of University of South Florida Preschool for Creative Learning

on exposure to or familiarity with mainstream media and how technology can be used as a tool to help children to learn. In light of the fact that technology is everywhere and has become the norm during children's play, many parents in this study had reservations about its use and some felt that technology should be limited. Parents should request when possible that children ask for permission to use technology. That will better allow parents to track how much time children are engaged with technology. Password locks are a good way to limit use and insure that they ask you first.

While parent 1 felt that it was an advantage for her son to be using the technology that will be employed at school, she also disclosed in the interview that her son "gets very engrossed" and "gets crazy" if they withhold technology from him. Similarly, parent 5 said that her son is "addicted to it," "craves technology," and "gets obsessed." The parents are suggesting that technology can have an addictive effect on a preschooler and this topic should be explored further in future research. We might consider what constitutes a craving for media and if gender, as only boys' parents mentioned this phenomenon, depends on whether or not a child becomes addicted to technology. Parents should balance the time their children spend on technology with other forms of recreation such as outdoor play, literacy experiences and non-technology play.

Parents 1 and 5 expressed concern that technology was not good for their children's eyes. Parent 4 felt that there may be inappropriate content and that technology could be overused. Above all, the most common concern among all of the parents in this study regarded setting

limits on technology. They felt that their children should spend time engaging in other types of play and worried about the negative impact of technology: harm to the eyes, its addictive nature, and safety concerns regarding the content itself. Parents seemed to be conflicted about how much time quantifies an appropriate amount. Researchers like Wartella, Vandewater, and Rideout (2005) explain that very little is known about the impact of technology on children. Unfortunately, this may often result in a population of parents who lack the information to make data-driven decisions about what kind of limits are appropriate to place on their child's media use.

Parents worry about the negative impact of technology.

A prominent question then is how much technology should a preschooler use and to what capacity? Plowman (2013) found that parents thought a balance between play and technology was necessary, and Johnson and Christie (2009) noted the need for parents to balance media time and play. In the present study, the parents referred to a balance between technology and traditional forms of play but did not explicitly state a number that they felt represented too much technology. The role of technology, however, did emerge and seemed to be two-fold based on the findings from this study. First, it served entertainment purposes. Examples of this include television and movies, tablet applications, computer games, video games, and electronic toys. Second, technol-

ogy took the form of supplemental learning material. Parents reported that children were accessing educational games and learning on digital devices. Overall, parents indicated that their children like to use the apps and play games, and the parents emphasized that the format of the technology was educational. This coupling of fun and learning makes technology a crowd pleaser among all ages because digital devices keep the children's attention and provide new, exciting opportunities while parents feel as though their children are benefiting educationally. Parents can consider monitoring the types of apps children use to make sure they are appropriate. In addition, balancing out play apps with education apps will allow the child to use technology in more meaningful ways.

Conclusion

Parents indicated that their children enjoyed playing with technology. One stated that it was difficult to pull her child away from the device when he was playing. One may postulate that technology is so appealing because of the novelty factor. We conclude that there are new opportunities unveiled all the time and that is one of the driving causes of what makes children and adults alike so excited about technology. Portability is an added feature as it provides for convenience especially with busy lifestyles. However, it is not the format, the shape, or size of the gadget that makes it so popular. Rather, it is the capability of the device to provide new experiences for the user over successive interactions. This potential is what gives technology an important edge in education and it can become an important tool to supplement learning at any age. We encourage parents to spend time

playing with children when they are using technology as you would if you were engaging in any game. Scaffold learning where appropriate and use the educational apps as teachable moments.

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