

## SCREEN TIME AND RAISING HEALTHY SUCCESSFUL CHILDREN

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One of the subjects that is near and dear to me as an educator and a parent is that of screen time and brain development in young children. When my oldest son was about 3 years old I observed him sitting passively in front of the television watching a movie. What struck me was the contrast between his regular physical activity and his passiveness in front of the television. I had to ponder what powerful force allowed him to sit without movement for almost two hours, at age 3, when otherwise he would be in constant motion – physically, mentally and verbally?

Now, before I go further into this article I want to assure you that this is not a rant against technology. My own family has quite a few gadgets around the house, and although we monitor their use closely, our children do have the opportunity to use them. I grew up with television and the advent of video games (Space Invaders, Pong, Asteroids, etc.). Even now, as an adult, when I meet someone my own age in a social situation, it is likely that at some point in getting to know the other person a reference will be made to a 1970's television show or movie. Technology, and the rapid change in technology, is a part of our culture, good and bad.

What concerns me, however, as we discuss children and technology, is the rapid increase in exposure to screen time in young children, despite current brain research that indicates that too much screen time, too early can have long-term effects on children, cognitively and physically. In this article I'd like to explore some of the current findings regarding children and screen time and how we can limit the harmful effects of technology while accepting that it is a tool for progress.

First, let's outline some of the findings that have come from current research:

- **Sleep interruption:** Screen time (television, computer and video games) reduce melatonin production and result in interrupted sleep patterns. In one study, when children who watched an average amount of television eliminated screen time, their melatonin levels increased by 30 percent in only one week.
- **Decreased attention span:** Screen time causes the release of dopamine in the brain. Dopamine is a neurotransmitter and contributes to attention, concentration, creativity and learning. As the brain becomes normalized to higher levels of dopamine during screen time, it may likely result in decreased ability to concentrate during non screen-time.
- **Increased caloric intake:** One study showed that participants who watched only 45 minutes of screen-time consumed 230 more calories than their non-screen time counterparts.
- **Heart disease link:** Research done at the University of Sydney studied a group of 15 year-old boys and found that those who participated in two or more hours of screen-time per day had elevated levels of chemical markers that are directly linked to heart disease later in life. Another study in New Zealand found that children who participated in two or more hours of screen-time per day were more likely to have elevated cholesterol levels.
- **Addictive component:** Dopamine has been linked to addictive behavior, and screen-time increases the levels of dopamine production.. Dopamine plays a significant role in reward based learning, but is also linked to addictive drugs like cocaine and methamphetamine, which act directly on the dopamine system.

Next, let's examine some less research driven, but academic observations on screen-time:

- The increasing dependency on screen time (smart phones, tablets, pc's, etc.) decreases and eliminates brain “down time”. Down time for the brain is necessary to process experiences, develop ideas and experience creative thought.

- 80 percent of brain development happens before age three, and screen time at this age seems particularly damaging. Children develop motor skills, concentration, problem solving, communication, social skills, independence and organization during the first six years of their life. Screen-time interrupts normal social interaction, physical expression and exploration, interpersonal communication, social awareness and motor development.
- Increased anti-social behavior. Children are now communicating significantly through technology where social boundaries are blurred and even erased. The immediate effects of anti-social behavior (teasing, bullying, objectifying, sexualizing, etc.) are unseen and children and adolescents are participating in ever-increasing levels of emotionally harmful behaviors.

What is interesting, is that even in a research driven environment like education, there is a conflict between what is being found regarding the impact of screen-time on children's brain development and the practices of using technology. Children as young as 5-years old are being issued tablets at some schools, and there is an ever-increasing push to use screen-based technology not just as a tool, but as the primary means for delivering content to children. If screen-time is prevalent at home as well, what is the effect on their development?

### **Creating Healthy Boundaries at Home**

As I mentioned above, I am not an advocate of eliminating screen-time completely as a solution to raising remarkable children. Screen-based technology is here to stay, and our children can't be sheltered forever, but understanding the potential harmful affects is important to creating a healthy and safe environment for our children to learn and grow.

Children under 2: The American Academy of Pediatrics suggests no screen-time at all for children under 2. Enough said.

Children 3 to 6: Limit screen-time to 4-6 hours per week. Giving young children limited choices is an empowering way to help them begin to make their own choices. You might say, "You can watch TV for ½ hour before dinner or after dinner. You chose." or "You may watch Sesame Street or Barney, but not both. What program would you like to watch?" Involving children early in these decisions, while setting and maintaining appropriate boundaries will help set up a culture of cooperation and balance.

If you have young children, try eliminating screen time completely at different times. Observe what your children do (after some initial complaining) when screen-time is off the table. You might be pleasantly surprised – our family was.

Children 6-14: Limit screen-time to 6-8 hours per week. Involve children in planning for screen-time vs. seeking to control it. Explain and research with them the effects of prolonged exposure, and discuss long-term consequences openly. Using family meetings to problem-solve together can work really well to avoid power struggles and increase cooperation.

Adolescents 14-18: Creating a family culture that is consistent and respectful of an adolescents need for independence and ability to self-regulate. Family meetings and involving teens in the creation of limits and planning for non-screen activities is key.

### Suggestions for Creating Healthy and Safe Technology Boundaries for Families

1. Watch television with your children. Know what they are watching, and take time to discuss what they think about what they see. If you find something is inappropriate, check in to see how your child or adolescent is feeling about it. You might be surprised to find that they often feel the same way, but

asked vs. told will often react positively. Family movie nights are a great way to spend time together, and use media responsibly together.

2. Give yourself permission, as parents, to have firmer boundaries around technology than other families. Too often parents look to other parents to see what they are doing as they make values based decisions for their own families. It's OK to be the odd family that has firmer limits. If you don't feel something is right, trust yourself – your children will probably complain anyway!
3. Use filtering software, such as Norton Family Online or Open DNS, that monitors and tracks your desktops as well as hand held devices. Time limits can be set on many of these programs.
4. Take time to explore what programs, aps or sites your child is using. There is some deceptive programming out there, and even tech-savvy parents are surprised about the content or capability of programs or sites. Remember, even if you consider yourself tech-savvy, the programs, sites and aps that your children are using are written for them. Friends of ours recently found that their child was talking in a chat room, despite the fact that they had filtering software that blocked chat rooms. It turns out that an online game that the parents had OK'd had a chat room built into the program that got by the filtering software.
5. Keep them active!
6. Involve the children in planning non-screen activities each week. You don't have to let on that that's what you're doing, just involve them in planning activities. It's very easy to default to sitting in front of a device when you have nothing planned.