Children and Screen Time: Research Overview

ACM Interactivity
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Screen Time – Historical Context

“The modern world has overwhelmed people with information that is confusing and harmful to the mind.”

“Disrupting the balance of young children’s minds.”

“Ruining conversation and the pattern of family living.”
Headlines – How bad is it?

• Screen Addiction Is Taking a Toll on Children, New York Times, 7/6/15

• Screen time Is Making Kids, Moody, Crazy and Lazy, Psychology Today, 8/18/15

• TECHNOLOGY ADDICTION: Concern, Controversy, Finding Balance, Common Sense Media, 5/3/16

• Electronic media keeping kids from communicating with parents, Science Daily, 5/27/16

Is our screen-time anxiety more detrimental than screen time? Washington Post, 5/30/16

• It’s ‘digital heroin’: How screens turn kids into psychotic junkies, Dr. Nicholas Kardaras, New York Post, 8/17/16
• Children benefit from the right kind of screen time, New Scientist, 3/26/14

• Research says screen time can be good for your kids, Forbes, 7/17/13

• Screen time for kids is probably fine, FiveThirtyEight, 6/18/15

• Sorry Kate Winslet, some screen time can be good for kids, The Daily Telegraph, 11/4/15

• Parents: Reject technology shame, The Atlantic, 11/4/15
Some statistics

• Average child spends 3 hours per day watching television and 5-7 hours total on screens (NIMH).

• The average age a child first watched a television in the 1970’s was 4 years; in 2012, it was 4 months (Rideout, V. J., & Hamel, E. (2006).)

• Between their first and second birthday, on any given day, 64% of babies and toddlers are watching TV and videos, averaging slightly over 2 hours. Thirty-six percent have a television in their bedroom. (Rideout, 2011)

• Among children 8 years of age and younger, 75% use smartphones (Common Sense Media, 2015)
Categories of screen time

- **Passive consumption**: watching TV, reading, and listening to music
- **Interactive consumption**: playing games and browsing the Internet
- **Communication**: video-chatting and using social media
- **Content creation**: using devices to make digital art or music

*The common sense census: Media use by tweens and teens*  
V Rideout - Common Sense Media, San Francisco, CA, 2015
What kind of screen time is it?

- Screen Time as a sum of all screen-related activities might not be the most accurate and useful measure.
- Computer use and video game play should not be classed as the same type of activity as TV viewing.
- Active vs. passive screen time
  - Active screen time
    - Physical and cognitive
    - Physical inactivity and screen time may not be directly linked
  - Passive screen time
    - Conflicting evidence on educational and physiological impact
- Extent to which a child actively engages with media may be a function of the child, rather than the specific form of media.

Cooney Center – Families and Media Project (2014)

• Nearly half (44%) of the screen media 2- to 10-year olds considered educational

• Ed. media occurs most frequently with among very young children (2-4 yr. olds)

• Children spend more time with TV than any other platform

• Children still read! An average of 40 minutes per day (29-print, 8-computer, 5-e-platforms)

• As children get older, the amount of time they spend with screen media goes up (from 1:37 to 2:36 a day), and the proportion that is educational goes down (from 78% to 27%)
AAP Position on Screen Time

• Latest report: October 2016
• Shift from previous recommendations
• Well designed media used by parents and children together, could be a tool for social interaction and learning.
• Adopting a more realistic approach
  • Recognizes ubiquity of technology in our lives
  • Toddlers may benefit from new technologies (video chat)
  • Most preschoolers already using tablets and other technology
• Role of parents in interpreting and contextualizing
• Differentiate between entertainment and educational media
• Television shows and electronic resources can serve as powerful tools for teaching and learning, when incorporating what is known about effective reading instruction (Corporation for Public Broadcasting 2011).

• It is the educational content that matters—not the format in which it is presented (Wainwright & Linebarger 2006).
Impacts of screen time

Excessive Screen Time
- Internet overuse
- Excessive gaming

Sleep Problem
- Decreased Sleep duration
- Increased Daytime sleepiness
- Poor Sleep Quality

School Ability Affected

Lower Grades

Sendetary Lifestyle & Unhealthy Eating

Obesity

Type 2 diabetes

Heart disease

Depression

Rewiring of Brain

Addiction

Attentional Difficulties

Anxiety & Fear

Poormental Well-being

Multiple Risk Factors

Increased Aggression

Desensitization And Acceptance Of Violence

Cognitive Development

Mental Health

Physical Health

Social Emotional Development
Impacts of screen time

In defense of screen time

Content that introduces computer skills and thinking and problem-solving
Content that supports the traditional educational curriculum
Content mostly for entertainment

PASSIVE
- The child watches content in this category with no real level of attention. It's a passive experience where parents need to be aware but it's sometimes hard to ever really engage with these kinds of games.
- Material that is usually good for children but might not engage them as much.
- Content that can be consumed without much active participation.

CREATIVE
- Requires real-time input from the user in order to participate. Most of the titles here are mobile apps.
- Apps that help develop skills and concepts that are expanded upon in the creative categories which are good for younger users.

INTERACTIVE
- A scale of child engagement from 1 to 5.
- Games that require more than just watching and listening.
- Games that require active participation and interaction.

ACTIVE
- Games that require physical movement and input from the child.
- Games that involve real-world challenges and interactions.

In defense of screen time
Impact on cognitive development

• TV watching is correlated with poor language development. Two or more hours per day of screen time before the first birthday is associated with a six-fold increase in language delay. (Aamodt & Wang, 2011)

• Live interactions between a child and an adult conducted over a digital device such as a tablet or smartphone enable children to learn new words (Roseberry, 2013)

• Violent content and evening media use were associated with increased sleep problems for children aged three to five years. (Garrison, 2011)

• Interactivity and adult modeling help children to learn a task better than passive viewing of the same material (Lauricella, A. R., et. al. 2010)
Evidence cited is overwhelmingly from quantitative sources, especially for risk-focused advice (harm reduction is often the starting point).

Positive visions of screen time tends to be crowd-sourced (i.e. self-reported experiences of parents), advocated by industry (e.g. Apple), or claimed as ‘common sense’ with no links to evidence.

The organizations with the closest links between evidence and recommendations are those that commission their own research. (e.g. Common Sense Media)

Children’s ages, interests, developmental abilities and gender are intrinsic parts of media use, however very few recommendations acknowledge these differences.
Parents’ own digital skill level determines how, and with what results, they mediate their children’s digital media use. (restrictive vs. mediation; Livingstone, 2015)

Parental values around digital media can be as influential as parents’ skill levels in how they approach media in the home and in their children’s lives.

- Digital media use offers opportunities for parents and children to share expertise and to learn from one another, if both are open to doing so (Fletcher and Blair (2014)).

The gender of both parent and child influences parental mediation.

- Studies have shown that girls tend to be monitored and restricted more than boys, even when they are the same age (Eastin et al. (2006); Kirwil (2009); Livingstone et al., 2016: forthcoming).

Parents of young children are more likely to engage in all forms of parental mediation, including technical restrictions, social restrictions, active mediation and monitoring. (Pasquier et al. 2012).
• Media use is no longer an optional extra

• ‘Screen time’ cannot be homogenized as a uniform or inevitably problematic activity.

• Move beyond a heavy focus on risk with little exploration or recognition of opportunities, and thus to move beyond the dominant message to parents that their main responsibility is to limit and control.

• A heavy focus on restrictions leaves parents unsupported in finding opportunities for children and parents to learn, connect and create together using digital media.
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