

# Increased Screen Time Implications for Early Childhood Development and Behavior



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## KEYWORDS

- Television • Digital media • Mobile device • Screen time • Child behavior
- Child development • Child play

## KEY POINTS

- Mobile and interactive media have revolutionized digital play for young children, through changes in access to platforms, new content, and differences in the ways parents mediate this play.
- Well-designed TV programs and interactive media can be educational starting in pre-school; but children younger than 2 years require adult interaction to learn from screen media.
- Interactive media have the potential to be highly engaging for children, but digital features can also distract from the learning objectives.
- Several health and developmental risks of excessive or inappropriate (eg, violent, adult oriented) media exposure continue to exist, primarily in areas of sleep, obesity, child development, executive functioning, and aggression.
- Pediatric providers can be a resource for parents in terms of translating these research findings and applying them to family's decision-making, offering suggestions for digital tools or resources, teaching parents how to mediate their child's screen time, and supporting positive parenting and play.

## INTRODUCTION

Emerging technologies, including mobile and interactive screen media, are now embedded in the daily lives of young children.<sup>1,2</sup> Since 1970, the age at which children begin to regularly interact with media has shifted from 4 years to 4 months, meaning that children today are “digital natives,” born into an ever-changing digital ecosystem that is enhanced by mobile media. Although there have been decades of research on the effects of TV on children's health and development, there is considerably less research on more recent platforms, including interactive and mobile media.

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In this article, the authors review the evidence of how young children learn through digital media in different domains of child development and learning as well as evidence for developmental risks. This article focuses on early childhood and school-aged children (approximately 0–8 years of age), when lifelong media habits are established,<sup>3</sup> before children are usually using social media, and when parents play the largest role in determining children's media use habits. This time is also a period of enormous brain plasticity, when experiences exert profound influences on social, cognitive, and emotional development<sup>4,5</sup> and when health-related behaviors, such as eating, physical activity, and sleep, are established.

## HOW DIGITAL MEDIA USE IS CHANGING

### *Increasing Use, Younger Ages*

Digital media is increasingly used by children during these early years of brain development. This increased use reflects both the increasing use of screen media by families and society<sup>6</sup> and the growing marketing of cable TV channels, digital devices, and applications (apps) to young children,<sup>7</sup> even to those from disadvantaged households.<sup>8</sup>

For example, since the Kaiser Family Foundation first started surveying parents of 0 to 8 year olds about family technology use, usage by young children has increased year by year. In 2011, 52% of children aged 0 to 8 years had access to a mobile device and 38% had ever used one.<sup>9</sup> This percentage increased to 75% of 0- to 8-year-old children having access to mobile devices in 2013.<sup>6</sup> At that point, most mobile device use was reportedly to play games, use apps, or watch videos, averaging only 15 minutes per day. Children younger than 2 years were primarily still watching TV and DVDs.<sup>6</sup>

Since then, a nationwide survey showed that 0 to 8 year olds are using an average of 3 hours of screen media per day (Table 1), primarily watching TV or videos.<sup>2</sup> A smaller study conducted in a low-income urban pediatric clinic in 2015 showed that almost all (97%) 0 to 4 year olds had used a mobile device, and three-quarters owned their own device.<sup>8</sup> What is even more striking about these results is evidence that media multi-tasking starts at less than 4 years of age, that the youngest children queried had almost universal exposure to mobile devices in infancy (92% of 1 year olds), and that most young children were primarily using mobile devices for entertainment, not educational, purposes.

	Among All	Younger than 2 y	2–5 y	6–8 y
TV or DVDs	1:46	0:59	2:01	1:52
Computer	0:25	0:09	0:20	0:42
Video game player (console)	0:18	-	0:14	0:31
Tablet computer	0:14	0:02	0:16	0:17
Handheld video game player	0:11	0:01	0:10	0:18
Smartphone	0:10	0:03	0:13	0:11
Total	3:04	1:15	3:13	3:52

From Wartella E, Rideout V, Lauricella A, et al. Parenting in the age of digital technology: a national survey. Report of the Center on Media and Human Development, School of Communication, Northwestern University. 2014.

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