Making Sense of Kids' Technology Use

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Portable electronic devices are everywhere. Kids love them, and schools are sending them into homes. This accessibility challenges parents, who want to balance dangers like addiction, bullying, and strangers against benefits for social relationships and future careers. How are these pressures affecting kids, families, and society? Is this a new "moral panic?" What does the future hold?

"We are inexpertly navigating technology"

New technologies are radically reshaping the experience of childhood and adolescence. The US parents from middle-class communities we spoke to told us they are struggling mightily to manage their kids' technology use, seeing this tension as a significant source of stress in their family's everyday lives. Many parents feel judged by others for their choices, and they just as frequently judge their peers. Yet they persist in trying to carefully manage their children's technology use despite these judgments and family conflicts. Many parents feel that their regulation of their children's technology use will be fundamentally important for their children's futures. They see new technologies as a double-edged sword. On one hand, they fear that technology use spurs addiction, social isolation, bullying, or physical danger. Yet on the other hand, they view proficiency with cutting-edge technologies as a gateway to young people's educational success and attractive career options.

The pressures, lack of information, and fears parents are experiencing around children's technology use are summed up by upper-middle-class mom Lisa: "No one has the answers because there's no right or wrong and because it hasn't been long enough to understand what damage, if any, is coming from it. Or what benefits, if any, are coming from it. ... I just feel like I try and try and try, and what is reasonable? What is reasonable?"

We illustrate families' experiences using the fairly typical case of Rachel and her daughter Anna. Like many parents we spoke to, Rachel describes her family as less technology-focused than most in their community—but digging under the surface of that portrayal, Anna is using a lot more technology than Rachel might care to admit. A forty-something white artist married to a teacher, Rachel told us, "My kids do not have their own devices. And that's unusual in our peer group." In terms of social media, her middle-school daughter Anna "has a board on my Pinterest. That's it." Rachel believes Anna's lack of technology access is detrimental for her social life: "She's kind of an eccentric kid compared to some of these kids. And not having a phone has only solidified that social status."

Yet Rachel also describes a plethora of devices in Anna's life. Anna has access to a "house" smart phone for calling and texting, an iPod for listening to music, and a Kindle for reading. In school she uses a Chromebook laptop. And, Rachel said, "Of course she has a dedicated iPad for school. Our district has a one-to-one program" that gives each child a tablet to take home for homework. Rachel emphasizes how normal her family is. "We have three Kindles and five phones and four MacBooks. We have three iPads, and two are owned by the school district, but those are all the devices in our house. And we are not even rich." Like many parents we spoke with, Rachel monitors Anna's technology use, reading Anna's texts to her friends and forbidding Anna to delete any before Rachel has read them (something Anna has done before and gotten into trouble for). Rachel and other

mothers have argued over whether some of those texts between girls are bullying versus normal middle-school spats.

Rachel is impressed with the educational benefits of Anna's technology use. She says, "Watching what she can do academically with access to technology is just so amazing. Like the collaborative opportunities it provides for students in and out of the classroom." At the same time, like most parents we talked to, she's concerned that having an "educational" tablet in the home creates temptations for Anna, challenges for Rachel's monitoring of Anna's technology use, and parent-child conflict. "Using the iPad only for school. How do you enforce that? ... The only conflicts that we ever really have are around technology." Our observations of families support what Rachel is saying—most conflicts we witnessed involved children trying to use technology against parents' wishes. Rachel thinks her family manages the pressures around kids' technology use "thoughtfully," but she is also self-critical: "Because we didn't navigate that [technology] as kids, we are inexpertly navigating that as adults. And I'm wondering if our kids will actually be better at navigating that when they're older."

Kids' technology use today

To better understand these tensions and concerns, we can look at recent changes in technology use and its current role in children's and teenagers' lives. Television, "land line" telephones, video gaming consoles, and non-networked household computers were widespread technologies a generation ago. Today most devices—such as smart phones, tablets, and laptop computers—look very different. They are portable, internet-connected, and meant for use by one person. They serve a wide variety of purposes, including media consumption and creation; school, work, and information seeking; and voice, text, and video communication. This change in device use has been recent and rapid, sometimes described as a "revolution." The Pew Research Center reports that less than twenty years ago, just 1% of US adults had high-speed internet access in their home. By 2019, that figure stood at 74%, and cellular-enabled portable devices can now access the internet without a high-speed connection. Smartphones and tablets have only been in widespread use for a decade or less. Children and teens now overwhelmingly have access to more than one internet-enabled device in their homes.

Social scientists are eager to study such a widespread and rapidly changing phenomenon. But measuring technology use is difficult, especially for researchers who want to be able to draw conclusions that apply broadly to the US population. When asked, people tend to misremember how much they have used technology. This may be in part because short "bursts" of technology use, such as checking one's phone for notifications or sending texts, happen throughout the day and are easy to forget. Observing technology use and tracking use on devices are promising techniques when studying small groups. But for national estimates, time diaries are considered the least biased way to capture technology use. Here, we analyze time diaries completed by a national sample of families who participated in the Panel Study of Income Dynamics Child Development Supplement. Parents and children wrote down everything the child did during one 24-hour period on a weekday and another on a weekend, including multiple activities at the same time when relevant. We compare time spent using technology in 2014-16 to 1997 and 2002, before the mobile internet revolution. We also use data from in-person interviews and home observations conducted with families of elementary and middle school-aged children living in two middle-class communities. Finally, we share the perspectives of young adults aged 18-24, who talked about technology use and health with a young adult peer interviewer.

As of 2014-2016, elementary-aged kids were using technology (including phones, tablets, televisions, computers, and digital music players) for 23 hours per week—not including additional technology use during school. Even young children aged 2-5 were using technology for 25 hours per week, which is up by one third since 1997. And adolescents were using technology even more at 33 hours per week, a 5-hour

increase since 2002. In other words, almost half of the time that a typical teenager is not in school or sleeping, they are using technology. These increases in technology use are mostly driven by using electronic devices as a secondary activity—“multitasking” with technology—such as using a cell phone while riding in a car, listening to music while doing homework, or watching television content during a meal.

What are young people doing when they use technology? As in the past, most of their time is spent watching television content. The most common activities beyond watching television content, at all ages, are listening to music and video gaming. We expected stark differences in technology use by age, gender, race, and class but did not find them. Girls listen to music more frequently than boys on average, and boys spend more time video gaming—but otherwise there are few gender differences in technology use. There are no meaningful racial or ethnic differences in time spent using technology at any age. Young children whose primary caregiver has a college degree use technology 24% less than those whose caregiver is a high school graduate, but this socioeconomic difference is smaller in middle childhood and nonexistent in adolescence. In all social groups, most kids have access to and use mobile devices in their homes.

The data paint a picture of mobile technologies saturating young people's everyday lives from the time they are toddlers. And there are few meaningful differences between social groups. Given the rapid rise of mobile technology in their lives, what do we know about its effects? A 2016 policy statement by the American Academy of Pediatrics (AAP), which issues formal recommendations on children's health, concluded that "research suggests both benefits and risks of media use for the health of [school-aged] children and teenagers." Researchers have identified concerns with sleep and weight, but often with small or inconsistent effects. Benefits include social support, education, and access to information, including health-promoting knowledge. Rather than making a clear recommendation as it typically might, the AAP said that "in this new era, evidence regarding healthy media use does not support a one-size-fits-all approach" to restricting media time. This guideline, which asks parents and pediatricians to work together to create a personalized Family Media Plan for each child, replaced a longstanding recommended cap of two hours per day of screen time. This policy shift suggests that the cost-benefit analysis for children's health is no longer clear-cut. But it also comes across as vague, supporting Lisa's sense that "no one has the answers."

A moral panic?

Kids are using technology much of the time, parents feel pressured and uninformed, and expert guidance is unclear because mobile technologies are so new. This makes the situation ripe for what sociologists call a "moral panic"—a socially constructed fear that a phenomenon is threatening a community or society. Because modern ideas of childhood emphasize innocence, protection, and freedom from adult concerns, many moral panics involve children and teenagers, even though adults use technologies, too. Moral panics around kids' use of emerging technologies are not new. During the last century, there have been moral panics around children's consumption of movies ("silent pictures"), radio programs, comic books, television shows, and video games. The earliest new media forms became popular around the same time that childhood was becoming a protected life stage associated with school and free time rather than work. Ideas about the sanctity of childhood date back to around this time, and the life stage of adolescence emerged as a precursor to adult status.

Ellen Wartella and Nancy Jennings have argued that as new media technologies emerged throughout the last century, research about them first focused on children's access to the technologies and how much time they spent using them. It then turned to focusing on the media content, acknowledging that the effects of a new technology depend on particular content delivered to a particular child in a particular context. In the new internet era, they advocate for research focusing on how to deliver high-quality content to children.

Moral panics are a societal phenomenon, but they are experienced by individuals. Lisa is acutely aware that "I can't fight this single-handedly. There's not a collective consciousness around, like, what we are going to do to prevent our kids from being addicted to their phones." As Lisa suggests, parents feel pressured to fix as individuals what is ultimately a societal concern. And even their individual control is being constrained. Because many schools are sending mobile technologies into children's homes—as early as elementary school—with the expectation that parents will monitor kids' use, parents no longer feel like they are the sole gatekeepers who get to decide how much technology their children use and when.

If moral panics around technology are nothing new, why does it feel to many people, like Lisa says, that "everything I grew up with was better than this"? Part of the answer may lie in the rising perceptions of risk in childhood and adolescence—a "culture of fear"—even though statistically, in most ways young people are safer than they were a generation ago. Another part of the answer may be the increasing social inequalities that make it more crucial than ever for children to succeed in their

education and careers if they want to have a comfortable life. A third part may be the mixed messages about the costs and benefits of kids' technology use. As the AAP recommendations suggest, there are more potential benefits to technology use in the mobile internet era than there were in the past. It isn't just entertainment to be consumed passively. Instead, new technologies can be a portal for creativity and innovation, information seeking, and educational and socioeconomic success in an era when STEM (science, technology, engineering, and math) careers are increasingly attractive. These upsides to technology use may make it harder for parents to set limits when they worry that they are making a wrong choice either by restricting technology use or by encouraging it.

Moral panics are often fueled by uncertainties like these. They are also unequally applied. In the moral panic around teen pregnancy, girls, and particularly low-income girls of color, are viewed as the main "problem" for society—they are the targets of the moral panic and end up on the receiving end of more stereotyping and social control. We can see similar processes happening in the moral panic around young people's technology use. Matt Rafalow observed three middle schools, finding that kids' digital skills were similar across racial and class lines. Yet teachers' reactions to these competencies were very different. In the working-class Latinx school, they told students that their technological skills were educationally irrelevant. These skills were considered a threat to learning in the middle-class Asian American school. Only in the wealthy white school was technological competency encouraged and framed as important for success, likely resulting in greater opportunities for these youth.

Our research has found that gender works in a similar way. Even though girls and boys spend similar time on technology use, parents' reactions to it are often quite different. Boys' technology use is seen as something that they must learn to manage and control in order to succeed as adults. Girls' technology use is considered more of a threat that parents should limit and control, and the dangers of peer bullying and contact with strangers are seen as unsolvable reasons to avoid technology. This meaning-making may have consequences for young people later on if technology use is seen as building crucial skills for some kids and a moral panic for others.

Looking to the future

We don't yet know the effects of mobile technology use for children and youth. What we do know is that it is saturating their everyday lives. As Lisa told us, "The world has changed fundamentally, and you can't put the genie back in the bottle." So how do we live with new technologies now that they are here? What we do know is that technology use is changing how family members interact with each other, introducing tension and conflict into parent-child relationships, and triggering stress for parents when they feel pressure to successfully manage technology use in their children despite unclear expert guidelines. The moral panic around kids' technology use, although socially constructed, is very real in its negative consequences.

Are the pressures and fears parents are experiencing constructive and necessary, or are they just stress-inducing and damaging for family relationships? We talked to young adults who recently finished high school to find out what they thought about how their technology use in childhood, adolescence, and today mattered for their own lives. They told a similar story about technology being a major part of their everyday experience, and they see it as a potentially problematic distraction that they must manage. But they talked positively about technology being a useful tool for maintaining social relationships, relaxing, and getting work done. They think their current lives shape their technology use more than what they or their parents did in childhood or adolescence. John, a college student, views himself as "relatively technology addicted," but then mostly discusses positive ways he uses technology to improve his French, spend "very valuable" time updating himself on his friends' lives

and communicating with them, and do schoolwork. When John was twelve, he “spent seven months of my life on a video game, which thinking back on it now, was tragic.” By the time he was in high school, though, he was much less interested in using technology. John doesn’t think his earlier technology use has had lasting negative effects, but he says it “has gifted me with the blessing of being very comfortable with technology.”

Do stories like John’s mean that we should embrace technology use in young people? Some US communities, and even some entire societies, are taking that route. Sweden enacted a law in summer 2019 that made digital technology a formal part of the national preschool curriculum. 95% of Swedish children attend preschool. Local official Anna Jacobsson said, “Preschool should give children the background to build a critical and responsible relationship with digital technology.” This approach, which is similar to what Matt Rafalow found in his wealthy white middle school, takes some pressure off parents and makes the education system responsible for teaching digital skills. It may make it harder for parents who disagree with this approach to restrict technology use. But an approach like this probably also calms the moral panic, standardizing educational messages about technology in a way that may reduce inequalities in young people’s ability to leverage digital skills for their future success.

The direct consequences of children’s technology use for their success and well-being will take years to realize. In the meantime, researchers have accumulated good evidence that parental stress and anxiety and family conflict are harmful to parent-child relationships and child mental health. Thus, good ways to negotiate the uncertainty of a new technology regime as a society may be to reduce pressures on parents to manage their children’s technology use alone, help parents make choices that make sense for their own families, and communicate effectively with young people about technology use.

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Recommended Resources:

American Academy of Pediatrics Council on Communications and Media. 2016. “Media Use in School-Aged Children and Adolescents.” *Pediatrics* 138(5):e20162592. AAP’s new guidelines for technology and media use that recommend an individualized plan for each child.

Ito, Mizuko, et al. (2009). “Hanging Out, Messing Around, and Geeking Out: Kids Living and Learning with New Media.” Cambridge, MA: MIT Press. An overview of how new media are shaping social interactions for young people.

The Local. (2019). “Digital Technology Is Now an Official Part of Sweden’s Preschool Curriculum.” Accessible at <https://www.thelocal.se/20190827/digital-technology-is-now-an-official-part->

of-swedens-preschool-curriculum. Describes adoption of technology as part of a formal curriculum for young children.

Rafalow, Matthew H. (2018). "Disciplining Play: Digital Youth Culture as Capital at School." *American Journal of Sociology* 123(5): 1416-1452. Teachers mold students' digital skills into cultural capital for achievement in ways that vary by student body social class and ethnic composition.

Rideout, Vicky (2015). *The Common Sense Census: Media Use by Tweens and Teens*. San Francisco, CA: Common Sense Media. An accessible recent US profile of older children's and adolescents' digital media habits.

Turkle, Sherri (2017). *Alone Together: Why We Expect More from Technology and Less from Each Other*. 2nd ed. New York: Basic Books. Engagement with personal technologies has diminished what adolescents and young adults expect from and contribute to their real-life social relationships.

Wartella, Ellen A. and Nancy Jennings (2000). "Children and Computers: New Technology – Old Concerns." *The Future of Children*. 10(2): 31-43. Historical review of responses to children's exposure to technologies such as film, radio, and television, providing context for interpreting contemporary concerns about children's computer use.

For more nationally representative findings on kids' and teens' technology use, see:

Fomby, Paula, Joshua A. Goode, Kim-Phuong Truong-Vu, and Stefanie Mollborn. 2019. "Adolescent Technology, Sleep, and Physical Activity Time in Two US Cohorts." *Youth & Society*. Accessible at <https://journals.sagepub.com/doi/pdf/10.1177/0044118X19868365>. DOI: 10.1177/0044118X19868365

Goode, Joshua A., Paula Fomby, Stefanie Mollborn, and Aubrey Limburg. Published online ahead of print. "Children's Technology Time in Two U.S. Cohorts, 1997-2016." *Child Indicators Research*. Accessible at <https://link.springer.com/article/10.1007/s12187-019-09675-x>. DOI: 10.1007/s12187-019-09675-x