
Moving Beyond “The Great Screen Time Debate” in the Design of Technology for Children

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ABSTRACT

Despite pervasive messaging about the dangers of “screen time,” children and families remain avid consumers of digital media and other technologies. Given competing narratives heralding the promise or the peril of children’s technology, how can designers best serve this audience? In this panel, we bring together world experts from: children’s media and communications, pediatrics and human development, HCI and design, and industry product development to debate the validity of pundits’ concerns and discuss designers’ opportunities and obligations with respect to creating products for this user group. Panelists bring diverse—and sometimes conflicting—perspectives on the conceptual

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frameworks that are most appropriate for understanding family technology use, the ethical considerations designers should bring to this space, and the most pressing needs for future research. Grounding the conversation in guidance from the audience, panelists will share their visions for a research agenda that separates moral panics from credible concerns and promotes the design of positive digital experiences for children and families.

KEYWORDS

child; parenting; child-computer interaction; screen time; families.

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INTRODUCTION

Children and families are avid technology users [1, 2, 10], creating an abundance of opportunities for designers targeting this population. Yet, understanding and meeting these users’ needs is complicated by the fact that parents (and the broader public, including designers and developers themselves) are flooded with messages about digital media and “screen time” that are often overly dramatized, simplified, and lack the complexity with which technology is used by children and parents.

This messaging is, in part, a result of the fact that a number of policy statements have sought to translate existing evidence into lay-person guidance regarding children’s use of technology. For example, the American Academy of Pediatrics (AAP) (e.g., [15]), the Chief Medical Officers of the United Kingdom (e.g., [13]), the American Psychological Association (e.g., [3]), and the Royal College of Paediatrics and Child Health (e.g., [14]) have all produced guidelines on this topic. A systematic review of policy statements from the past three decades concludes that such guidelines routinely present a false narrative of consistency and ignore conflicting research results (among other concerns) [6]. Other work critiques the AAP guidelines in particular, reporting that they lack sufficient evidence and lead families to unproductive self-doubt [4]. Further, past statements have been informed primarily by research that examines a limited set of outcome measures (such as obesity, mental illness, and sleep) and fails to account for the families’ situated, lived experience with nascent media.

Collectively, these limitations call for: 1) a more robust evidence base for understanding children’s experiences with media and related outcomes, and 2) more thoughtful translation when disseminating this evidence to the public. Within the research community, a key challenge to accruing and sharing this knowledge base is an internal struggle to determine how to frame these questions and discuss them across disciplines and perspectives. For example, what is productive and what is problematic

about framing media use as a health risk factor? How might technology researchers go beyond attempts to debunk the AAP guidelines to also offer new ideas? How might developmental researchers take a more user-centered perspective that recognizes the fact that risk-averse research conclusions do not resonate with many parents and are challenging to reconcile with families' lived experience? And how do sound bites such as "lapses not apps" or "good digital parenting" effect how the public interprets research findings?

Prior work has shown that researchers internalize (potentially unfounded) social narratives about technology, and also that they reproduce and perpetuate these narratives in the questions they ask [11]. In addition, "screen time" policies make assumptions about the value of expert advice, intensive parenting norms, and the individual responsibilities of parents [7], rather than considering the collective responsibilities of the developers of the digital ecosystem. Thus, a central goal of this panel is to engage reflexively with the biases embedded in our own research on children's technology use and our efforts to translate it to the public. We aim to end this session with a more balanced, synthesized framework that is relevant to researchers and policymakers from diverse disciplinary backgrounds.

Finally, researchers agree that the rapid pace of technological development outpaces the academic community's ability to maintain a robust, relevant evidence base. This suggests that relying on research evidence alone will be insufficient and calls for constructive conversations among academics, designers, and industry. Thus, another aim of this panel is to bring together a diverse group of stakeholders that extend beyond the research community to discuss how this larger collective can best serve children and families.

Our panel members have been critical of one another's discourse and approaches, which will allow for active debate during the panel. However, the purpose of this discussion is to move the research and policy agenda forward, not to make academic arguments for their own sake. In this session, panelists will discuss discourse surrounding children and media with the goal of generating novel, cross-disciplinary approaches that will be relevant for both theory and practice. Panelists bring a diversity of experiences, disciplinary perspectives, and national origins, and they bring domain expertise that spans both theoretical and applied topics across design, health, parenting, policy, and industry.

PANEL FORMAT

The panel will center on three core areas of discussion, which will be presented to the audience early in the session to ground participation and guide questions:

- **Moral Panics:** What sound bites and conversations currently undermine families' ability to navigate media-related decisions and integrate technology into daily life? How does the research

community perpetuate or buy in to these narratives? What frameworks and discourse are most productive for understanding and discussing family technology use?

- **Credible Concerns:** What aspects of today's technology landscape pose legitimate threats to children's development, well-being, security, and autonomy? Considerable evidence suggests that children conceptualize privacy differently than adults and need help critically evaluating advertising or misinformation. At different developmental stages, children's emerging executive functioning, sense of self, and abstract thinking abilities may make them vulnerable to aspects of the modern digital environment, such as the attention economy. Content analyses of popular apps for younger children have shown high levels of advertising [12] and false claims about educational value [5].
- **Design Opportunities:** Prior work has shown an abundance of ways in which interactive technology and digital media are a positive force in the lives of children and families. Further, other work has shown that through thoughtful design decisions, developers can mitigate technology risks, for example, increasing children's resilience to negative experiences online [16], increasing children's autonomy over the amount of content they consume [8], and shaping the extent to which children share their digital experiences with others [9]. What design decisions should the CHI community consider as they advance the state of the art in content, tools, communication platforms, games (and more) for children?

The panel will open with a synthesis from the moderator setting up this problem space. Each panelist will then be asked to give a short overview of her vision for a future research agenda in this space, including the concerns she sees as most pressing and those she sees as most overblown. Panelists will also present a position statement describing their view of current academic and public discourse regarding children and media.

We will strongly encourage audience participation, which will comprise more than half the session. Audience input will be solicited through real-time voting (*e.g.*, on conceptual models most resonant with audience members' experience, as a parent, designer, or otherwise) and through an AMA-style question and answer session supported by Slack. We will seed our Q & A by curating questions from other academic and industry researchers with an interest in this topic, asking for input via word of mouth and social media (such as the CHI Meta Facebook group and the Child-Computer Interaction Facebook group).

ORGANIZERS

Alexis Hiniker, PhD. is an Assistant Professor of Human-Computer Interaction (HCI) in the Information School at the University of Washington. She is a leading expert on compulsive technology use and

on designing for families. Her work is regularly disseminated beyond the academy and has led to publicly available apps on Google Play and iTunes, informed the American Academy of Pediatrics' 2016 guidelines on children's technology use, and been covered by *The New York Times*, *TIME Magazine*, *CNN*, *NPR*, *TechCrunch*, *The Wall Street Journal*, *Good Morning America*, *Slate*, and many other mainstream media outlets. Her research has been supported by the Mozilla Foundation, Facebook, Microsoft Research, and Sesame Workshop, among others.

Jenny S. Radesky, MD. Dr. Radesky is a developmental behavioral pediatrician, NIH-funded clinical researcher, and expert in early childhood media use. Her research approach focuses on the interaction between parent/child individual characteristics (i.e., differential susceptibility), the parent-child relationship, and the design of the media with which they interact. Rather than focusing on health diagnoses as outcomes, her research examines upstream processes such as self-regulation and social reciprocity. To achieve a more ecologically valid assessment of family media use, her lab utilizes passive mobile sensing and app content analysis, while also assessing the emotional or contextual predictors and modifiers of child-media interaction. In 2016, she helped revise the American Academy of Pediatrics (AAP) media use guidelines for children 5 and younger, and is a co-author of the forthcoming AAP policy statement on advertising to children.

Sonia Livingstone, OBE. Sonia Livingstone DPhil (Oxon), FBA, FBPS, FAcSS, FRSA, OBE is a professor in the Department of Media and Communications at the London School of Economics and Political Science. She is author of 20 books on children's online opportunities and risks, including "The Class: Living and Learning in the Digital Age." She researches media audiences, especially children's and young people's risks and opportunities, media literacy, and rights in the digital environment. She directs the projects "Children's Data and Privacy Online," "Parenting for a Digital Future" and "Global Kids Online" (with UNICEF Office of Research-Innocenti). Since founding the 33 country EU Kids Online research network, Sonia has advised the UK government, European Commission, European Parliament and the Council of Europe, among others, on children's internet risks, safety, media literacy and rights in digital environments. She is currently part of a team advising the UK government on screen time for 0-5s. She blogs at www.parenting.digital.

Alicia Blum-Ross, PhD. Alicia has worked as a researcher and advocate within and outside of academia, maintaining her focus on children's rights and safety online, in particular how children, youth and families can be supported to connect, create and learn through and about digital media and technology. She has a masters and doctorate from University of Oxford, later joining the Department of Media and Communications at the London School of Economics and Political Science. Alicia has also worked for the British Film Institute, the ICT Coalition for Children Online, BAFTA and Into Film, among others, and recently became the Global Public Policy Lead for Children and Families at Google/YouTube.

Dieter Carstensen. Dieter Carstensen is the Director of Digital Child Safety at LEGO, Danish construction toy manufacturer. In partnership with UNICEF, he is heading LEGO's global digital child safety agenda. He is a former chairman of the executive board of the European NGO Alliance for Child Safety Online (eNACSO) and advisor to EU Kids Online, a cross-national survey of European children's experiences of the internet.

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