

# Designing a Roadmap for a Healthier Digital Ecosystem

An expert convening to define what it means to tune for wellbeing across ages and stages within online spaces

Date of Release: February 2024











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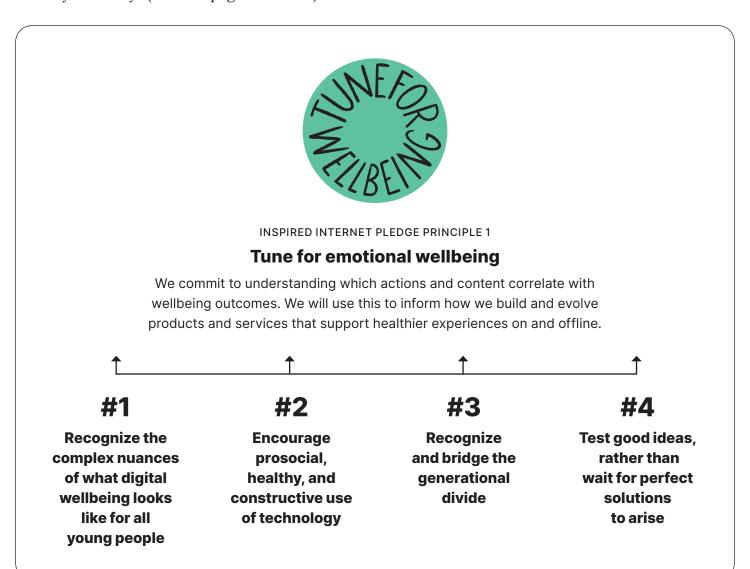
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## **Executive Summary**

In early December, 2023, the Digital Wellness Lab, with support from Pinterest, convened approximately 60 experts from across different disciplines — including technology, media, education, mental health, government/regulation, and advocacy — to discuss the various systems and contextual factors that provide children with the tools to experience tech and media in balanced and healthy ways. The goal of the convening was to begin defining what it means to be "digitally well" at each age and stage of youth development (i.e., birth to age 24).

This Tune for Wellbeing event, part of our Inspired Internet Pledge efforts, was the first of several convenings designed to dive more deeply into what is needed to ensure young people can build and maintain digital wellbeing across the developmental trajectory. The convening resulted in the following four key takeaways (see next page for details):



#### **Key Takeaways**

#### #1

# Recognize the complex nuances of what digital wellbeing<sup>1</sup> looks like for all young people

Building an inclusive and actionable framework for digital wellness requires recognizing the complex nuances of what this looks like for all young people, including (but not limited to) different developmental trajectories, identities, and cultural contexts.

- There is a pressing need for more research about digital wellbeing that focuses on young people from marginalized backgrounds and identities, recognizing that they may identify with multiple marginalized groups at once. Some examples of these groups focus on the socioeconomically under-resourced, people of marginalized racial/ethnic backgrounds, youth who identify as members of the LGBTQ+community, neurodivergent youth², and youth with disabilities
- Young people do not constitute a monolith. Youth and adults alike bring their own distinct cultural values and perspectives into the practice of digital wellness, across the world.
- Young people and families have inequitable access to technology and the internet, globally.
   Varying levels of access and the use of internetenabled applications need to be considered in all definitions of digital wellbeing.

#### #2

# Encourage prosocial, healthy, and constructive use of technology

Promoting digital wellness requires not only teaching young people to avoid risk or harm online but also encouraging their prosocial, healthy, and constructive use of technology.

- Emphasizing positive contributions is as important as working against problems.
   From childhood through young adulthood, young people thrive when they are given opportunities for exploration, social connection, and play; digital wellness is no different. Taking a more fun and joyful approach to promoting digital wellbeing could be beneficial for all age groups.
- It is important to distinguish between traditional definitions of safety, which typically involve protecting children through regulation and other rule-based mechanisms, and psychological safety, which entails creating spaces where young people feel a sense of comfort, belonging, and stability.

<sup>&</sup>lt;sup>1</sup> We use the phrases "digital wellbeing" and "digital wellness" interchangeably throughout this report as we find that most definitions don't distinguish between the two concepts.

<sup>&</sup>lt;sup>2</sup> From Conversation with Amanda Morin, Neurodiversity & Educational Consultant of Amanda Morin Consulting, LLC: "One of the big debates in education and medical spaces is whether we should be using person-first or identity-first language when referring to neurodivergent students (You may hear these abbreviated as PFL and IDL). Identity-first language is generally used within the neurodiversity community because many neurodivergent people see their identity as intertwined with their neurodivergence. Identity-first language includes terms like an autistic person rather than a person with autism. When in doubt about using IDL vs. PFL, it is always best to ask about and defer to an individual's preference." For more information or to get in contact with Amanda, please visit amandamorin.com. The information provided in our conversation is influenced by her book Creating Neurodiversity-Affirming Schools, currently in press.

#### #3

# Recognize and bridge the generational divide

Almost all of today's youth are growing up in a technologically-enabled world. This is not the case for most of the adults who are making decisions on research, policy, education, and clinical work around digital wellbeing. Recognizing and bridging this generational divide is a challenge in designing a healthier digital ecosystem.

- It's essential to include young people in conversations about digital wellbeing (including research, policies, and regulation), as they are experts in their lived experience and the ones who will be most directly impacted by these next steps.
- Many stakeholders in these conversations work directly with youth and can intentionally, thoughtfully, and reliably represent their perspectives, even when young people cannot be physically present. They should be invited to speak on behalf of the young people they work with.

#### #4

#### Test good ideas, rather than wait for the perfect solution to arise

While everyone involved in conversations about digital wellbeing for youth is striving for excellence and impact, it's important that we are willing to move forward with testing good ideas, rather than waiting for perfect solutions to arise.



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## **Defining "Digital Wellbeing"**

A concept no more than a couple of decades old, "digital wellness" or "digital wellbeing" is defined in myriad ways, through a continuous evolution and re-interpretation as technology innovates and our collective behaviors shift. The definition of "digital wellness" or "digital wellbeing" is often informed by the milieu of the definer: technology and media companies might define the concept in the context of their products and services while clinicians may define it in terms of a person's physical health when using devices. Often, one's digital wellbeing is defined as the absence of undesired or harmful behaviors with technology and media.

In literature, "digital wellbeing" has variously been defined as simply as "being healthy in a digital society," which includes being able to recognize risks and benefits of digital experiences while maintaining physical and mental health (Allers et al., 2021), and as complexly as "a subjective individual experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity...comprised of affective and cognitive appraisals of the integration of digital connectivity into ordinary life. People achieve digital wellbeing when experiencing maximal controlled pleasure and functional support, together with minimal loss of control and functional impairment" (Vanden Abeele, 2021, p. 938).

#### **HOW WE DEFINE DIGITAL WELLNESS**

At the Digital Wellness Lab at Boston Children's Hospital, digital wellness is defined as "a positive state of mental, physical, and social-emotional health pursued through intentional, authentic, and balanced engagement with technology and interactive media," emphasizing a holistic understanding of healthy and positive media engagement across developmental stages.

#### Young People's Digital Wellbeing

Globally, one-third of children use the internet and, similarly, one-third of internet users are children and teens (UNICEF, 2019). In the United States, nearly all children and teens (97%) have internet access via home computer or smartphone (National Center for Education Statistics, 2023). Children are growing up in a digitally-saturated world, often being introduced to digital media as early as infancy (e.g.: Barr et al., 2010; Veldman et al., 2023; Wan et al., 2021).

Children and adolescents are some of the most vulnerable members of our society, requiring substantial guidance and, often, protection as they develop into adulthood. Given the unique developmental needs of those aged from birth to about 24 years, it seems necessary to consider more specific definitions of digital wellbeing for youth.

Although there is marked interest among researchers, clinicians, educators, technologists, and families to understand and support digital wellness for even the youngest children (e.g. Allers et al., 2021; Cao & Li, 2023; Gupta et al., 2022), early work has suggested that common examples of risk (e.g., cyberbullying, sextortion) may be more applicable to tweens, teens, and young adults rather than young children. Therefore, digital wellbeing practice may benefit from a shift away from "a protectionist model of cybersafety" to one that empowers children to be critical thinkers in the digital world (Nansen et al., 2012).

Clarity about what digital wellbeing looks like and requires at each stage of development is needed in order for technology and media organizations to design healthy, safe guardrails for youth. Similarly, this clarity will help families, educators, and other youth advocates to support young people in developing healthy, balanced approaches to engaging with the digital ecosystem. Given the lack of a clear, actionable definition of what digital wellbeing looks like across young people's developmental ages and stages, we set out to craft this definition in collaboration with a cross-disciplinary group of experts from around the world.

#### **The Tuning for Wellbeing Convening**

Developing strong policies and frameworks to ensure that young people's interactions with technology support their digital, mental, and overall wellbeing requires implementing meaningful and salient changes across industries, educational systems, and at home.

The Digital Wellness Lab, with support from Pinterest, invited experts from across different disciplines<sup>3</sup> – including technology, media, education, mental health, government/regulation, and advocacy — to discuss the various systems and contextual factors that provide children with the tools to experience tech and media in balanced and healthy ways.

With approximately 40 participants in-person in an event space in Washington, DC and another 20 participating via Zoom, the half-day Tuning for Wellbeing convening in December, 2023 was oriented around interactive, solutions-focused discussion to answer two key questions:



What skills and knowledge do children and teens need to be able to be digitally well both now and in the future?

What role does each key stakeholder in a child's life play in enabling the development of these skills and knowledge?

<sup>&</sup>lt;sup>3</sup> Notably, while a number of teens and young adults were invited to attend, they were unable to participate due to school responsibilities. During a discussion about the importance of integrating youth voice into these conversations, individuals who work in direct youth service made the point that part of their job is to serve as an authentic and powerful proxy for youth when they can't be physically in these spaces. While it doesn't absolve us of the collective responsibility to make important discussions accessible for young people, it is important to note that youth perspectives were taken into account during the conversation.

#### **DEFINING DIGITAL WELLBEING**

Participants were split into small groups to focus on specific age levels and developmental stages, based on the groupings in the Digital Wellness Lab's Family Digital Wellness Guide:

BIRTH TO PRE-K	SCHOOL AGED	TWEENS	TEENS	YOUNG ADULTS
(ages ~0-5)	(ages ~6-9)	(ages ~10-3)	(ages ~14-18)	(ages ~19-24)

Although the groups focused on specific age spans, participants agreed from the beginning that development is fluid — some children of the same age may be at different stages of development, and recommendations can be reflective of personal knowledge of a specific child's needs in practice.

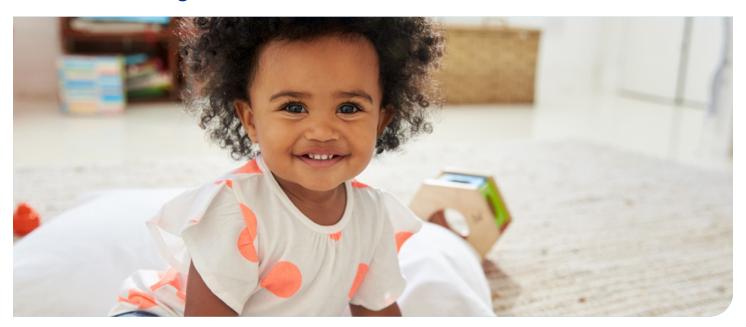
This paper shares the insights and recommendations as summarized by the expert participants, including stakeholder roles and next steps. This is only the first convening of a series to hone the definition of digital wellbeing at each key age and stage of childhood development and to clarify, at an actionable level, how stakeholders can support young people's development of the skills and knowledge necessary to be digitally well in a technology-saturated world.



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## **Age and Stage Discussions**

#### Birth to Pre-K (Ages 0 - 5)



#### **OVERVIEW**

Despite the fact that many organizations, including the American Academy of Pediatrics, recommend avoiding exposure to screens altogether (except for video chatting) for children under the age of 18 months, we know that many children are still engaging with digital media at this age, averaging approximately one hour daily (Rideout & Robb, 2020).

By preschool, children ages 2-4 in the United States were spending an average of 2 ½ hours using digital media each day even before the pandemic; children in this age range from families of lower income reported using media at significantly higher rates than those in higher income families (Council on Communications and Media et al., 2016; Rideout & Robb, 2020). The primary way they spent that time was in watching online (e.g. YouTube) and streaming (e.g. Netflix, Hulu) videos (Rideout & Robb, 2020), a passive screen engagement.

#### SKILLS & KNOWLEDGE FOR DIGITAL WELLBEING

#### Balance screen time and avoid guilt- and shame-based narratives

Participants highlighted a few key points to keep in mind for this age range and developmental stage. First, they noted the deep importance of ensuring that, even if a child is exposed to digital media on a regular basis, their screen time is balanced with playful and exploratory moments away from digital spaces. These offline moments are crucial for physical, social, and emotional development as children grow — and to ensure they learn how to mindfully engage with digital media

Second, they implored child advocates to avoid guilt- and shame-based narratives around children's engagement with tech and media. The reasons that caregivers introduce screens at an early age can vary, but we do know that children in households with lower incomes and children whose parents/primary caregivers have a lower level of education tend to have higher daily screen use totals (Rideout & Robb, 2020). The implied inequities of these data highlight the importance of **empowering all parents and caregivers to make the decisions** that are right for their family's values and situation.

#### Model behaviors and language of relationship-building, conversation, and focus

Finally, the participants noted that, particularly at the youngest ages, children learn most from what they observe. Their skills of observation and impressionability make them fabulously quick learners but it also puts an extra responsibility on their caregivers to model the behaviors and language they want their children to develop.

This age provides an opportunity for caregivers to **reframe boredom** not as a time to be filled with any mindless activity but as a time for engaging with imagination and creativity. There is a level of joy that can come from feeling bored and identifying a meaningful way to fill that space, whether through an intentionally chosen activity or through allowing the mind to wander.

This is also a time for parents and other caregivers to use the time they have one-on-one with their child as meaningful time for interaction and bonding. The participants noted that it's a time to put down devices and to focus on one another, to model these behaviors of relationship-building, conversation, and focus. When phones and other devices are present during these times, the adult's distraction can have negative effects on the child's developmental milestones, like self-regulation skill building (McDaniel & Radesky, 2017). At the same time, caregivers can model the functionality and joy that can come from intentional use of devices and digital media.

#### STAKEHOLDER RESPONSIBILITIES

#### Parents and Other Primary Caregivers

At the youngest ages, parents and other primary caregivers are the top influences in a child's life and development. They are responsible for the child's safety, and should ensure that they know what technology and media a child is using, for what purposes, and that safety features are in place to provide boundaries not only for the child's access to media and the internet but also others' access to the child.

Caregivers should set rules about what media are shown to their children by others and about what can be shared on social media about their children. The participants noted that these conversations can be tricky and even uncomfortable, such as asking a grandparent to remove photos of a beloved grandchild from Instagram or telling an older sibling that they cannot post a TikTok video featuring their younger sibling, but that they are necessary to maintain a young child's privacy and safety, especially before they are able to make meaningful choices for themselves about how their image and likeness are used.

Finally, the participants noted that <u>caregivers have a responsibility to speak to their children about technology and media</u> from the youngest ages. This normalizes the conversation and will make future discussions of difficult topics (e.g.: sexting, cyberbullying) more open and natural.

#### Clinicians and Educators

While parents and other primary caregivers hold the bulk of responsibility for helping young children to develop healthy and balanced skills and knowledge about technology and media, clinicians and educators (such as daycare providers and preschool teachers) have an important role to play in **empowering families** with knowledge and respecting their boundaries around technology and media.

Pediatricians and family care providers can disseminate accessible, easy to follow, non-judgmental resources to support caregivers in navigating the milestones of physical, emotional, social, and media literacy development in young children. These tools can be created by medical professionals, with support from others, including the tech companies which develop digital experiences for young children.

#### **Tech and Media Companies**

Tech and media companies can work to **create clear**, **easy-to-follow guidance** about their in-app safety guardrails, to help parents to easily engage these safety mechanisms without requiring too much time or interpretation.

Young children in particular are drawn to the characters they see in their favorite shows, movies, games, and videos. Media companies can use this to build experiences and content that support children's learning of key developmental tasks, social-emotional competencies, and academic skills. They can share clear overviews with parents to describe what is in this content and develop easily understandable systems for classifying content options to help empower families in choosing what their children can watch and engaging with the content and learning outside of the digital experience.

Similarly, media companies can ensure that there is a broad diversity of characters in their content designed for young children. Race, ethnicity, ability, shape/size, gender, and more should be considered. Seeing themselves and their wider community represented in media can provide powerful support for children's identity development and confidence and can help all children better understand, empathize with, and be comfortable with those who have different lived experiences from their own.

When all of these tools come together, even the youngest children will be learning to balance digital and in-person connections and play. Even those stakeholders who focus on older age groups should be invested in supporting young children's healthy and balanced engagement with technology. Learning to use technology in safe, fun, and healthy ways at a young age will help children form healthy and positive habits as they age. Additionally, as a child enters school and grows in their educational and social independence, they will have a strong foundation for agency and digital wellbeing in a tech-saturated world.

#### Government

Governments and regulators can work with tech and media companies to ensure young people's safety and wellness in digital experiences. Participants noted that regulators can design policies that support families across the socioeconomic spectrum in being able to spend meaningful time with their children.

#### School Aged (Ages 6 - 9)



#### **OVERVIEW**

Once children enter grade school, they are beginning to use technology in new ways, and may be using digital experiences to connect with both family and friends. Nearly half (43%) of 8-12 year olds own smartphones and 61% say they enjoy watching online videos 'a lot' (Rideout et al., 2022).

Video games become increasingly popular as children grow through this age group (especially for boys). Research conducted in Australia found that almost half of children between the ages of 3-12 have played Minecraft with a friend, and 13% have played on the internet with someone they do not know (Mavoa et al., 2018). Although children of this age group are not technically allowed accounts on social media, many are actively using these interactive media applications. In 2020, 11% of 5-8 year olds in the U.S. reported using TikTok, and, as its overall popularity has continued to soar, that number may now be higher (Auxier et al., 2020).

#### SKILLS & KNOWLEDGE FOR DIGITAL WELLBEING

#### Emphasize hands-on learning of safety, civility, and mindfulness skills

The developmental shifts that occur in grade school which allow children to start forging stronger friendships and becoming more independent from their families are reflected in their media use habits. The convening participants were very clear that, at this stage of development, children need to be hands-on learning key skills for safety, civility, and mindfulness in connected and social digital spaces.

Children at this age should have limited access to explore what the internet is and to be able to experience joy in that exploration. They should be mentored and monitored through their exploration to ensure their safety (and safety nets) as they learn increasingly independent skills. Although they may not yet have the mature media literacy and self-management skills to navigate negative online interactions, it is in this developmental stage that those skills can be introduced and practiced.

Participants highlighted that, more so than time spent with screens, the intention behind the digital engagement is important. Considering the situational aspects of a child's screen time and helping them to use that time for meaningful social connection or learning can support their development of self-regulation and balance.

#### Limit online relationships to extensions of real-life relationships

Online connections with peers should be an extension of the child's interactions with peers in school and other real-world settings. In other words, they should be interacting online only with people they already have real-life relationships with. This allows children to take steps towards more autonomous digital engagement, while still ensuring they are protected from interactions and content where they may not yet have the independent skills to navigate harmful or confusing experiences.

#### Teach, model, and mentor critical thinking skills in online spaces

Convening discussants shared concerns about the concept of "stranger danger," particularly in online spaces, as it is often individuals known to the child who can introduce the most harm. This highlights the importance of teaching, modeling, and mentoring children through the development of critical thinking skills in online spaces. Children can gain a sense of their own power in their ability to navigate their environment in healthy, safe ways by understanding how to engage differently in online spaces (as opposed to "in real life") and how to protect their privacy and seek help when needed.

We know that children and teens are susceptible to changing their habits based on the images and videos they see online (Harriger et al., 2010) and to experiencing harm from bias and racially-motivated attacks, particularly in gaming communities (TaeHyuk Keu & Hearns, 2022), so it is imperative that we use the school age years to prime them with the skills and approaches they need to handle these situations in healthy ways, before they encounter them on their own.

#### STAKEHOLDER RESPONSIBILITIES

#### Parents and Other Primary Caregivers

In the school age years, parents and other primary caregivers continue to serve as a main support for children. Similar to the youngest group of children, the way that digital wellbeing is understood by school age children is still closely linked to the habits of their parents and how they mediate the child's access to technology and media. The early school years, however, provide an **optimal time and setting to introduce media and technology in moderated, monitored ways** to encourage skill building and conversations about how the child is experiencing the effects of the time they are spending online and the content they are engaging with.

The participants cautioned all stakeholders — including parents, clinicians, and educators — against having fear- and guilt-based conversations with children, particularly at this age. This is a time for **empowering**, **open**, **honest conversations** that help children to learn that they can maintain control of their online lives with thoughtful, critical engagement and concern for their own privacy and safety.

#### Teachers and Other Educators

Teachers and other educators can work to set consistent expectations about how technology is expected to be used, and how it is expected to be put down in favor of other experiences within educational settings. Consistent, school-wide expectations about smartphones, tablets, laptops, and other forms of technology should be made clear and be universally enforced, to help children to develop strong self-regulation skills and an understanding of the times when technology can be supportive to their learning and when it can be a distraction from it.

#### **Tech and Media Companies**

Tech and media companies have a responsibility to make parental controls easy to access and to understand. These companies should use their platforms and policies to encourage discussions between children and trusted adults about how they are using products and platforms and how different features can keep them safe. Tech and media companies can work to keep adult spaces away from young users and to support parents in keeping their children off of interactive media spaces or apps until the parents have decided their children are ready.

#### Government

Government and regulators have a responsibility to support thoughtful, evidence-based regulation that empowers families to design the boundaries and rules that are right for their values and their children's readiness. They can ensure that media literacy education encouraging critical thinking and civility is accessible to all children through their educational experiences. It is critical that children at this age are provided with non-judgmental, open dialogues and access to core skills and knowledge about staying healthy and safe online before they are granted more open access to interactive online spaces.

#### **Tweens (Ages 10-13)**



#### **OVERVIEW**

During the "tween" years, children are beginning to transition into puberty, including the initial years of their experiencing the key developmental tasks associated with adolescence. Children in this age range are becoming increasingly independent from their parents and begin to develop more critical thinking and more sophisticated thought processes (Semrud-Clikeman, 2015).

In the United States, on average, children receive their first smartphone at age 10 and nearly three-quarters (71%) own a smartphone by age 12 (Bickham et al., 2021; Rideout et al., 2022). Although most online communities and all social media platforms do not allow users under the age of 13 to create accounts, 38% of children ages 8 to 12 report using social media, and 18% report doing so every day (Rideout et al., 2022).

Video games become increasingly popular in the tween years, especially for boys. Children use these spaces to spend time with their friends, often engaging in ongoing chats (audio or text) while they play the games (Carter, Moore, & gaspard, 2020). Similarly, celebrities and online influencers become increasingly important, encouraging parasocial relationships and setting expectations for identity formation and how to be seen by peers as cool (Tolbert & Drogos, 2019).

#### SKILLS & KNOWLEDGE FOR DIGITAL WELLBEING

#### Balance need for autonomy and social connection with appropriate boundaries

Participants noted that the main challenge with tweens is to balance their increasing need for autonomy and social connection with setting appropriate boundaries around media use. Preliminary research suggests that many adolescents are actually in favor of parental rules around managing their smartphone and other digital technology use (Carter et al., 2023; Moreno et al., 2019), which supports the implementation of this all-important monitoring and boundary setting for safety and learning.

The group noted that, while they are technically "underage" for using social media according to most platforms' terms of use, many tweens have their own accounts and most have engaged with social media applications either through their own, their parents'/siblings', or their friends' accounts. For this reason, rather than completely restricting tweens' access to these platforms, the convening participants recommended a version of hands-on "social media training" for kids at this age, before they start more independent use of interactive online spaces. This might include designing more child-friendly spaces intended to be used alongside trusted adults to scaffold a child's learning, and including child-friendly, easy-to-read language in community guidelines.

#### Use positively worded expectation-setting

Participants again raised the importance of positively worded expectation-setting. For example, there is much conversation about preventing and intervening in cyberbullying incidents, but less focus on what behaviors exemplify positive membership within an online community. Tweens can be learning about ways to engage with technology and digital media creatively and collaboratively, learning content creation and ways to safely engage their curiosity through online information searches.

#### Support development of critical thinking skills in online spaces

Similar to younger ages, the participants also noted that learning to critically engage with both information and people online is a must, particularly as children begin preparing for more independent engagement online. Children need to be engaged in explicit and clear conversations with caregivers, particularly focused on sharing content and personal information and about potential harms that can arise online.

Parents and other primary caregivers often gloss over difficult topics such as child sexual abuse material and pornography, but these are the exact conversations that are necessary to ensure children have the information and skills they need to stay safe in online spaces (Thorn, 2022), particularly as they get older and begin independently navigating online spaces.

Finally, it is not too early for children in this age range to begin learning about their rights and recourse, both on specific platforms and in the legal system, so they are prepared and feel empowered when they eventually have negative experiences online.

#### STAKEHOLDER RESPONSIBILITIES

#### Parents/Families and Educators

Parents/families and educators can collaborate to ensure that tweens' lives have digital citizenship and media literacy integrated in both formal and informal learning spaces, instead of being framed as a standalone learning experience in a specific class at school. All adults in a child's life can provide mentorship and guidance, avoiding fear-based narratives to encourage open dialogue and respect for boundaries. Modeling healthy and balanced media use can have a positive effect on how tweens use technology. Co-viewing and co-engaging with media alongside the child can help to support ongoing open conversations, positive guidance, and the setting of clear expectations around use (Uhls & Robb, 2017).

#### **Influencers and Content Creators**

A greater focus on the social circle and the importance of being seen as "cool" or "popular" emerges in the tween years (LaFontana & Cillessen, 2010), which extends to digital media and technology. Influencers (or, more specifically, content creators) can have an outsized effect on how young people of this age conceive of themselves and their world. They have a responsibility to treat their viewers with respect, sharing prosocial messages and information that is rooted in fact and evidence.

#### **Tech and Media Companies**

Tech and media companies can support parents and educators in scaffolding tweens' learning about the online world by designing more child-friendly spaces that support parent/child co-engagement for skill building before children are released into the online world more independently as teens. They can provide families with accessible, easily-understandable user guides and supports, and clear guidance on safety features which feels relevant to tweens and parents alike.

#### Government

Government representatives can take time to integrate young people's experiences, clinicians' and researchers' knowledge of developmental arcs, and parents' and educators' needs in **designing thoughtful and nuanced regulation** that supports young people's development of necessary long-term skills in a digitally-saturated world.

#### Teens and Young Adul ts (Ages 14 - 24)4



#### **OVERVIEW**

Teens are becoming more capable of future thinking and logical problem solving (Simpson, 2018) and their peers have transitioned into their primary connections, offering further independence from parents/caregivers (Mount Sinai Medical Center, n.d.). Teens and young adults are working to develop their own values and morals, separate from those of their families. Their social lives and connections have become integral to their wellness (Jose et al., 2012) and fitting in with peers is a primary motivator (Ginsburg, 2011).

Beyond known peers, teens and young adults may also feel connected to, and want to emulate, content creators and celebrities on social media platforms (Bond, 2016). As these non-familial relationships become increasingly important for teens and young adults, they may prefer to get information and support from friends and "near peers" (those slightly older or more experienced, but still around the same age as the teen).

Nearly half of teens say they use the internet 'almost constantly' (Anderson et al., 2023) and nearly all report using the internet at least daily (Anderson et al., 2023). For many young people, there is little to no separation between their digital and "real world" lives; digital wellbeing is even more intimately connected to overall wellbeing for this age group.

A majority of teens in the United States use video- and image-based social media platforms regularly, including YouTube (93%), TikTok (63%), Snapchat (60%), and Instagram (59%) (Anderson et al., 2023). One consequence of this is that young people are increasingly expected to curate their personality, image, and online engagement to those outside of their in-person social networks.

<sup>&</sup>lt;sup>4</sup> During the convening, participants split into groups discussing teens (14-18) and young adults (19-24) separately, however their recommendations and takeaways overlapped so substantially that it made sense to combine the groups here. We include young adults in our explorations of youth digital wellbeing because of the variance in rates that youth develop and the fact that the brain isn't considered to be an "adult" brain until around age 24.

Explorations of identity and culture play an enormous role in the developmental trajectory of teens and young adults. These explorations can often feel more safe and supportive in online spaces (Fish et al., 2020; Ringland, 2019). They are also exploring romantic relationships and their own sexual orientations and gender identities. Young people who identify as LGBTQ+ may find online communities to be safer, more affirming spaces. While only about one in three (38%) LGBTQ+ youth describe their home as an affirming place, nearly twice that number, 68%, say they have found affirming spaces online (The Trevor Project, 2023; Gardner, 2024).

#### SKILLS & KNOWLEDGE FOR DIGITAL WELLBEING

Participants put a heavy focus on the importance of teens being able to build safe, civil, healthy habits with tech and digital media, so that they are able to be successful independent members of online communities as young adults.

All current teens and young adults have grown up in a digitally-enabled world. Coming of age alongside social media and other interactive technology has meant that this current generation of young people were often subject to low levels of initial regulation as new features and applications appeared during their formative years. It has also helped to blur the line between "digital" and "real" life. Teens and young adults have had to increasingly learn new skills and thinking patterns about which parts of themselves they want to share, within which media and communities, particularly as they get older and think about post-secondary education and the workforce.

#### Learn the difference between privacy and secrecy

For young people online, it's important to understand the difference between privacy and secrecy. Secrecy reflects an intention to withhold certain information from others within a community — such as your full name, image, or address — and privacy indicates your willingness to broadcast information more generally (Slepian, 2022). For example, a young internet user may prefer to navigate communities under an alias with an avatar to protect their identity but is willing to openly share about their dating experiences or challenges at school.

Social expectations for access and exposure, alongside fears of being "canceled," can place excessive pressure on young people to perfectly balance their decisions about privacy and secrecy. They may feel forced to take a stance on an issue even if they don't know enough about the situation to have an opinion or don't feel comfortable sharing an opinion, for fear of social rejection.

Navigating this nuance of privacy versus secrecy to remain safe and comfortable in online spaces may feel particularly challenging to young people, so it is especially important for them to develop an understanding of the dichotomy of private/secret and to intentionally and thoughtfully draw lines for themselves.

Similarly, young people are under pressure to share well-curated images of themselves and their lives. They see highly manufactured images and videos of creators and even their own peers and may feel the need to produce similar personas for themselves, or they may minimize their own lives and experiences in the face of such contrived perfection.

#### Bring a critical eye to all online experiences

This heightens the importance of media literacy and the ability to bring a critical eye to all online experiences. Media literacy skills taught in school or in informal spaces like at home or in community spaces like libraries may possibly be protective against situations commonly cited as concerns surrounding "influencer culture," such as body dissatisfaction (Burnette et al., 2017; Rodgers et al., 2019). Participants noted that teens and young adults need to continue honing their critical thinking about their online experiences, particularly as they enter full online independence.

#### Focus on positive growth rather than specific media use

Among teenagers and young adults, digital wellness involves a careful balance of free expression and exploration with safety and support. Because young people's development and use of digital media during this stage will be more diverse and varied than ever before, the focus should be on positive growth rather than specific media use guidelines based on developmental milestones.

#### STAKEHOLDER RESPONSIBILITIES

#### Parents and Other Caregivers

Rather than attempting to completely avoid negative online experiences and other issues in the digital media landscape, parents and other caregivers should instead focus on fostering young people's independence while providing support as needed. Adults can also take this opportunity to learn about new forms of digital media and technology alongside teenagers and young adults, helping to build both knowledge and trust.

#### **Educators**

Educators can collaborate to create formal media literacy and citizenship measures that can be implemented in curricula specific to developmental needs and updated to reflect shifts in the educational and digital landscapes. Especially as COVID-19 exacerbated existing educational inequities and resulted in stagnating growth, or even regression, in core subjects (Betthauser et al., 2023), educators may feel overburdened by already-existing curricular expectations. Participants emphasized that media literacy approaches should be created by experts in ways that allow integration into already existing lessons.

#### **Content Creators**

Content creators can use social reach and trusted status among young people to **promote evidence-based education in media literacy**, **health and wellbeing**, **and other key issues**, in collaboration with researchers or established media literacy organizations.

#### **Tech and Media Companies**

Tech and media companies can moderate and curate content targeted towards teenagers and young adults, not only in terms of restricting dangerous or harmful materials but also amplifying prosocial messages, particularly those related to marginalized communities.

Platform and community guidelines should be made easily accessible in clear, youth-friendly language, as any ambiguity about these policies or how they are enforced can empower bad actors and behaviors. Teens report that they don't believe platforms follow through as promised when they report harmful behaviors or experiences (Bickham et al., 2023). Platforms must increase transparency of their regulatory practices surrounding features like blocking or reporting, to maintain young people's trust in the platform's ability to support their wellbeing and, therefore, their ongoing participation in these types of safety measures.

#### Government

Governmental representatives and officials have a role to play in ensuring digital well-being for teens and young adults. In recent years, a number of laws and regulations which seek to protect children from harm online have been recommended and even implemented. However, crucial **input from teens and young adults who have direct experience with these technologies must be considered when these regulations are created**, in order to protect teens and young adults in ways that respect their autonomy and rights of expression.

An expert convening to define what it means to tune for wellbeing across ages and stages within online spaces

## **Next Steps**

The Tuning for Wellbeing convening in 2023 was only the first step of many conversations designed to define online wellbeing for youth across the developmental spectrum and to identify actionable short, medium-, and long-term actions that key stakeholders can take to optimize the online space for young people's wellbeing.

Next steps following this convening include:

# Define stakeholder roles, responsibilities, and clear actions

Continue to engage with cross-disciplinary groups of experts to define stakeholder roles, responsibilities, and clear actions they take to support youth wellbeing at each age and stage. This includes designing methods to engage with young people directly, to capture their input and experiences.

# Work to understand the feasibilty of our recommendations

Engage with educators, regulators, and product designers to understand the feasibility of the recommendations and what needs to be true for the recommendations to be implemented.

#### Integrate the digital ecosystem into the "markers of healthy development"

Work to integrate the digital ecosystem into the "markers of healthy development" that underpin the work of youth development, mental health, and medical professionals. These markers were designed and tested well before our current technology and media had been invented and need to be updated to account for the current reality of youth development in the modern world.

#### Adjust recommendations for inclusivity

Engage with experts to define how all of the recommendations need to be adjusted for cultural differences, neurodivergence, the experiences of youth of color, and the varying intersectional experiences of youth, and integrating these adjustments into the final recommendations for stakeholders to ensure actions are inclusive and impactful.

#### Engage youth in our efforts

Work to increase access and inclusiveness for youth to engage in efforts such as this convening. This includes ensuring that there are working group options designed to take place during dates and times that don't conflict with young people's school and extracurricular activities.

# Grow Inspired Internet Pledge signatory and advisor participation

Continue to enroll technology and media companies, advertisers, and advisors in the Inspired Internet Pledge to increase collaboration in making a healthier internet for everyone, especially young people. An expert convening to define what it means to tune for wellbeing across ages and stages within online spaces

# **Appendix**

## **About the Inspired Internet Pledge**

The <u>Inspired Internet Pledge</u>, launched in summer 2023, is a commitment by tech companies and the broader digital ecosystem to unite with the common goal of making the internet a safer and healthier place for everyone, especially young people.

While many attribute the current youth mental health crisis to the use of interactive media, we know from our research that the digital ecosystem holds substantial promise for being an important part of the solution, enabling young people to express their identities, explore interests, and build meaningful relationships.

The Digital Wellness Lab believes that by sharing rigorous research and clinical expertise, we can change the paradigm for how young people use technology and interactive media. We also believe that efforts to design and maintain a healthy digital ecosystem for young people are more effective when public and private sectors join together for impact.

With policymakers in the US and around the globe focused on how technology influences and affects youth mental health and emotional well-being, the Inspired Internet Pledge is an opportunity for industries to come together and show, not just tell, how they are addressing some of our most serious challenges.

#### **Pledge Principles**

Signatory companies — drawn largely from tech, media, and corporate advertisers — choose how they will implement their commitment to the three core Pledge principles, specific to the realities of their product or service. Advisors to the Pledge play a vital role in supporting signatories' efforts, providing a broader perspective to their work and ensuring progress occurs.



#### **PRINCIPLE 1**

## Tune for emotional wellbeing

We commit to understanding which actions and content correlate with wellbeing outcomes. We will use this to inform how we build and evolve products and services that support healthier experiences on and offline.



#### **PRINCIPLE 2**

#### Listen to and act on insights from people who have experienced harm online

We commit to listening to and learning from those who have experienced harm online and the experts who support these communities, to inform the evolution of our policies, products, and content.



#### **PRINCIPLE 3**

# Share lessons collaboratively

We commit to sharing best practices, key research findings, and creative solutions to make the internet a healthier place for everyone — especially young people.

#### **Pledge Signatories & Advisors**

The Tune for Wellbeing convening in December, 2023 was generously sponsored by and co-planned with Pinterest as part of their commitment to the Pledge, which includes a promise to convene at least four thought leadership conversations that center on defining key milestones for the broader online ecosystem.

#### **SIGNATORIES**





















#### **ADVISORS**

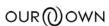


















### Together, we can make the internet a healthier place for young people

We welcome all companies and organizations that operate within and have a hand in defining the digital ecosystem to consider joining the Inspired Internet Pledge. Potential signatories and advisors can learn more at inspired internet.org/the-pledge

### **List of Contributors**

The workshop that formed the basis of this report was conducted under Chatham House Rule. After the workshop, several participants agreed to have their participation in the workshop publicly listed. These experts and stakeholders participated in their individual, not institutional, capacities, and the organizations listed next to their names are provided for affiliation purposes only. Not all participants are listed, and the presence of a participant's name below does not necessarily imply total ownership and endorsement of the ideas in this document — but is listed with the person's consent to acknowledge their important contributions to this effort.

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## References

Allers, J., Drevin, G.R., Snyman, D.P., Kruger, H.A., Drevin, L. (2021). Children's Awareness of Digital Wellness: A Serious Games Approach. In Drevin, L., Miloslavskaya, N., Leung, W.S., von Solms, S. (Eds), Information Security Education for Cyber Resilience, WISE 2021, IFIP Advances in Information and Communication Technology (pp. 95–110). Springer. https://doi.org/10.1007/978-3-030-80865-5\_7

Anderson, M., Faverio, M., & Gottfried, J. (2023). Teens, social media, and technology 2023. Pew Research Center. https://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/

Auxier, B., Anderson, M., Perrin, A., & Turner, E. (2020). Children's engagement with digital devices, screen time. *Pew Research Center*. <a href="https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/">https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/</a>

Barr, R., Danziger, C., Hilliard, M.E., Andolina, C., & Ruskis, J. (2010). Amount, content and context of infant media exposure: A parental questionnaire and diary analysis. *International Journal of Early Years Education*, 18(2), 107-122. https://doi.org/10.1080/09669760.2010.494431

Beetham, H. (2015). Deepening digital know-how: Building digital talent. Jisc. <a href="https://repository.jisc.">https://repository.jisc.</a> ac.uk/6259/1/Deepening\_Digital\_Knowledge.pdf

Betthäuser, B.A., Bach-Mortensen, A.M. & Engzell, P. A (2023). systematic review and meta-analysis of the evidence on learning during the COVID-19 pandemic. *Nature Human Behavior*, 7, 375–385. <a href="https://doi.org/10.1038/s41562-022-01506-4">https://doi.org/10.1038/s41562-022-01506-4</a>

Bickham, D.S., Hunt ,E., Kavanaugh, J.R., & Rich, M. (2021). *Understanding Children's First Cell Phones:* Parents' Perspectives on Risks and Benefits. Boston, MA: Digital Wellness Lab. <a href="https://digitalwellnesslab.">https://digitalwellnesslab.</a> org/pulse-surveys/childrens-first-cell-phones-parents-perspectives-on-risks-and-benefits/

Bickham, D.S., Hunt, E., Schwamm, S., Yue, Z., & Rich, M. (2023). Adolescent Media Use: Mediation and Safety Features. Boston, MA: Boston Children's Hospital Digital Wellness Lab. <a href="https://digitalwellnesslab.org/wp-content/uploads/Digital\_Wellness\_Lab\_Pulse\_Report\_Mar-2023.pdf">https://digitalwellnesslab.org/wp-content/uploads/Digital\_Wellness\_Lab\_Pulse\_Report\_Mar-2023.pdf</a>

Bond, B. J. (2016). Following your "friend": Social media and the strength of adolescents' parasocial relationships with media personae. *Cyberpsychology*, *Behavior*, *and Social Networking*, 19(11), 656-660. https://doi.org/10.1089/cyber.2016.0355

Burnette, C. B., Kwitowski, M. A., & Mazzeo, S. E. (2017). 'I don't need people to tell me I'm pretty on social media:' A qualitative study of social media and body image in early adolescent girls. Body image, 23, 114–125. https://doi.org/10.1016/j.bodyim.2017.09.001

Cao, S., & Li, H. (2023). A Scoping Review of Digital Well-Being in Early Childhood: Definitions, Measurements, Contributors, and Interventions. *International journal of environmental research and public health*, 20(4), 3510. <a href="https://doi.org/10.3390/ijerph20043510">https://doi.org/10.3390/ijerph20043510</a>

Carter, M.C., Bickham, D.S., Hunt, E., & Rich, M. (2023). Exploring the nuances of social media use and experiences. Boston, MA: Boston Children's Hospital Digital Wellness Lab. <a href="https://digitalwellnesslab.org/">https://digitalwellnesslab.org/</a> wp-content/uploads/Digital\_Wellness\_Lab\_Pulse\_Report\_Aug-2023.pdf

Carter, M., Moore, K., gaspard, l. (2020). Situating the appeal of Fortnite within children's changing play cultures. *Games and Culture*, 15(4), 453-471. <a href="https://doi.org/10.1177/1555412020913771">https://doi.org/10.1177/1555412020913771</a>

Council on Communications and Media, Hill, D., Ameenuddin, N., Chassiakos, Y. R., Cross, C., Hutchinson, J., Levine, A., Boyd, R., Medelson, R., Moreno, M., & Swanson, W. S. (2016). Media and Young Minds. *Pediatrics*, 138(5), e20162591. https://doi.org/10.1542/peds.2016-2591

Fish, J. N., McInroy, L. B., Paceley, M. S., Williams, N. D., Henderson, S., Levine, D. S., & Edsall, R. N. (2020). 'I'm kinda stuck at home with unsupportive parents right now': LGBTQ youths' experiences with COVID-19 and the importance of online support. *Journal of Adolescent Health*, 67(3), 450-452. <a href="https://doi.org/10.1016/j.jadohealth.2020.06.002">https://doi.org/10.1016/j.jadohealth.2020.06.002</a>

Gardner, S. (2024). Beyond Binary: LGBTQ+ Rights in the Digital Landscape. LGBT Tech. <a href="https://www.lgbttech.org/\_files/ugd/d77b01\_c625d6e92cb847d589717d3a739758e7.pdf">https://www.lgbttech.org/\_files/ugd/d77b01\_c625d6e92cb847d589717d3a739758e7.pdf</a>

Ginsburg, K.R. (2011). *Independence*, one step at a time. HealthyChildren. <a href="https://www.healthychildren.org/">https://www.healthychildren.org/</a> English/ages-stages/teen/Pages/Independence-One-Step-at-a-Time.aspx

Gupta, P., Shah, D., Bedi, N., Galagali, P., Dalwai, S., Agrawal, S., John, J. J., Mahajan, V., Meena, P., Mittal, H. G., Narmada, S., Smilie, C., Ramanan, P. V., Evans, Y. N., Goel, S., Mehta, R., Mishra, S., Pemde, H., Basavaraja, G. V., Parekh, B. J., et al. (2022). Indian Academy of Pediatrics Guidelines on Screen Time and Digital Wellness in Infants, Children and Adolescents. *Indian Pediatrics*, 59, 235–244. <a href="https://doi.org/10.1007/s13312-022-2477-6">https://doi.org/10.1007/s13312-022-2477-6</a>

Harriger, J. A., Calogero, R. M., Witherington, D. C., & Smith, J. E. (2010). Body size stereotyping and internalization of the thin ideal in preschool girls. Sex Roles, 63, 609-620. <a href="https://doi.org/10.1007/s11199-010-9868-1">https://doi.org/10.1007/s11199-010-9868-1</a>

Jose, P.E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *Journal of Research on Adolescence*, 22(2), 235–251. <a href="https://doi.org/10.1111/j.1532-7795.2012.00783.x">https://doi.org/10.1111/j.1532-7795.2012.00783.x</a>

LaFontana, K.M., & Cillessen, A.H.N. (2010). Developmental changes in the priority of perceived status in childhood and adolescence. *Social Development*, 19, 130-147. <a href="https://doi.org/10.1111/j.1467-9507.2008.00522.x">https://doi.org/10.1111/j.1467-9507.2008.00522.x</a>

Mavoa, J., Carter, M., & Gibbs, M. (2018). Children and Minecraft: A survey of children's digital play. New Media & Society, 20(9), 3283-3303. https://doi.org/10.1177/1461444817745320

McDaniel, B. T., & Radesky, J. S. (2017). Technoference: Parent distraction with technology and associations with child behavior problems. *Child Development*, 89(1), 100-109. https://doi.org/10.1111/cdev.12822

Moreno, M. A., Kerr, B. R., Jenkins, M., Lam, E., & Malik, F. S. (2019). Perspectives on smartphone ownership and use by early adolescents. *Journal of Adolescent Health*, 64(4), 437-442. <a href="https://doi.org/10.1016/j.jadohealth.2018.08.017">https://doi.org/10.1016/j.jadohealth.2018.08.017</a>

Mount Sinai Medical Center. (ND). Adolescent development. <a href="https://www.mountsinai.org/health-library/special-topic/adolescent-development">https://www.mountsinai.org/health-library/special-topic/adolescent-development</a>

Nansen, B., Chakraborty, K., Gibbs, L., MacDougall, C., & Vetere, F. (2012). Children and digital wellbeing in Australia: Online regulation, conduct and competence. *Journal of Children and Media*, 6(2), 237–254. https://doi.org/10.1080/17482798.2011.619548

National Center for Education Statistics. (2023). Children's internet access at home. Condition of Education. U.S. Department of Education, Institute of Education Sciences. <a href="https://nces.ed.gov/programs/coe/">https://nces.ed.gov/programs/coe/</a> indicator/cch/home-internet-access

Rideout, V., & Robb, M. B. (2020). The Common Sense census: Media use by kids age zero to eight, 2020. San Francisco, CA: Common Sense. <a href="https://www.commonsensemedia.org/sites/default/files/research/">https://www.commonsensemedia.org/sites/default/files/research/</a> report/2020\_zero\_to\_eight\_census\_final\_web.pdf

Rideout, V., Peebles, A., Mann, S., & Robb, M. B. (2022). Common Sense census: Media use by tweens and teens, 2021. San Francisco, CA: Common Sense.

Ringland, K. E. (2019). 'Autsome': Fostering an Autistic identity in an online Minecraft community for youth with Autism. In *Information in Contemporary Society* (Vol.11420, pp. 132-143). Springer. <a href="https://doi.org/10.1007/978-3-030-15742-5\_12">https://doi.org/10.1007/978-3-030-15742-5\_12</a>

Rodgers, R.F., McLean, S.A. & Paxton, S.J. (2019). When Seeing Is Not Believing: An Examination of the Mechanisms Accounting for the Protective Effect of Media Literacy on Body Image. Sex Roles, 81, 87–96. https://doi.org/10.1007/s11199-018-0973-x

Semrud-Clikeman, M. (2015). Research in brain function and learning. American Psychological Association. https://www.apa.org/education-career/kl2/brain-function

Simpson, A.R. (2018). Brain Changes. MIT. <a href="https://hr.mit.edu/static/worklife/youngadult/brain.">https://hr.mit.edu/static/worklife/youngadult/brain.</a> <a href="https://hr.mit.edu/static/worklife/youngadult/brain.">httml#adolescence</a>

Slepian, M. (2022). Is It a Secret or Just Private? Part II of II: The science and data on secret- keeping. Psychology Today. <a href="https://www.psychologytoday.com/us/blog/the-secrets-we-keep/202206/is-it-secret-or-just-private">https://www.psychologytoday.com/us/blog/the-secrets-we-keep/202206/is-it-secret-or-just-private</a>

#### APPENDIX | REFERENCES

TaeHyuk Keum, B., & Hearns, M. (2022). Online gaming and racism: Impact on psychological distress among Black, Asian, and LatinX emerging adults. *Games and Culture*, 17(3), 445–460. <a href="https://doi.org/10.1177/15554120211039082">https://doi.org/10.1177/15554120211039082</a>

Thorn. (2022). The Role of Caregivers: Safeguarding & Enhancing Youth Resilience Against Harmful Sexual Encounters Online. https://info.thorn.org/hubfs/Research/Thorn-RoleOfCaregivers-2022-FullReport.pdf

Tolbert, A.N., & Drogos, K.L. (2019). Tweens' wishful identification and parasocial relationships with YouTubers. *Frontiers in Psychology*, 10, 2781. https://doi.org/10.3389/fpsyg.2019.02781

The Trevor Project. (2023). 2023 U.S. National Survey on the Mental Health of LGBTQ Young People. https://www.thetrevorproject.org/survey-2023/

Uhls, Y., & Robb, M.B. (2017). How Parents Mediate Children's Media Consumption. In F.C. Blumberg & P.J. Brooks (Eds.), Cognitive Development in Digital Contexts (pp. 325–343). Academic Press.

UNICEF. (2019). *Growing up in a connected world.* Florence, Italy: UNICEF Office of Research - Innocenti. https://www.unicef-irc.org/growing-up-connected

Vanden Abeele, M.M.P. (2021). Digital Wellbeing as a Dynamic Construct. Communication Theory, 31(4), 932–955. https://doi.org/10.1093/ct/qtaa024

Veldman, S.L.C., Altenburg, T.M., Chinapaw, M.J.M., & Gubbels, J.S. (2023). Correlates of screen time in the early years (0-5 years): A systematic review. *Preventive Medicine Reports*, 33, 102214. <a href="https://doi.org/10.1016/j.pmedr.2023.102214">https://doi.org/10.1016/j.pmedr.2023.102214</a>

Wan, M.W., Fitch-Bunce, C., Heron, K., & Lester, E. (2021). Infant screen media usage and social-emotional functioning. *Infant Behavior and Development*, 62, 101509. https://doi.org/10.1016/j.infbeh.2020.101509



The Digital Wellness Lab at Boston Children's Hospital and Harvard Medical School seeks to understand and promote positive and healthy digital media experiences for young people, from birth through young adulthood.

The Digital Wellness Lab is made up of a dynamic and collaborative team of experts and thought leaders from health sciences, tech, academics and entertainment. We are ever-evolving and welcome others to join us on our mission.

#### **BECOME A SUPPORTER**

The Digital Wellness Lab works with supporters from healthcare, technology, media, philanthropy, and other industries to deepen our understanding and address the future of young people's healthy engagement with media and technology. If your organization is interested in becoming involved as a financial supporter, please email us at <a href="mailto:dwl@childrens.harvard.edu">dwl@childrens.harvard.edu</a>