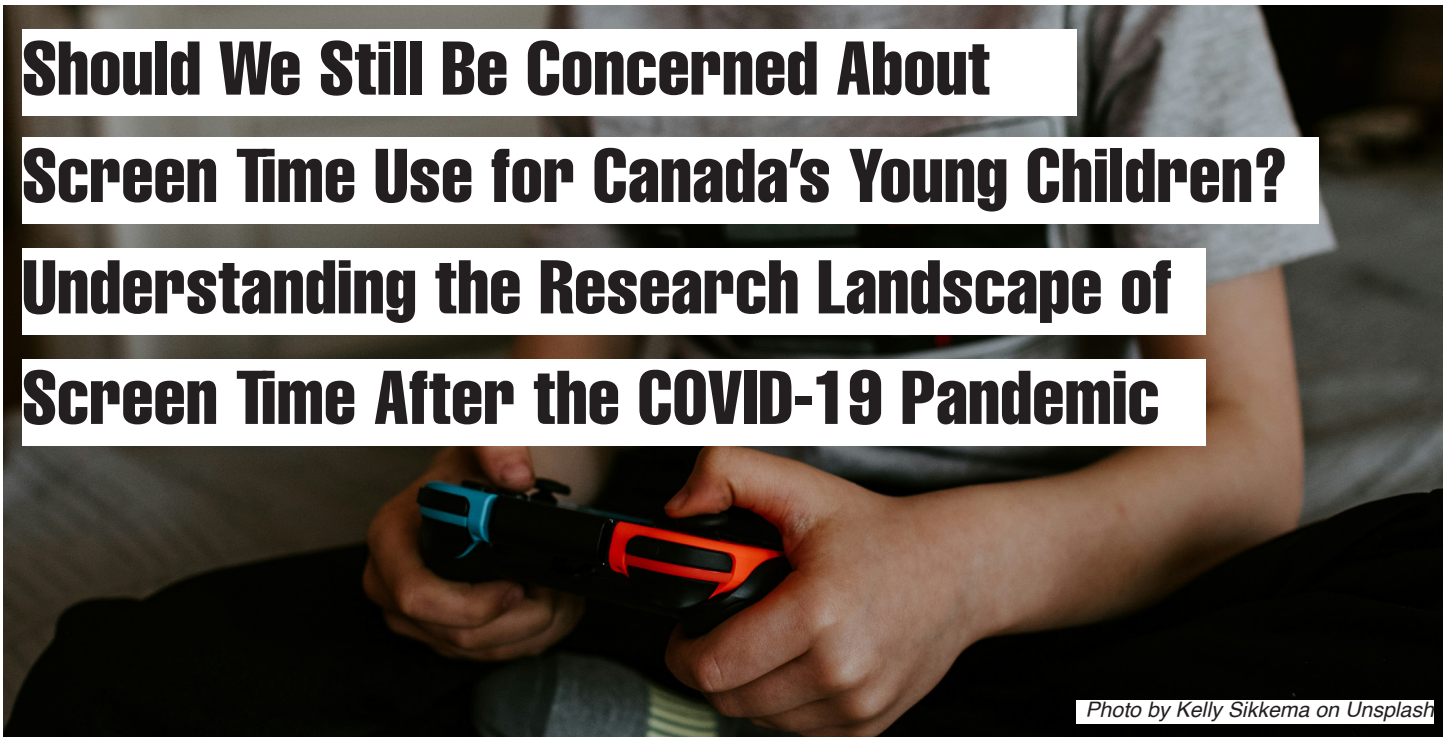
Should We Still Be Concerned About Screen Time Use for Canada's Young Children? Understanding the Research Landscape of Screen Time After the COVID-19 Pandemic



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ABSTRACT

During the COVID-19 pandemic, screen time rates greatly surpassed the recommended guidelines for Canada's young children despite the evidence for prolonged screen time having a negative effect on a child's health being well established. It is unknown if these rates have decreased in our post-pandemic world, underscoring the urgent need for understanding screen time patterns to inform future guidelines and policy for young children. This commentary aims to address the need for further research regarding screen time usage in the post-COVID era following a documented surge in screen usage during the pandemic.

RÉSUMÉ

Pendant la pandémie de la COVID-19, le temps passé par les jeunes enfants devant les écrans a largement dépassé les recommandations au Canada, malgré les preuves bien établies qu'un temps d'écran prolongé a un effet négatif sur leur santé. On ne sait pas si le niveau d'exposition a diminué après la pandémie, ce qui souligne l'urgence de comprendre les habitudes d'utilisation des jeunes enfants des écrans afin d'informer les futures lignes directrices et politiques les concernant. Ce commentaire vise à répondre à la nécessité de recherches supplémentaires sur l'utilisation des écrans par les jeunes enfants dans l'ère post-COVID, après une augmentation documentée de l'utilisation des écrans pendant la pandémie.

INTRODUCTION

The impact of screen time on children has gained significant attention in Canada in recent years, mirroring a global reliance on electronic devices.[1] The term "screen time" refers to the duration one dedicates to electronic devices (e.g., smartphones, tablets, television, etc.).[1-2] Activities can range from actively engaging in video calls, online learning or passively watching television. Surprisingly, even the youngest of children are not exempt from these activities and studies have reported that 50% of infants aged six to 11 months engage with touchscreens daily.[2-3] Based on expert consensus, the Canadian Paediatric Society (CPS) recommends limiting screen time for young children as excessive screen use has been linked to challenges in language development, attention, and social skills.[2-3] Recommendations include avoiding screen time altogether for children under the age of two, one hour of screen time per day for children aged two to five, and no more than two hours for those five and older.[2-3] During the COVID-19 pandemic, rates of screen time rose significantly among children of all ages.[4-12] However, it remains unclear whether—and to what extent—these patterns have changed in recent years as we transition into the post-pandemic era. This commentary aims to address the need for further research on screen time usage following the documented surge during the pandemic.

SCREEN TIME EFFECTS IN EARLY CHILDHOOD

Early childhood is a critical time for brain development, during which emotional, cognitive and physical health are especially sensitive to environmental influences.[13-17] High-quality interactions with caregivers, including reciprocal communication, joint play, eye contact, comforting during distress, and emotional coregulation, are key to supporting healthy development.[18] These interactions help build brain networks that are essential for language, emotional regulation, executive function, and social skills.

As digital media becomes increasingly integrated into the environments of young children, concerns have emerged regarding the potential impact of screen exposure during this sensitive developmental window.[2-3] Although screen time may not always be inherently harmful, its benefits in infancy and toddlerhood appear limited. In certain contexts, screens may complement development by encouraging movement (e.g., singing, dancing) or reinforcing cognitive skills like language and memory through repetition and interactive features.[19-21] However, such benefits are highly context-dependent and cannot replace the richness of real-world, social experiences. Concerns around early screen exposure largely center on the nature of the content and the extent to which it displaces essential developmental activities such as imaginative play, physical activity, as well as meaningful caregiver-child interactions that support secure attachment—such as reciprocal communication.[2] Understanding these dynamics lays the groundwork for examining the broader implications of excessive screen time on children's emotional, mental, physical, cognitive, and social health.

Emotional and Mental Health

Screen time has been linked to several aspects of children's emotional well-being and mental health. A potential dose-response relationship (i.e., increasing exposure leads to progressively greater effects) has been observed, with increased screen time associated with more negative psychological impacts.[6,22] Emerging evidence connects excessive screen use with both internalizing (e.g. anxiety and depression) and externalizing (e.g. aggression and impulsivity) behaviours.[22] A systematic review and meta-analysis found that higher screen time in young children was associated with more frequent symptoms of aggression, irritability, frustration, and emotional dysregulation.[5] Specific types of passive screen use, such as television and leisure-based media, were significantly correlated with increased symptoms of anxiety and depression.[5] Additionally, a Canadian study showed that each extra hour of screen time at age 3 and a half predicted increased anger and frustration by age 4 and a half.[23] These findings suggest that excessive screen use may interfere with emotional development, potentially by displacing key opportunities for self-regulation, stress management, and caregiver interaction. As nurturing relationships are central to buffering children against stress and promoting mental well-being, disruptions caused by screen overuse may have long-term emotional consequences.[18]

Physical Health

Screen exposure is linked to a range of adverse physical health outcomes in young children, particularly affecting sleep and weight regulation. Numerous studies have shown that increased screen time is associated with delayed time to fall asleep, shorter sleep duration, and poorer sleep quality.[5,24-25] A comprehensive review found a dose-dependent relationship between screen use and

poor sleep, along with a heightened risk of unhealthy weight gain when recommended limits were exceeded.[4] Additionally, higher screen use in 2-year-olds has been associated with less outdoor play, suggesting that screen time may displace physical activity.[26] Children aged 2 to 5 years also appear especially vulnerable to screen-induced eye strain, however, this effect was not observed in younger age groups.[4] The timing of screen use matters as well, with evening exposure potentially disrupting sleep hormone (e.g., melatonin) production and sleep and wake cycles (e.g., circadian rhythms).[25]

Cognitive and Social Health

Cognitive and social development in early childhood is highly dependent on language-rich environments, imaginative play, and real-world exploration.[13] Elevated screen use during this period has been linked to structural and activation changes in brain regions associated with language processing and executive functioning.[27-28] An Australian study found that toddlers with higher screen exposure experienced less back and forth interaction with caregivers, produced fewer vocalizations, and heard less adult speech, all of which are key components of language development and cognitive stimulation.[29] Similarly, a 2023 Japanese cohort study reported that children exposed to more than one hour of screen time daily at age 2 had lower communication scores by age 4.[26]

Previous research has also raised concerns for the social implications around screen time. Excessive screen use may displace opportunities for shared play and face-to-face interactions, impeding the development of secure attachment relationships that are crucial for emotional regulation, resilience, and social competence.[16] Reduced caregiver-child interaction due to excessive screen time has been linked to delays in developmental milestones, language acquisition, and creative play, all of which affect social skill development.[16-18,30,31] While certain digital tools can support learning when used interactively and intentionally, they should not replace real-world experiences that drive cognitive and social development in early childhood.

The extensive list of the negative effects of screen time on young children's social, cognitive, and behavioural development underscores the importance of promoting established guidelines and recommendations regarding screen time to mitigate these effects on this population.

SCREEN TIME AND THE COVID-19 PANDEMIC

Prior to the COVID-19 pandemic, adherence to pediatric screen time guidelines was already a global concern. A 2021 survey revealed that Canadian pediatricians strongly understood and adhered to the recommendations, and 94.3% of respondents believed that they played a crucial role in implementing these guidelines with their patients and families.[1] Despite this, studies in Canada reported that 76-82% of Canadian preschooler aged children exceeded the 1-hour recommended daily screen limit.[32-34] Similarly, a recent meta-analysis involving over 89,000 children revealed that, globally, only 24.7% of children under two years, and 35.6% of children aged two to five met these guidelines.[35] These concerns also extended beyond the home, including educational settings (e.g., schools, early childcare, etc.).

The COVID-19 pandemic added new complexity to the screen time debate, as widespread lockdowns, school and childcare closures, restrictions on gatherings, and the shift to remote learning reshaped daily routines.[7,11,36-37] As a result, many families—particularly those with young children—increasingly relied on electronic devices for both education and entertainment.[4,8-9,38-39] In many cases, screen time functioned as an "electronic babysitter," giving parents temporary relief or time to focus on remote work and household responsibilities.[40] Unsurprisingly, this led to a significant rise in screen time among young children during the initial lockdowns worldwide, including in Canada.[5-6,12,41] One study examining a large cohort (n = 2,209) of children aged 8 to 36 months across 12 countries—including France, Turkey, and Canada—found that caregivers reported increased screen time during lockdown. Increased rates were even found among toddlers without online educational requirements and were more pronounced in countries that experienced longer lockdown durations.[41] Two systematic reviews and meta-analyses confirmed this trend, reporting that young children spent an additional 36 to 53 minutes per day on screens during the pandemic, compared to their average daily screen time before the pandemic.[5-6] These findings are consistent with other reports showing that 64% of preschoolers exceeded the recommended one hour of screen time per day during this period.[23] Adherence to public health restrictions has contributed to this increase for a multitude of reasons, including families spending more time indoors and facing limited access to outdoor and structured activities. This was supported by a study of Ontario children under age five where researchers

observed a strong association between strict adherence to lockdown guidelines and reduced outdoor activity, accompanied by increased screen exposure.[7]

Compounding the issue, daycare and school closures left many parents struggling to balance childcare responsibilities with remote work and educational demands. Across North America, studies have documented a correlation between increased screen time and heightened family stress—particularly among families with fewer resources—highlighting how the pandemic disproportionately impacted vulnerable households.[8-11] These patterns suggest that the interplay between family stress and screen time may strain family attachment and hinder healthy child development.

GAP IN INFORMATION ON SCREEN TIME POST COVID-19 PANDEMIC

The pandemic ushered in an unprecedented reliance on screens, prompting widespread discussions among parents, educators, and healthcare professionals about the potential long-term ramifications of such extensive digital exposure.[4-6] A survey of 53 Canadian pediatricians found that over 80% reported an increase in their patients' screen time during the pandemic, and nearly all (98%) expressed concern about its impact on children's health and wellbeing.[1] In the United States, *Common Sense Media (2025)* released an updated report with some of the first post-pandemic insights.[42] They found that while screen time among children under 8 has plateaued since the peak in the pandemic, the nature of content consumed has shifted markedly—short-form videos (e.g., YouTube Shorts, TikTok-style content) have become increasingly dominant, while educational content has declined.[42] The report also highlights socioeconomic disparities, with children from lower-income families engaging in significantly more screen time on average than higher-income households.[42] To our knowledge, aside from this report, no peer-reviewed studies have examined post-pandemic changes in screen use among children under six. While this commentary synthesizes current literature, it relies solely on secondary sources without original data collection. Given the recency of the pandemic, peer-reviewed evidence remains limited. Moreover, many pre-pandemic studies have notable methodological limitations. For example, studies by Glassman and Cardy rely on parent-reported screen time, which may be subject to recall errors and social desirability bias.[9-12] Furthermore, various systematic reviews have emphasized how definitions of "screen time" often vary across studies, especially in distinguishing recreational from educational use, making it difficult to draw direct comparisons.[5-6]

As we continue to navigate the post-pandemic world, there remains a significant knowledge gap regarding the prevailing patterns of screen time consumption both at home and at school among children under age 6. Although there is a breadth of literature outlining the pre-pandemic concerns for screen time among young children, and extensive evidence documenting its sharp increase during the pandemic, comprehensive research examining the current state of screen time, especially in young children, remains strikingly absent.[3-6,21,27] This gap leaves many important questions unanswered. *Common Sense Media (2025)* also notes that children's digital media use remains "poorly understood in terms of content, context, and consequences," and that "virtually no longitudinal research" has explored how these behaviors have evolved post-pandemic.[42] Has screen time decreased post-pandemic? Now that in-person schooling has resumed post-pandemic, how has educational screen time changed in this age group, and how does it compare to recreational screen time? Could this shift help us better understand evolving screen use patterns and their potential impacts on young children? Are the effects of increased screen time permanent? Addressing these concerns is important to understand how screen time has impacted young children and how related patterns of use and associated effects have evolved over time, especially given evidence that screen time has short- and long-term implications on children's emotional, mental, physical, cognitive, and social health.

RECOMMENDATIONS

What do we need to do next?

Given the evolving digital era and young children being the fastest-growing group of digital media users, there is an urgent need for comprehensive research on screen time.[39,42] It is imperative to unite all those who work with children and their families, including pediatric and mental health professionals, policymakers, educators, and caregivers to critically evaluate existing screen time guidelines and adapt them to today's realities. In their recent screen time update, the CPS voiced a pressing need for revised guidance that reflects the dramatic shifts in digital habits following the COVID-19 pandemic.[43] In alignment with these concerns, a Canadian organization comprising clinicians, caregivers,

and educators has developed a pledge to educate families about the risks of smartphone use in early childhood and to encourage limiting its use before the age of 14.[44] Additionally, in June 2025, the CPS launched the *Centre for Healthy Screen Use*, an online resource designed to support health professionals, policymakers, and families in making informed decisions about screen time.[45] Although Canada has taken steps in this direction, several countries have also actively implemented measures to address this issue. **Table 1** outlines key policy actions from various countries, including school device bans, official guidelines, and public health campaigns. Interestingly, some countries like Germany, prioritize family education over formal legislation to guide children's screen use.[46] The *Schau Hin!* campaign, for example, offers parents evidence-based tips to delay screen exposure and promote screen-free family routines.[46] Meanwhile, the World Health Organization emphasizes the broader importance of limiting screen time in early childhood.[47]

To support evidence-informed policymaking, the collective expertise of interdisciplinary professionals should be harnessed to establish a national research consortium for post-pandemic screen time levels. Such a body could lead and guide the development of a balanced and developmentally appropriate digital environment for Canada's youngest children. For example, a multidisciplinary collaboration among clinicians, researchers, educators and parents could help review and strengthen current screen time guidelines by integrating diverse expertise, emerging evidence, and clinical realities. To complement this, studies should not only track changes in screen time use at home and in schools since the onset of the COVID-19 pandemic but also examine the long-term outcomes of this increased exposure. Ideally, such research would explore how factors like family socioeconomic background and children's cognitive and emotional states during screen use may mediate or moderate its effects, helping to explain why screen time impacts some children more than others. A dual approach, measuring both usage patterns and associated short- and long-term outcomes, can help update and establish evidence-based policies and recommendations that better address the complex realities of screen time in early childhood in this post-pandemic era. **Table 2** outlines key recommendations for future research and policy direction, consolidating these priorities and summarizing our proposed next steps.

In addition to revising guidelines, Canadians can learn from other countries by ensuring revised policies include specific and actionable strategies. For example, Singapore holds some of the strictest global screen time rules reported, limiting preschoolers to one hour per day of educational content and banning passive "background screen time" entirely.[48] In North America, the American Academy of Pediatrics developed the *Family Media Plan*, an interactive online tool that helps families set screen time priorities, develop media use rules, and foster healthy digital habits based on individual family needs and values.[49] Although the CPS lays a strong foundation for national guidance, further efforts are needed to strengthen implementation and respond to evolving needs.[43] See **Table 2** for examples of proposed strategic directions.

Finally, prioritizing positive early childhood experiences and connections can help mitigate the challenges posed by increased digital media use in early childhood. Fostering and sustaining a strong parent-child relationship has been reported to counteract the negative mental health effects associated with screen time and should be a central focus in both prevention and treatment efforts.[22] As we navigate the realities of a tech-driven world, promoting healthy relational dynamics will be essential to supporting young children's physical and emotional well-being. Ultimately, supporting healthy child development in a rapidly evolving digital world requires a clearer understanding of how pandemic-era increases in early-childhood screen use have changed—or persisted. Conducting longitudinal research studies, developing more robust, evidence-based guidelines for professionals and families, and coordinating efforts across disciplines should be prioritized.

Table 1. Summary of Global Strategies to Address Excessive Childhood Screen Time By Country

Country	Key Measures	Details
Australia	National screen time guidelines Social Media Ban	The Department of Health promotes ≤2 hours/day of recreational screen time for ages 5–17 and discourages any screen use under age 2[50]. These recommendations are supported by public campaigns aimed at promoting active play and healthy routines[50]. In November 2024, Australia passed legislation to ban social media access for individuals under age 16, with the law set to take effect in December 2025. This legislation is intended to protect youth from online harms and places the burden of compliance on social media platforms[51].
Canada	Classroom phone bans Updated pediatric guidelines Educational online platform	Several Canadian provinces have taken action to regulate student phone use in schools: Ontario has banned mobile phones in classrooms, Alberta has implemented a province-wide ban, and British Columbia requires school districts to restrict personal device use during instructional hours[43,52-54]. Nationally, the CPS recently revised its recommendations to emphasize reduced passive use and increased interactive play in 2019[43]. More recently, in June 2025, the CPS launched the *Centre for Healthy Screen Use*, an online platform offering resources for clinicians, policymakers, and families to support informed screen use decisions[45].
China	Strict screen regulations School phone ban	China enforces strict regulations limiting online gaming for minors to 3 hours/week and has mandated "youth mode" settings on apps[55]. Phone use is also restricted during school hours, reflecting concern over gaming addiction and mental health impacts[56].
France	School phone ban Public health messaging	A 2018 national law bans mobile phone use in schools up to age 15[57]. National campaigns such as "Pas d'écran avant 3 ans" aim to educate parents on the developmental risks of early screen exposure[58].
Germany	Family education and voluntary limits	Germany relies on family education rather than legislation[46]. The *Schau Hin!* campaign offers evidence-based guidance to help parents manage media use in the home, promoting delayed exposure and screen-free family routines[46].
New Zealand	National screen-time guidelines	The Ministry of Health advises no screen use for children under 2, ≤1 hour/day for preschoolers, and ≤2 hours/day for school-age children[59]. These guidelines are part of a broader public health approach encouraging balanced movement, screen, and sleep behaviours.
Norway	Increased age of consent	The Norwegian government is raising the age of consent for social media use from ages 13 to 15[60]. While parents may still provide consent for children under 15, the government is also implementing measures to protect youth from the potential harms of social media, particularly the influence of algorithms that target young users[60].
Singapore	Strict limits for preschoolers Content-based rules	Singapore enforces some of the most stringent screen time guidelines globally, limiting preschoolers to one hour per day of educational content while explicitly banning passive background screen time[48]. These rules are part of a broader public health strategy to prevent childhood myopia and promote healthy development.
Taiwan	Legally enforceable screen-time limits	Since 2015, Taiwan has empowered authorities to fine parents who allow children to engage in excessive screen use under the Child and Youth Welfare Act, treating overexposure as a developmental risk[61].
United Kingdom	Non-statutory guidance to ban school phone use National screen-use advice	The UK government issued non-statutory guidance encouraging schools in England to prohibit mobile phone use during school hours[62]. Public Health agencies advise families to prioritize screen-free meals, limit use before bed, and monitor content rather than applying rigid time limits[58].
United States of America	National screen time guidelines Educational interactive tools for families Kids Online Safety Act to regulate digital platforms	The American Academy of Pediatrics (AAP) recommends avoiding screen time for children under 18 months (except video chatting), limiting preschoolers to one hour per day of high-quality content, and encourages co-viewing and screen-free routines to support healthy development[49].The AAP also developed the *Family Media Plan*, an interactive tool that helps families set screen time priorities, establish media use rules, and promote healthy digital habits tailored to individual family needs and values[49]. In 2024, the U.S. Senate passed the Kids Online Safety Act (KOSA), which mandates that platforms disable addictive features, enable privacy-by-default settings for minors, and allow users to opt out of algorithmic content[63].

Table 2. Recommendations for Future Research Directions and Policy

Focus Area	Key Action/Recommendation
Screen Time Guidelines	• Update national guidelines to reflect post-pandemic use and current evidence[43,47]
Global Comparison & Leadership	• Learn from countries like Singapore with stricter policies (e.g., limits, background screen bans[48] • Assess applicability of international approaches in a national context
Interdisciplinary Collaboration	• Form a national research consortium to guide child-focused digital policy • Initiate longitudinal research on the developmental effects of screen exposure
Examining Variance in Individual-Level Impacts	• Study cognitive and emotional factors that influence how screen time affects children[42] • Recognize variability in individual responses to screen use • Keep an eye out for worrisome screen habits and consult a doctor if concerns arise[64]. Emotional and behavioural signs include [64] - Upset feelings after screen use - Feeling sad or stressed without screens - Struggling with screen time limits - Screen use disrupting daily tasks like school, family time, sleep, or hanging out with friends
Practical Strategies	• Promote and expand the reach of national public health initiatives like the CPS's *Centre for Healthy Screen Use* to support families and professionals[45] • Integrate screen time discussions into routine pediatric visits • Implement school-based media literacy programs • Promote local screen-free community initiatives • Provide accessible family guidance and personalized strategies for healthy digital habits such as Germany's The *Schau Hin!* Campaign[46] and tools like the American Academy of Pediatric's *Family Media Plan*[49] • Implement CPS' Four M's approach: minimize, mitigate, use mindfully, and model healthy screen habits[2]
Parent-Child Connection	• Promote strong parent-child relationships to buffer negative mental health effects of screen time[22] • Designate tech-free zones during family meals and gatherings to foster bonding and promote face-to-face interactions[4] • Co-view content with children to exemplify and nurture digital media literacy • Maintain open, judgment-free communication with children about online safety, encouraging them to seek support if they encounter harassment or inappropriate content

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Conflicts of Interest Disclosure
There are no conflicts of interest to declare.