

SCREEN USE IN CHILDHOOD: UPDATE JULY 2024

The Saw Swee Hock School of Public Health was asked by the Ministry of Health to undertake an update to the 'Evidence Review of Screen Use in Childhood' report.

A rapid time-limited scan was undertaken for any relevant evidence or guidance published since the cut-off date of the report (June 2022).

SUMMARY

There seems to be a growing acceptance from policy makers that there is 'enough' evidence of harms (and correlations with harms) to push forward with clearer policies, advisories and regulations related to screen use in childhood. Alongside this is an understanding of the limitations and challenges of research in this area.

There has been increasing international concern over the impact of social media. Some countries have passed legislation aimed at mitigating the harms of social media on children and adults. Implementation has yet to be undertaken and evaluated.

There has been an international shift towards banning use of mobile phones in schools. The most common policy is students having phones in bags or lockers but "never used, seen or heard" in school time or on school trips. Policies outline implementation approaches and list reasonable exceptions e.g. when used to monitor a health condition.

Increasing normalisation of the use of screens by parents of pre-school children as "babysitters" or "pacifiers". Some countries have made guidance clearer for the pre-school age.

There is an acceptance by parents (and clinicians) that guidance that gives recommended maximum time-limits on screens by age is usually unachievable and an increasing preference for guidance that takes a supportive step-by-step approach to behaviour change and provides achievable relatable examples and goals.

RESEARCH APPROACH

The research approach underpinning the update is outlined below.

In July 2024 a rapid time-limited scan was undertaken for any relevant evidence or guidance published since the cut-off date of the main report (June 2022).

PubMed was searched for systematic reviews on the impact of screen use in childhood that have been published since June 2022. The main search terms were "screentime" and "screen time". The filter was used to identify reviews that relate to childhood (age 0 to 18 years).

Targeted topic searches were also undertaken scanning and filtering for systematic reviews (e.g. including the above key words and the addition of "obesity" / "sleep" / "neurodevelopment" / "addiction" and so on).

Only peer-reviewed articles were included.

A scan of updated guidance from international organisations was undertaken. Websites of relevant country specific organisations were also scanned and the underpinning evidence behind recommendations.

The same set of limitations outlined in the main report apply. An additional limitation is that technology and its use move faster than the ability of researchers to study their impact, for example, screen holders are now available for prams and strollers.

The following report outlines the main findings from the research scan related to trends, risks, guidance and interventions.

EVIDENCE UPDATE

Trends

A systematic review published in 2023 (undertaken by academics in Singapore) explored the trends and perception of caregivers of children's screentime (age 0 to 12 years). The review highlighted the increasing normalisation of screen use in early childhood and an increasing proportion of parents using screens as a 'babysitter'. The review outlined parental perceptions of the potential negative and positive impacts of screen use in childhood and perceptions of guidance and approaches for better screen use.¹

A systematic review published in 2023 found that the COVID-19 pandemic led to an increase in screen use in children aged 6 to 14. It found that the average screen time was 2.77 hours a day with 46.4% averaging over 2 hours screen time per day. However, the average rates of school-aged children, who had screen time within the range of ≥ 2 h per day, were 41.3% and 59.4% respectively before and after January 2020.²

Potential Benefits

No new systematic reviews identified.

Potential Risks

A systematic review published in 2023 explored a set of negative correlates with screen use in children aged 0–5 years. The evidence for most correlates was inconsistent or insufficient and it recommended further targeted research, particularly on the presence of electronic devices in the bedroom and parental behaviour.³

Sleep behaviour

A systematic review published in 2022 found using mobile phones before bedtime was associated with poor quality of sleep among adolescents (age 11 to 18 years). The study also found that excessive use of digital screens was associated with worse and shorter sleep, showing, as its main consequences, night awakenings, long sleep latency and daytime sleepiness.⁴

A systematic review published in 2023 explored the impact of screens on sleep behaviours of people aged 16–25 years. Overall, screen use was associated with shorter sleep duration and poorer sleep quality. These associations were found for general screen use and use of mobile phone, computer, internet, and social media, but not for television, game console and tablet use.⁵

Sedentary behaviours

No new systematic reviews were identified.

Obesity

A systematic review and meta-analysis published in 2022 found a positive association without dose-response between screen time and overweight/obesity among adolescents (age ≥ 10 –20 years).⁶

A systematic review and meta-analysis published in 2023 found that children and adolescents (≤ 18 years) with the highest screen time had higher waist circumference compared with those with the lowest screen time.⁷

A systematic review and dose-response meta-analysis published in 2022 suggested that increased screen time is associated with an increased risk of metabolic syndrome in children and adolescents (we were unable to confirm the age groups analysed).⁸

A systematic review published in 2022 suggested that screen use during food consumption may increase intake, although evidence is limited (sub-group analysis for children was not undertaken).⁹

Mental Health and Well-Being

A systematic review and meta-analysis published in 2022 found small but significant correlations between screen time and children's behaviour problems (age 12 and under).¹⁰

A systematic review published in 2023 suggested significant positive correlations between social media use and both depressive and disordered eating symptoms, body dissatisfaction, and anxiety in adolescents aged 10–19.¹¹

A systematic review published in 2023 found associations between screen exposure and mental health in adolescents (age between 12 and 18). The device most used by adolescents was the smartphone and use on weekdays was associated with diminished mental well-being. Social media use was negatively associated with mental well-being and, in girls, associated with a higher risk for depression.¹²

A systematic review and meta-analysis of longitudinal studies published in 2024 suggested that total screen use was associated with the risks of self-harm and suicidal behaviours in young people (age 10 to 24). Cyberbullying victimisation was also related to these adverse outcomes. Sub-group analysis found that social media use and problematic screen use are significant risk factors for self-harm and suicidal behaviours.¹³

Cognitive Development

A systematic review published in 2023 found evidence of a relationship between high exposure to screens and both immediate and long-term attentional functions in pre-school children.¹⁴

A systematic review published in 2023 found that pre-school screen time (particularly passive screen watching) has negative effects on children's cognitive and language development.¹⁵

Myopia

No new systematic reviews identified. However, a meta-analysis published in 2024 found that screen time exposure was significantly associated with myopia in children and adolescents. Screen time exposure from computers may have the most significant impact on myopia.¹⁶

Cancer

No new systematic reviews identified.

Children with Neurodevelopment Issues

A systematic review and meta-analysis published in 2023 suggested that the proclaimed association between screen use and autism is not sufficiently supported in the existing literature.¹⁷

INTERNATIONAL GUIDANCE UPDATE

Systematic Reviews

A systematic review published in 2022 explored the perceptions of parents, children and clinicians towards physical activity and sedentary behaviour guidelines across all age groups. The following findings are relevant to the update.¹⁸

- Although guidance for the under 4s was viewed positively, the guidance to limit screen time was viewed as being unrealistic and led to feelings of guilt in parents.
- Parents reported using screens as “babysitters” to young children.
- The guidance on screen use in children over 4 years was viewed as unrealistic.
- There was a consensus the guidance should use simplified language with more definitions, relatable examples and imagery. There was a preference that guidelines be tailored to individuals and encourage achievable goals rather than rigid times, eg when guidelines were broken down into more achievable steps that could be built upon.
- General age group guidelines were not perceived as usable for populations with differing abilities, clinical conditions, and socioeconomic status. Guidelines that targeted clinical populations (eg people with multiple sclerosis or spinal cord injury) were well received.

The review concluded that there was a clear need to balance the evidence base with the pragmatic needs of translation and uptake so that the guidelines are not ignored or act as a barrier to actual engagement.

International Organisations

World Health Organization

The scan did not identify new guidance from the WHO.

UNESCO

The 2023 'Global Education Monitoring Report' outlined a call for technology (including mobile phones) only to be used in classrooms when it supports learning outcomes.¹⁹

OECD

The 2024 'Managing Screen Time: How to protect and equip students against distraction' policy paper stated that three-quarters of students in OECD countries spend more than one hour per weekday browsing social networks and nearly one in three students were distracted by using digital devices in education settings.²⁰ Several countries have cited the OECD report within updated school mobile phone policies.

Countries

Singapore

In 2023, the Ministry of Health published an advisory on screen use in childhood.²¹ In terms of policies related to mobile phones in schools, the Singapore Ministry of Education stated in 2018 that it has provided guidance for mobile phone in schools. However, at that time there was no blanket ban of phones in schools.²² Banning or restricting phones in schools was recently discussed in the Singapore media.^{23,24}

United States

In 2023 the Surgeon General published an advisory on social media and young people. Advisories are reserved for significant public health challenges that require the nation's immediate awareness and action.

The advisory stated: "More research is needed to fully understand the impact of social media; however, the current body of evidence indicates that while social media may have benefits for some children and adolescents, there are ample indicators that social media can also have a profound risk of harm to the mental health and well-being of children and adolescents.

At this time, we do not yet have enough evidence to determine if social media is sufficiently safe for children and adolescents.

*We must acknowledge the growing body of research about potential harms, increase our collective understanding of the risks associated with social media use, and urgently take action to create safe and healthy digital environments that minimize harm and safeguard children's and adolescents' mental health and well-being during critical stages of development."*²⁵

Guidance to key stakeholders and end users was outlined within the advisory.

In 2024, the American Academy of Child and Adolescent Psychiatry updated their guidance to the following:²⁶

- Until 18 months of age, limit screen use to video chatting along with an adult (for example, with a parent who is out of town).
- Between 18 and 24 months screen time should be limited to watching educational programming with a caregiver.
- For children 2-5, limit non-educational screen time to about 1 hour per weekday and 3 hours on the weekend days.
- For ages 6 and older, encourage healthy habits and limit activities that include screens.
- Turn off all screens during family meals and outings.
- Learn about and use parental controls.
- Avoid using screens as pacifiers, babysitters, or to stop tantrums.
- Turn off screens and remove them from bedrooms 30-60 minutes before bedtime.

Canada

In 2024, the province of Ontario expanded its phone ban in primary schools to also include secondary schools. Phones are required to be silent and out of sight for the entire school day, unless explicitly permitted by an educator. This policy also applies to school trips. Policies include details on implementation and exemptions. Students have report cards that include comments on students' distraction levels in class. The policy also requires social media websites to be removed from all school networks.²⁷

Other provinces are also planning to ban phones in schools at the start of the new school year in September 2024 (e.g. Alberta, British Columbia, New Brunswick and so on).^{28,29,30}

In 2022, the Canadian Paediatric Society published a position statement on screen time and preschool children.³¹ The statement outlined the latest evidence and made specific recommendations for families which are underpinned with four evidence-based principles - minimising, mitigating, mindfully using, and modelling healthy use of screens.

Minimise screen time:

- Screen time for children younger than 2 years is not recommended apart from video-chatting with caring adults. There is no evidence to support introducing technology at an early age.
- For children 2 to 5 years, limit routine or sedentary screen time to about 1 hour or less per day.
- Ensure that sedentary screen time is not a routine part of childcare for children younger than 5 years.
- Maintain daily screen-free times, especially for family meals and book-sharing.
- Avoid screens for at least 1 hour before bedtime, given the potential for stimulating and melatonin-suppressing effects.

Mitigate (reduce) the risks associated with screen time:

- Be present and engaged when screens are used and, whenever possible, co-view with children to model and encourage digital media literacy. Help children recognise and question advertising messages, stereotyping, and other problematic content.
- Be aware of content and prioritise educational, age-appropriate, and interactive programming. Encourage the use of screen devices for creative activities, such as drawing, over passive viewing.
- Use parenting strategies that support self-regulation skills in children, without relying on screen-based media.

- Curate and monitor young children’s media use by creating playlists or selecting appropriate channels, especially on open platforms such as YouTube. Limit children’s exposure to advertising and commercialised content.

As a family, be **mindful** about the use of screen time:

- Conduct a self-assessment of current screen habits and develop a family media plan for when, how, and where screens may (and may not) be used.
- Prioritise shared family media use (watching TV or movies together, playing video games together with family and friends) over solitary use by children.
- Encourage older siblings to help ‘mentor’ younger children’s digital encounters, and maintain digital media use as a sociable family activity.

Remember: Too much screen time means lost opportunities for teaching and learning.

- Adults should **model** healthy screen use:
- Encourage and participate in activities unrelated to screens, such as shared reading, outdoor play, easy board games, and crafts.
- Turn off devices during family time at and away from home.
- Turn off screens when not in use and avoid background TV.
- Advocate in childcare settings and schools, and to local governments, for healthier screen use policies.

Australia

In 2024, a ban on phones in schools was implemented. All students are required to keep their phones ‘off and away’ at school and while they are on school trips. Policies include details on implementation and exemptions.³²

In 2024, the Australian government published hints and tips on limiting children’s screen time and alternatives (e.g. outdoor play).³³

New Zealand

In 2024, a ban on phones in schools was implemented. All students are required to keep their phones ‘off and away’ at school and while they are on school trips. Policies include details on implementation and exemptions.³⁴

Germany

There are current discussions taking place about banning mobile phones in schools.³⁵

United Kingdom

School Phone Ban. In 2024, the UK government published guidance for schools on banning mobile phones in schools. The guidance outlines exemptions and implementation options (eg no phones on school premises through to students having phones in bags but ‘never used, seen or heard’).³⁶ In 2024, UK Education Parliament Committee highlighted the need to ensure that school phone policies incorporated parental concern about being able to contact children travelling home from school.³⁷

There are some potential conflicts with the 'Bring Your Own Device' scheme that facilitates the use of laptops or tablets for learning. The emphasis is on ensuring devices are only used for learning and work.

Rationale for the ban:

- In 2024, the Policy Exchange published findings from Freedom of Information requests to 800 primary and secondary schools across the UK. It found that although most primary schools had effective bans, only 11% of secondary schools had effective bans – with others allowing phones to be used in break or lunch, or permitting pupils to keep phones present on them. The Policy Exchange reported a correlation between outstanding schools and phone bans. There was also a correlation between schools with phone bans and those with higher academic progress.³⁸
- One in three secondary school pupils report that mobile phones are used in most lessons without permission. The guidance states that this not only distracts the pupil using the phone, but disrupts the lesson for a whole class, and diverts teachers' efforts away from learning.³⁶
- Almost three in ten children aged 8 to 17 (29%) had experienced someone being nasty or hurtful to them via apps or platforms; this contrasted with two in ten having this experience face to face (20%).³⁹ The aim is that by removing mobile phones from the school day, schools can create a safe space where pupils are protected from the risks and dangers associated with social media and cyber-bullying, as well as the peer pressure and possible stigma associated with owning what are often expensive devices.

Online Safety. In 2023 the Online Safety Act was passed by the UK Parliament. Platforms will be required to prevent children from accessing harmful and age-inappropriate content and provide parents and children with clear and accessible ways to report problems online when they do arise.⁴⁰ The Act allows for substantial fines or even imprisonment for executives of companies who breach its rules.

In 2024, the UK Education Committee in Parliament published its report on the impact of screen time on children's educational outcomes and wellbeing. The report is based on the Committee's inquiry that was launched in September 2023.³⁷

The report states that *"the overwhelming weight of evidence submitted to us suggests that the harms of screen time and social media use significantly outweigh the benefits for young children, whereas limited use of screens and genuinely educational uses of digital technology can have benefits for older children.*

For this reason, screen time should be minimal for younger children and better balanced with face-to-face socialisation and physical activity for older ones.

For children and adolescents alike the rapid rise of the use of screens and devices has come at a substantial cost and Government needs to do more across departments to protect them from addiction, online harms and the mental health impacts of extensive use of devices."

The report makes a set of recommendations for the next government to move forward for stronger guidance and controls to mitigate the potential negative impacts of screen use.

France

Since 2010, France banned the use of phones in classes. In 2018, this was extended to break, lunchtimes and school trips. There are exemptions for students with disabilities or if phones are needed for specific reasons (eg medical condition monitoring).⁴¹

In 2024, a committee appointed by the President explored the available evidence of screen use in childhood and made recommendations. The following information is taken from English news sites as the report is in French.^{42,43}

The report, "In Search of Lost Time" acknowledged the advantages of technology in childhood but stated that *"we must adopt a truthful discourse to describe the reality of children's excessive online connections and the consequences for their health, development, future, and also for our own future"*.

The report stated that children needed to be protected from the technology industry's profit-driven *"strategy of capturing children's attention, using all forms of cognitive bias to shut children away on their screens, control them, re-engage them and monetise them"*.

The report made the following recommendations:

- Phones and screens should be limited as much as possible on maternity wards to help parents bond with their babies.
- Parents should be helped to avoid what they called "techno-ference" – when parents constantly checking their own phones interfered with their ability concentrate on talking to, eating with or playing with their children.
- Phone use should be addressed among childminders.
- Advised against exposing under-threes to screens.
- For children up to the age of six, screens of all kinds should be "strongly limited" and only very rarely used for education content when sitting with an adult.
- Banning connected toys, except those used as audio for storytelling.
- Screens should be banned from nursery schools for children under six.
- In primary schools, children should not be given individual tablets or digital devices to work on, unless it was for a specific disability.
- Waiting until age 11 for a cellphone (just a handset, no access to the internet).
- Waiting until age 13 for a phone with internet access and only access to certain sites.
- A 15-year-old should be able to access only what the report called "ethical" social media, such as Mastodon. Conventional, mass-marketed, profit-driven social media such as TikTok, Instagram or Snapchat should not be available to teenagers until they reached 18.

Taiwan

No update identified.

China

In 2023, regulators in China consulted on limiting children's screen time further to:⁴⁴

- Children under eight - eight minutes a day.
- 8-16 year olds one hour.
- 16-18 year olds two hours a day.
- Those under the age of 18 would not be able to access the internet between 10pm and 6am.

Hong Kong

No update identified.

Interventions

A systematic review published in 2023 explored the effectiveness of interventions related to childhood screen use.⁴⁵ Studies related to different media, so no general statement can be made about the effect of the interventions. However, the following conclusions were drawn:

- Most studies showed that different interventions can have an effect on screen time or at least have a positive influence on the participants' awareness and behaviour concerning the use of screen media.
- Short interventions focusing solely on reducing screen time may not be effective in preschool children but focusing on screen time behaviour in combination with other health behaviours might result in a greater effect on screen time.
- Most adolescents increased their screen time again after interventions, which suggests that long-term interventions may be necessary for achieving long-lasting awareness and behaviour changes.

A systematic review and meta-analysis published in 2022 found that parent-based interventions were associated with improved adolescent (ages 11 to 18) moderate-to-vigorous physical activity and reduced screen time and discretionary food intake.⁴⁶

REFERENCES

- (1) Chong, S. C.; Teo, W. Z.; Shorey, S. Exploring the Perception of Parents on Children's Screen time: A Systematic Review and Meta-Synthesis of Qualitative Studies. *Pediatr Res* **2023**, *94* (3), 915–925. <https://doi.org/10.1038/s41390-023-02555-9>.
- (2) Qi, J.; Yan, Y.; Yin, H. Screen Time among School-Aged Children of Aged 6-14: A Systematic Review. *Glob Health Res Policy* **2023**, *8* (1), 12. <https://doi.org/10.1186/s41256-023-00297-z>.
- (3) Veldman, S. L. C.; Altenburg, T. M.; Chinapaw, M. J. M.; Gubbels, J. S. Correlates of Screen Time in the Early Years (0–5 Years): A Systematic Review. *Preventive Medicine Reports* **2023**, *33*, 102214. <https://doi.org/10.1016/j.pmedr.2023.102214>.
- (4) Silva, S. S. da; Silveira, M. A. C. da; Almeida, H. C. R. de; Nascimento, M. C. P. do; Santos, M. A. M. D.; Heimer, M. V. Use of Digital Screens by Adolescents and Association on Sleep Quality: A Systematic Review. *Cad Saude Publica* **2022**, *38* (10), e00300721. <https://doi.org/10.1590/0102-311XEN300721>.
- (5) Brautsch, L. A.; Lund, L.; Andersen, M. M.; Jennum, P. J.; Folker, A. P.; Andersen, S. Digital Media Use and Sleep in Late Adolescence and Young Adulthood: A Systematic Review. *Sleep Med Rev* **2023**, *68*, 101742. <https://doi.org/10.1016/j.smrv.2022.101742>.
- (6) Haghjoo, P.; Siri, G.; Soleimani, E.; Farhangi, M. A.; Alesaeidi, S. Screen Time Increases Overweight and Obesity Risk among Adolescents: A Systematic Review and Dose-Response Meta-Analysis. *BMC Prim Care* **2022**, *23* (1), 161. <https://doi.org/10.1186/s12875-022-01761-4>.
- (7) Ghasemirad, M.; Ketabi, L.; Fayyazishishavan, E.; Hojati, A.; Maleki, Z. H.; Gerami, M. H.; Moradzadeh, M.; Fernandez, J. H. O.; Akhavan-Sigari, R. The Association between

- Screen Use and Central Obesity among Children and Adolescents: A Systematic Review and Meta-Analysis. *J Health Popul Nutr* **2023**, 42 (1), 51. <https://doi.org/10.1186/s41043-023-00391-5>.
- (8) Jahangiry, L.; Aune, D.; Farhangi, M. A. Screen Time and the Risk of Metabolic Syndrome among Children and Adolescents: A Systematic Review and Dose-Response Meta-Analysis. *Nutr Metab Cardiovasc Dis* **2022**, 32 (11), 2483–2492. <https://doi.org/10.1016/j.numecd.2022.08.004>.
- (9) Tabares-Tabares, M.; Moreno Aznar, L. A.; Aguilera-Cervantes, V. G.; León-Landa, E.; López-Espinoza, A. Screen Use during Food Consumption: Does It Cause Increased Food Intake? A Systematic Review. *Appetite* **2022**, 171, 105928. <https://doi.org/10.1016/j.appet.2022.105928>.
- (10) Eirich, R.; McArthur, B. A.; Anhorn, C.; McGuinness, C.; Christakis, D. A.; Madigan, S. Association of Screen Time With Internalizing and Externalizing Behavior Problems in Children 12 Years or Younger: A Systematic Review and Meta-Analysis. *JAMA Psychiatry* **2022**, 79 (5), 393–405. <https://doi.org/10.1001/jamapsychiatry.2022.0155>.
- (11) Blanchard, L.; Conway-Moore, K.; Aguiar, A.; Önal, F.; Rutter, H.; Helleve, A.; Nwosu, E.; Falcone, J.; Savona, N.; Boyland, E.; Knai, C. Associations between Social Media, Adolescent Mental Health, and Diet: A Systematic Review. *Obesity Reviews* **2023**, 24 (S2), e13631. <https://doi.org/10.1111/obr.13631>.
- (12) Santos, R. M. S.; Mendes, C. G.; Sen Bressani, G. Y.; de Alcantara Ventura, S.; de Almeida Nogueira, Y. J.; de Miranda, D. M.; Romano-Silva, M. A. The Associations between Screen Time and Mental Health in Adolescents: A Systematic Review. *BMC Psychol* **2023**, 11 (1), 127. <https://doi.org/10.1186/s40359-023-01166-7>.
- (13) Chen, Z.; Liao, X.; Yang, J.; Tian, Y.; Peng, K.; Liu, X.; Li, Y. Association of Screen-Based Activities and Risk of Self-Harm and Suicidal Behaviors among Young People: A Systematic Review and Meta-Analysis of Longitudinal Studies. *Psychiatry Res* **2024**, 338, 115991. <https://doi.org/10.1016/j.psychres.2024.115991>.
- (14) Jourden, M.; Bucaille, A.; Ropars, J. The Impact of Screen Exposure on Attention Abilities in Young Children: A Systematic Review. *Pediatr Neurol* **2023**, 142, 76–88. <https://doi.org/10.1016/j.pediatrneurol.2023.01.005>.
- (15) Massaroni, V.; Delle Donne, V.; Marra, C.; Arcangeli, V.; Chieffo, D. P. R. The Relationship between Language and Technology: How Screen Time Affects Language Development in Early Life-A Systematic Review. *Brain Sci* **2023**, 14 (1), 27. <https://doi.org/10.3390/brainsci14010027>.
- (16) Zong, Z.; Zhang, Y.; Qiao, J.; Tian, Y.; Xu, S. The Association between Screen Time Exposure and Myopia in Children and Adolescents: A Meta-Analysis. *BMC Public Health* **2024**, 24 (1), 1625. <https://doi.org/10.1186/s12889-024-19113-5>.
- (17) Ophir, Y.; Rosenberg, H.; Tikochinski, R.; Dalyot, S.; Lipshits-Braziler, Y. Screen Time and Autism Spectrum Disorder: A Systematic Review and Meta-Analysis. *JAMA Netw Open* **2023**, 6 (12), e2346775. <https://doi.org/10.1001/jamanetworkopen.2023.46775>.
- (18) Hollman, H.; Updegraff, J. A.; Lipkus, I. M.; Rhodes, R. E. Perceptions of Physical Activity and Sedentary Behaviour Guidelines among End-Users and Stakeholders: A Systematic Review. *Int J Behav Nutr Phys Act* **2022**, 19 (1), 21. <https://doi.org/10.1186/s12966-022-01245-9>.
- (19) UNESCO. *Technology in education: Global Education Monitoring Report*. <https://www.unesco.org/en/articles/smartphones-school-only-when-they-clearly-support-learning> (accessed 2024-07-03).

- (20) OECD. *Managing screen time.* OECD. https://www.oecd.org/en/publications/2024/05/managing-screen-time_023f2390.html (accessed 2024-07-03).
- (21) MOH. *Guidance on Screen Use in Children.* <https://www.moh.gov.sg/resources-statistics/educational-resources/guidance-on-screen-use-in-children> (accessed 2024-07-14).
- (22) MOE. *Use of Smartphones in Schools. Singapore.* <http://www.moe.gov.sg/news/parliamentary-replies/20180710-use-of-smartphones-in-schools> (accessed 2024-07-03).
- (23) CNA. *Commentary: Can social media warning labels and school cell phone bans help youth mental health? - CNA.* <https://www.channelnewsasia.com/commentary/social-media-warning-label-smartphone-ban-school-youth-mental-health-4426531> (accessed 2024-07-03).
- (24) ST. Forum: Time to Look into Restricting Mobile Phone Use among the Young. *The Straits Times.* Singapore April 4, 2024. <https://www.straitstimes.com/opinion/forum/forum-time-to-look-into-restricting-mobile-phone-use-among-the-young> (accessed 2024-07-03).
- (25) HHS US Gov. *The US Surgeon General's Advisory, 'Social Media and Youth Mental Health',;* 2023. <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.
- (26) AACAP. *Screen Time and Children. The American Academy of Child and Adolescent Psychiatry.* https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Children-And-Watching-TV-054.aspx (accessed 2024-07-14).
- (27) News Ontario. *Ontario Cracking Down on Cellphone Use and Banning Vaping in Schools.* [news.ontario.ca. https://news.ontario.ca/en/release/1004501/ontario-cracking-down-on-cellphone-use-and-banning-vaping-in-schools](https://news.ontario.ca/en/release/1004501/ontario-cracking-down-on-cellphone-use-and-banning-vaping-in-schools) (accessed 2024-07-03).
- (28) CBC. *Alberta to Ban Cellphones in K-12 Classrooms Starting in Fall.* *CBC News.* June 17, 2024. <https://www.cbc.ca/news/canada/calgary/alberta-classroom-cell-phones-1.7237567> (accessed 2024-07-15).
- (29) Vancouver Sun. *B.C. to restrict use of mobile phones in public schools.* [vancouversun.com. https://vancouversun.com/news/bc-bans-use-of-mobile-phones-in-public-schools](https://vancouversun.com/news/bc-bans-use-of-mobile-phones-in-public-schools) (accessed 2024-07-15).
- (30) CBC. *Stricter Cellphone Policy Coming to N.B. Schools.* *CBC News.* May 9, 2024. <https://www.cbc.ca/news/canada/new-brunswick/cellphone-use-1.7198808> (accessed 2024-07-15).
- (31) CPS. *Screen time and preschool children: Promoting health and development in a digital world | Canadian Paediatric Society.* <https://cps.ca/en/documents/position/screen-time-and-preschool-children> (accessed 2024-07-14).
- (32) Gov AU. *Phones off while school's on.* <https://www.education.sa.gov.au/mobile-phones> (accessed 2024-07-04).
- (33) ACT. *Screen time and children.* ACT Government. <https://www.act.gov.au/health/topics/children-and-young-people-health/keeping-children-active/screen-time-and-children> (accessed 2024-07-14).
- (34) Gov NZ. *Phones away for the day.* Education in New Zealand. <https://www.education.govt.nz/school/digital-technology/cellphones/> (accessed 2024-07-03).

- (35) DW. *Will Germany ban cellphones in schools?*. dw.com. <https://www.dw.com/en/will-germany-ban-cellphones-in-schools/video-69440221> (accessed 2024-07-04).
- (36) Gov UK. *Mobile Phones in Schools: Guidance for Schools on Prohibiting the Use of Mobile Phones throughout the School Day*; 2023. https://assets.publishing.service.gov.uk/media/65cf5f2a4239310011b7b916/Mobile_phones_in_schools_guidance.pdf.
- (37) UK Parliament. *Education Committee. Stronger guidance and controls needed to protect children from screen time*. <https://committees.parliament.uk/committee/203/education-committee/news/201715/stronger-guidance-and-controls-needed-to-protect-children-from-screen-time-education-committee-finds/> (accessed 2024-07-03).
- (38) Policy Exchange. *Disconnect*. Policy Exchange. <https://policyexchange.org.uk/publication/disconnect/> (accessed 2024-07-03).
- (39) Ofcom. *Children and Parents: Media Use and Attitudes*; 2023. <https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/media-literacy-research/children/childrens-media-use-and-attitudes-2023/childrens-media-use-and-attitudes-report-2023.pdf>.
- (40) Gov UK. *Online Safety Act: explainer*. GOV.UK. <https://www.gov.uk/government/publications/online-safety-act-explainer/online-safety-act-explainer> (accessed 2024-07-03).
- (41) Library of Congress. *France: Government Adopts Law Banning Cell Phone Use at School*. Library of Congress, Washington, D.C. 20540 USA. <https://www.loc.gov/item/global-legal-monitor/2018-10-30/france-government-adopts-law-banning-cell-phone-use-at-school/> (accessed 2024-07-04).
- (42) Le Monde. *Kids and Screentime: What the Committee Appointed by Macron Recommends*. *Le Monde.fr*. May 2, 2024. https://www.lemonde.fr/en/france/article/2024/05/02/kids-and-screentime-what-the-committee-appointed-by-macron-recommends_6670225_7.html (accessed 2024-07-04).
- (43) Chrisafis, A. *Stop Children Using Smartphones until They Are 13, Says French Report*. *The Guardian*. April 30, 2024. <https://www.theguardian.com/world/2024/apr/30/stop-children-using-smartphones-until-they-are-13-say-french-experts-in-report> (accessed 2024-07-04).
- (44) BBC. *Children in China to Be Limited to Two Hours of Screen Time a Day*. *BBC Newsround*. August 3, 2023. <https://www.bbc.com/newsround/66397511> (accessed 2024-07-04).
- (45) Krafft, H.; Boehm, K.; Schwarz, S.; Eichinger, M.; Büssing, A.; Martin, D. *Media Awareness and Screen Time Reduction in Children, Youth or Families: A Systematic Literature Review*. *Child Psychiatry Hum Dev* **2023**, *54* (3), 815–825. <https://doi.org/10.1007/s10578-021-01281-9>.
- (46) Champion, K. E.; Gardner, L. A.; McCann, K.; Hunter, E.; Parmenter, B.; Aitken, T.; Chapman, C.; Spring, B.; Thornton, L.; Slade, T.; Teesson, M.; Newton, N. C. *Parent-Based Interventions to Improve Multiple Lifestyle Risk Behaviors among Adolescents: A Systematic Review and Meta-Analysis*. *Prev Med* **2022**, *164*, 107247. <https://doi.org/10.1016/j.ypmed.2022.107247>.