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Physiological Implications of Technology Use by Children in Environments

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Abstract

Due to the ubiquity of technology in the lives of twenty first century children, a concerted effort needs to be made to protect children from the risks associated with technology use, and also to promote positive habits and modes of use that are beneficial for child development. Although less of a focus in this paper, technology clearly also provides children with a number of learning and socialization opportunities, and digital competence will likely be necessary for the next generations to enter the labor market.

Keywords: Postural risks; Adolescents; Device programs; Right direction; Melatonin production

Introduction

Screen time guidelines from many countries, with a large focus on setting limits on exposure, might be too simplistic and fail to account for some of the nuances associated with how children and adolescents use technology such as what they use it for, when they are using it, and the different types of screens they engage with throughout the day as well as the screen-stacking phenomenon [1]. Trends in technology use have shown that children and adolescents use screens differently than they did in the past. Computers are more often used in the classroom, especially with the proliferation of Bring Your Own Device programs, fifteen year olds who took the Program for International Student assessment reported having access to a smartphone. As these digital trends are on the rise, more nuanced recommendations that are strongly rooted in evidence and take into account the quality of the existing evidence are essential [2]. The recently published guidelines from the Royal College of Pediatrics and Child Health in the United Kingdom that incorporate these notions, and account for individual differences in children, may be a big step in the right direction in this regard. There are some areas of research regarding children's use of technology that have quite robust and consistent research [3]. Yet, there are others with incoherent conclusions, or that are still in their infancy that are guiding policy and public opinion.

Methodology

At this time, there remain many open questions for future research. Some results that have been quite consistent across the research include, Blue light affects melatonin production and can affect sleep in conjunction with good sleep hygiene, and limiting access to blue light before bedtime or using blue light glasses can help mitigate this. Moderate internet use can help children build rapport with their peers, and probably does not displace engaging in physical activity or other health-promoting behaviors [4]. Not all media is created equal active versus passive engagement, violent versus entertainment versus educational content, and age-appropriateness can impact child outcomes. Co-viewing provides opportunities for scaffolding, and can help children understand onscreen content; spending quality time with parent's caregivers might be more important than the type of activity engaged in together [5]. Despite widespread attention in both media and policy circles, there are some areas of the research that require more clarity or agreement across scientific and policy communities, including, if using technology is the cause of various cognitive outcomes, if using technology is implicated in restructuring parts of children's brains, a total rewiring is highly unlikely, if extreme use of certain technologies warrants an addiction label, or is this a pathologizing of normal childhood behaviors, if technology does impact children's emotional development, the causal mechanisms are unclear, if there are real health risks associated with technology use [6].

Discussion

In order to develop healthy attitudes towards children and technology, as well as comprehensive and well-informed guidelines, there is a need for more high-quality research in this field. National policy agendas can help fill these gaps by selectively funding research in these areas [7]. Some examples of research priorities for the future include, Longitudinal studies. Larger emphasis on how and why children use technology, and what phenomena like screen-stacking could mean for processes such as attention or working memory. Inclusion of patient-based studies, not just healthy populations, when studying mental health issues or concerns [8]. Real-world implications of outcomes in this field effect sizes published in studies are often statistically significant, yet what do these results mean for the day to day lives of children and their peers? Does a large effect size translate into functional differences in a child's daily cognition, behavior, social relationships and educational outcomes? Establish causal links between technology use and child outcomes, and understand underlying mechanisms [9]. A deeper exploration of the benefits associated with technology use such as social capital formation, enhanced cognition, physical activity, and teaching and learning processes. In light of this, there are some areas where a concerted effort can be made to protect children and adolescents from potential negative effects associated with technology use. This includes educators, parents and health practitioners assessing whether screen time is affecting engagement in certain health-promoting behaviors, setting timeframes for screen use and ensuring content-appropriate programming for younger children [10]. Furthermore, individual differences are important in this field. Simply playing violent video games does not a killer make, individual differences of children should

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be accounted for in this domain, and any limits on quantity and quality of media consumed could be assessed on a child by child basis, which national guidelines could take into account. In addition to the issues covered in this paper, recommendations for screen time can take into account some other risks associated with technology use such as phishing, cyber-bullying, accessing unsafe material or pornography, and communication with unknown persons that can open the door for grooming or radicalization [11]. On the other hand, potential benefits such as sustaining and making friendships, developing digital skills relevant for the twenty first century labor market and access to information should also be accounted for. It is also important to assess these risks and opportunities when considering restricting or enabling screen time. Children and technology use is a topic nowadays that potentially receives more media hype than it deserves. The research base is still a work in progress, and the existing literature points to a number of potential risks and benefits associated with using technology. There is still progress to be made on identifying hard facts. Unfortunately, many national guidelines focus on risks rather than rewards, and media hysteria spouts a number of neuro-myths and false associations between technology use and developmental outcomes of children [12]. Guidelines, especially those that prescribe strict time limits on media use, need to be rooted in strong, multidisciplinary research. In order to do so, we will hopefully see a proliferation of high quality work in these fields, especially in the neuro-scientific field which is still in its infancy regarding this topic. Generally speaking, the research is mixed in terms of health outcomes for children and technology exposure. If screen time is displacing other activities, such as physical activity, interacting with family and peers, or sleeping for adequate periods of time, this would be cause for concern [13]. However, research linking moderate technology use to increased participation in sports and clubs should provide some solace to parents and educators who are worried about children interacting with screens. As in the first section of this paper, there are a number of open questions and needs in this area of research such as, stress mechanisms associated with screen use exploring stressful versus stress-preventive use of screens, threshold limit for displacement effects, the potential for active video games to be used as public health interventions, or incorporated into education systems to promote activity, the real health risks of long-term, low-level exposure of children and adolescents to radiofrequency [14]. Timing of media use is another domain in which parents and health professionals could potentially work together to improve sleep outcomes. Thus, creating media-free or media-reduced zones such as bedrooms and restricting use right before bedtime could be beneficial for sleep, as additions to implementing healthy sleep hygiene habits. Furthermore, addressing postural concerns and reducing access to high-calorie, low-nutrient snacks to reduce mindless eating in front of the television could be of benefit [15]. As the proliferation of mobile phone use especially in children is a relatively recent phenomenon, the long-term health risks in this group are not clear as there has been no previous generation exposed during childhood or adolescence to this kind of radiation. As mentioned in the section focusing on sleep, radiofrequency might also impact sleep architecture. Due to the lack of longitudinal work documenting the effects of long-term exposure to radiofrequency from cell phones and mobile networks, as well as inconclusive literature in this field, it is difficult to state actual risks. The data is insufficient to draw conclusions about these risks from long-term and low level exposure to radiofrequency that people are exposed to in everyday environments. In recent years, the proliferation of mobile phone use and mobile phone networks has raised a number of concerns as their use is linked to risks such as radiofrequency damage, musculoskeletal problems, eye strain and sleep disturbance. This has been on the research agenda of bodies such as the World Health Organization. The debate over risks of radiation exposure has become especially prominent, although data in adults tends to show weak or non-causal links between radiofrequency exposure and brain cancer and different head tumors. There is some evidence that suggests a higher risk of certain cancers with increased mobile phone use, especially on the side of the head that is preferred for cell phone use. However, there is sparse data regarding long-term use in adults, and the evidence linking radiofrequency to cancer is contested by experts in the field.

Conclusion

Therefore, implementing limits on when children and adolescents use technology i.e. not in the hours immediately preceding bedtime, or providing children with protective equipment such as blue light-blocking glasses may help prevent sleep disruptions.

Acknowledgement

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Conflict of Interest

None

References

1. Sonune VG, Bhagile JB (2021) Use of Swarna Bindu Prashan in Children. IJRAMT 2: 215-217.
2. Dutt SB, Jayant N (2016) A review article on Swarna prashana samskara wsr immunization. IJAA 2: 1024-1028.
3. Shahapure S (2018) A Study On Parent's Opinion Towards Swarna Bindu Prashana In Kalaburagi City. IJPERA 3: 1-4.
4. Rao NP, Shailaja U, Mallika KJ, Desai SS, Debnath P (2012) Traditional Use Of Swarnamrita Prashana As A Preventive Measure: Evidence Based Observational Study In Children. IJRiAP 3: 1-5.
5. Aniket P, Pallavi D, Aziz A, Avinash K, Vikas S (2017) Clinical effect of suvarna bindu prashan. JAIMS 2: 11-18.
6. Wang J (2015) Analysis of neonatal respiratory distress syndrome among different gestational segments. Int J Clin Exp 8(9): 16273.
7. Swenson DW, Darge K, Ziniel SI, Chow JS (2015) Characterizing upper urinary tract dilation on ultrasound: a survey of North American pediatric radiologists' practices. Pedia Radiol 45: 686-694.
8. Hussain, Walid A, Jeremy D (2019) Approaches to Noninvasive Respiratory Support in Preterm Infants: From CPAP to NAVA. NeoRev 20: 213-221.
9. Bordessoule, Alice (2012) Neurally Adjusted Ventilatory Assist Improves Patient-Ventilator Interaction in Infants as Compared with Conventional Ventilation. Pedia Res 72: 194-202.
10. Chiew, Yeong Shiong (2013) Effects of Neurally Adjusted Ventilatory Assist [NAVA] Levels in Non-Invasive Ventilated Patients: Titrating NAVA Levels with Electric Diaphragmatic Activity and Tidal Volume Matching. BioMedi Eng 12: 456-564.
11. Cohen SP, Mao J (2014) Neuropathic pain: mechanisms and their clinical implications. BMJ UK 348: 1-6.
12. Mello RD, Dickenson AH (2008) Spinal cord mechanisms of pain. BJA US 101: 8-16.
13. Bliddal H, Rosetzsky A, Schlichting P, Weidner MS, Andersen LA, et al (2000) A randomized, placebo-controlled, cross-over study of ginger extracts and ibuprofen in osteoarthritis. Osteoarthr Cartil EU 8: 9-12.
14. Maroon JC, Bost JW, Borden MK, Lorenz KM, Ross NA, et al. (2006) Natural anti-inflammatory agents for pain relief in athletes. Neurosurg Focus US 21: 1-13.
15. Birnesser H, Oberbaum M, Klein P, Weiser M (2004) The Homeopathic Preparation Traumeel® S Compared With NSAIDs For Symptomatic Treatment Of Epicondylitis. J Musculoskelet Res EU 8: 119-128.