The Relationship Between Screen Time and Mental Health in Children Aged 6–12

In a world characterized by rapid technological advancement, digital devices have become fundamental components of the modern childhood experience. From educational applications to interactive entertainment and social platforms, screens are now pervasive in the lives of children. This profound integration, while offering diverse benefits and unlimited access to information, simultaneously raises questions regarding its impact on child development. This paper argues that excessive screen time among children aged 6-12 adversely affects their sleep cycles, thereby increasing the likelihood of sleeping problems, and is implicated in the development of mental health difficulties and negative behaviour.

Method

Literature Search

To address the complex link between children and screen time, a search was conducted throughout databases such as Google Scholar, PubMed, and NLM. Studies were included if they were published in English, and specifically investigated the association between screen time and sleep, mental health, or mood in children aged 6 to 12. Studies focusing on specific disorders unrelated to general screen use were excluded to focus on broad developmental impacts rather than clinical diagnoses. Studies published from 2010 to 2024 were included.

Screen time in children has seen a significant and concerning increase over several years. Research has shown an increase in screen time from 4.5 hours daily to 5.5 hours daily, with most of the jump being during COVID-19 in for kids aged 8-12 *(CHOC, 2024)*. However, alongside this increased usage, a noticeable rise in sleeping problems has emerged

for younger children, attributable to several factors *(Hale & Guan, 2015)*. Firstly, direct displacement of sleep time by device usage is a key contributor. A decreased sleep time can lead to REM rebound, a phenomenon induced when individuals get poor sleep. During the sleep cycle, individuals typically spend 20 - 25% of their time in REM, associated with muscles tensing and an increase in brain activity in a dream-like state. When individuals do not get enough sleep, the body may induce a more intense version of REM, known as REM rebound, in an attempt to compensate for lost REM sleep. However, this increases the amount of stress put on the body, and can cause harder muscle tension *(Feriante & Singh, 2020)*. For children, this is shown to have a link with ADHD, potential disorientation, and intense dreaming *(Amarbir Mattewal et al., 2010)*. Secondly, blue light emitted from most technology can affect children's circadian rhythms *(Hale & Guan, 2015)*. Due to blue light being commonly found from the sun in much of history, taking in blue light during the night suppresses the body's production of melatonin, a key hormone essential for inducing drowsiness and maintaining a healthy sleep-wake pattern. These combined factors clearly illustrate how excessive screen exposure significantly compromises the quality and quantity of sleep crucial for healthy childhood development.

Screen time has additionally impacted the mental health of young children, manifesting through various digital platforms. While certain digital interventions, including some video games, have demonstrated positive applications for children *(Reynard et al., 2021)*, research also highlights their negative consequences for mental well-being. For instance, a 2017 study examined 80 British girls who played two types of games: an appearance-focused game and a non-appearance game. Results indicated that girls who played the appearance-focused game subsequently reported increased dissatisfaction with their own bodies and a heightened preference for stereotypically feminine roles *(Slater et al.,*

2017). Furthermore, social media exposure among girls aged 6-9 has been correlated with the internalization of societal appearance ideals *(Slater & Tiggemann, 2016)*. This internalization contributed to a negative relationship with their body image and a desire to conform to specific outward presentations *(Ricci, 2022)*. Beyond interactive media, passive screen time also poses mental health risks. Research suggests that watching television, for example, can contribute to 'scary world syndrome,' where fictional shows often portray the outside world as dangerous or threatening, leading younger children to perceive the real world as similarly perilous *(Television's Impact on Kids, n.d.)*. Collectively, these findings underscore the concerning ways in which screen time, across various platforms, contributes to significant mental health challenges for children, from body image issues to heightened anxiety about their environment.

Finally, the usage of technology in homes has been linked to worse behaviour. A study in India conducted in 2011 shows the behaviour of children in families with less than 2 hours of screen time to be "good" compared to children with greater than 2 hours of screen time *(Amit Kauts & Balwinder Kaur, 2016)*. In an article written by WGU (*Impact of Technology on Kids Today and Tomorrow.*, *2019)*, students themselves have also found that they have a decreased attention span, due to webpages loading in an instant. In addition to this, they have also noted social interaction issues, due to younger children typically interacting with others via video calls or texting. An experiment published in the International Journal of Academic Medicine and Pharmacy (JAMP) further investigates this, with the results of the experiment showing children in the "low screen time" zone exhibiting the highest social skills in all domains, whereas children in the "high screen time" zone exhibiting social skills otherwise *(Reddy Munamala et al., 2024)*. The evidence points to screen time as a significant factor in the emergence of unwanted behavioral patterns in

children, including decreased focus and difficulties in navigating social cues, which can contribute to larger challenges in emotional regulation.

In conclusion, excessive screen time among children aged 6-12 adversely affects their sleep cycles, thereby increasing the likelihood of sleeping problems, and is implicated in the development of mental health difficulties and negative behaviour. As demonstrated, elevated screen usage contributes to significant sleep disturbances through displacement of rest and the interference of blue light, disrupting their essential sleep cycle and potentially leading to phenomena like REM rebound. Furthermore, the usage of digital platforms has been clearly linked to adverse mental health outcomes, including body image dissatisfaction influenced by appearance-focused media and increased anxiety from content, potentially causing “scary world syndrome.” Finally, the evidence consistently points to a decline in beneficial behavioral patterns, shown via decreased attention spans and difficulties in real-world social interactions, particularly in children with higher screen exposure. These findings collectively underline the urgent need for parents, educators, and policymakers to foster balanced digital habits, ensuring that technology supports, rather than compromises, the development of children in this increasingly digital age. Future research should continue to explore long-term effects and develop effective interventions to mitigate these risks.

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