

Impacts of Excessive Screen Use on Child Development: A Brief Review

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Abstract

Excessive use of electronic devices, such as smartphones, tablets, and television, has become a worldwide phenomenon, especially among children. This article explores the negative impacts associated with children's cognitive, emotional, social, and physical development, based on a comprehensive literature review. The findings highlight that prolonged screen exposure can contribute to language delays, sleep problems, increased anxiety levels, socialization difficulties, and even obesity. On the other hand, the potential benefits of moderate and guided use of devices for educational and recreational purposes are also discussed. It is concluded that parents, educators, and health professionals must adopt strategies to balance screen use in children's daily lives, prioritizing human interactions and real-world experiences.

Keywords: Electronic devices, Impacts, Cognitive development, Smartphones, Tablets

Introduction

Technological advancement has transformed the way we interact with the world, offering a multitude of digital resources accessible to all ages. Many children are exposed to electronic devices, such as smartphones, tablets, televisions, and computers, which have come to occupy significant spaces in family routines. However, this phenomenon has also brought implications for child development, especially regarding excessive screen use. Studies indicate that the time spent in front of screens has progressively increased, often exceeding the recommendations of health institutions, such as the American Academy of Pediatrics, which suggests clear limits for different age groups.

Although technologies offer unprecedented opportunities for learning and entertainment, excessive screen use raises concerns about potential negative effects on child development. Early childhood, in particular, is a critical period for cognitive, emotional, and social growth. During this phase, children rely on real interactions and concrete sensory experiences to build fundamental skills such as language, emotional regulation, and motor abilities. Excessive screen time may replace these essential experiences, negatively impacting several developmental areas.

Among the most concerning effects are those related to sleep, behavior, and physical health. Excessive screen time, especially before bedtime, is associated with difficulties in initiating and

maintaining sleep, in addition to reducing the duration of nighttime rest. Behaviorally, unrestricted access to inappropriate content can increase the risk of emotional problems such as anxiety and irritability. Furthermore, less time for physical activities and outdoor play is correlated with an increase in childhood obesity. On the other hand, when used in a moderate and supervised manner, digital devices can also be useful tools for education and cognitive stimulation. Educational apps and interactive programs designed specifically for children may complement school learning and enhance specific skills such as logical reasoning and motor coordination. Thus, the key issue is not merely to avoid screen use but to understand how these technologies can be integrated in a balanced and beneficial way into children's daily lives.

Objectives

This article aims to explore the impacts of excessive screen use on children's overall development, emphasizing the cognitive, physical, emotional, and social areas.

Materials and Methods

A bibliographic review of articles published in the PUBMED, ScienceDirect, and SciELO databases was conducted to support this study.

Discussion

The impacts of excessive screen use on child development are wide-ranging and diverse, encompassing crucial areas such as cognitive, emotional, social, and physical development. Regarding cognitive development, research suggests that prolonged screen exposure may be associated with delays in language acquisition. This occurs because children who are excessively exposed to electronic devices have fewer

opportunities for face-to-face interactions, which are essential for learning verbal communication. Additionally, studies indicate that the intense visual and auditory stimulation provided by these devices may hinder long-term concentration and memory. The effects on sleep quality, especially due to the use of electronic devices before bedtime, are particularly harmful because of the blue light emitted by screens, which inhibits the production of melatonin—an essential hormone for sleep. Children who spend a lot of time in front of screens tend to experience sleep disorders, such as difficulty falling asleep and poor sleep quality, factors that directly affect mood, attention, and academic performance.

Excessive use of electronic devices is also linked to increased levels of anxiety and depression in children. Those who spend long periods connected may experience social isolation and develop an emotional dependency on these devices. Moreover, exposure to inappropriate or violent content can trigger aggressive behaviors or excessive fears. In terms of physical health, reduced time for physical activities and outdoor play is a direct consequence of excessive screen use. This behavior is associated with sedentarism, which contributes to rising childhood obesity rates. Additionally, poor posture during prolonged device use can lead to musculoskeletal problems such as back and wrist pain. Despite these challenges, it is also important to recognize the potential benefits of controlled and targeted use of technology. Educational apps and interactive programs can provide opportunities to develop specific cognitive abilities, such as problem-solving and literacy. However, these benefits can only be achieved when screen use is moderated and supervised by adults. Hence, the role of parents and educators is crucial in regulating screen time and selecting appropriate content. Conscious use policies, such as setting limited hours and prioritizing offline activities, are essential to mitigate negative impacts.

Conclusion

The growing presence of electronic devices in children's daily lives poses a complex challenge for child development. Although these technologies offer valuable resources for education and entertainment, their excessive use can lead to a series of negative consequences, including language development delays, sleep disturbances, emotional and behavioral problems, and physical health issues. Achieving balance is key to harnessing the benefits of screen use while minimizing its risks. This requires a proactive approach by parents, educators, and health professionals, who must guide and supervise the use of these technologies, as well as promote activities that foster children's overall development. It is evident that implementing clear policies and raising awareness about the risks associated with excessive use are important steps to ensure that children can grow up in a healthy and balanced environment. Finally, it is crucial for future research to continue exploring this topic, taking into account the rapid changes in the technological landscape. Longitudinal studies investigating the long-term impacts of screen use may contribute to a deeper and more grounded understanding, guiding practices and policies that ensure children's well-being.

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