

The Influence of Screen Media Usage on Child Social Development: A Systematic Review

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Abstract. The relative contribution of screen time and media content to young children's social development has been unclear recently, and information on effective interventions to reduce children's screen time is limited. This review investigates the current status of electronic media use among young children and the effect of screen media usage on children's social development and attempts to explore the correlation between the two in order to enrich and improve related research. It is also supposed to give ideas for how families can use electronic media better to help children develop socially and reduce behavior problems. Parenting styles, media content, household income, the number of children in the family, how the parents use media, their habits, and cognitive stimuli in the home were also linked to young children's media use. The correlations identified in this study suggest intervention pathways to decrease children's screen time consumption and optimize media content. But more research needs to be done to look at some of the environmental, sociocultural, and behavioral factors that haven't been looked at much in young children. This could help make prevention and intervention plans better.

Keywords: Screen time; Screen media usage; Media content; Social development; Early childhood.

1. Introduction

With the advancement of technology, the use of screen media is becoming more and more widespread [1]. Screen-based devices such as televisions and computers are examples of electronic media [2], related studies show that these devices increase children's exposure to screen media and make screen time an increasingly important part of the learning lives of younger children [3], screen time is defined as time spent watching or using devices with screens, such as smartphones, television, video games, and computers [4].

In recent years, the term "glowing child" has been used to describe this phenomenon. A growing body of research suggests that screen time affects sleep, vision, and children's social skills development [5]. The World Health Organization suggests that being sedentary in front of technological devices from an early age can have an impact on the human body [5, 6]. Conclusively, there is a lot of study and discussion happening right now about how much screen time children should have and what screen contents are suitable. Screen time is an important environmental factor for early childhood development, so it deserves more in-depth research.

Development in children's social skills is essential because it paves the way for them to learn and form relationships. It's argued that children's social development is best understood through the lenses of their relationships with adults and peers, which in turn become embedded in their larger social, cultural, and other contexts [7]. Preschoolers' future happiness and success may depend on the quality of the social relationships they form during their formative years [4]. This necessitates additional study into the effects of media exposure on the social growth of preschoolers. Research to date has mainly focused on the physical health of young children; however, Parkes et al. note that high levels of screen time in children are connected with obesity, sleep issues, worse cognitive function, and poor academic adjustment [8]. It's been found that children who spend a lot of time in front of screens are more likely to exhibit behavioral and emotional difficulties. Once again, Domingues-Montanari backs up this perspective [5]. Lin et al. also found that exposing young children to television increased their risk of language acquisition and cognitive development [9].

The social abilities is essential to enhance the interaction with others for children, these abilities may have long-term consequences for the children's social development. In light of this, studies on the relationships between these behaviors and social competence in preschoolers are warranted. However, this study's authors discovered that there is a lack of information regarding factors like child behavior and parenting style that may influence young children's exposure to screen devices.

This article will investigate the effect of screen media use on social development of young children in light of pertinent literature. The goal is to provide a theoretical basis for how young children can use media devices with screens in a safe way.

2. Method

This review used Web of Knowledge, Scopus, ProQuest, and Google Scholar to search and review publications from 2000 to 2022. Terms related to children included "preschooler," "infant," "child," and "toddler"; terms related to screen time included "screen time," "screen exposure," etc.; and terms related to electronic media included "screen media," "media content," "television," "smartphone," etc. Social development phrases include "social capacity," "social skills," and "social behavior".

The authors cross-referenced relevant studies after identifying relevant articles. The inclusion criteria for the search articles included (i) peer-reviewed articles published in scientific journals in English or Chinese; (ii) empirical studies on the prevalence of screen media usage and on the impact of screen time on the social development of children; (iii) intervention studies in school, clinic, hospital, home, family, or community settings in which reducing screen time was one of the outcomes; and (iv) studies that measured children's use of at least one digital media gadget (e.g., television, computer, or video games).

3. Literature Review

3.1 Screen Time among Children

Screen-based devices, such as televisions and DVD players, produce more screen time as the number of digital media devices available to children for use during leisure time increases. According to a survey of parents across the country, social media is used by 68% of children under the age of 2 every day, and their average daily screen time is 2.05 hours. [10]. It is abundantly clear as we progress further into the 21st century that children's exposure to screens has developed into a significant issue for society as a whole [11].

Ponti et al. defined screen time as the total amount of time spent in front of any screen, whether it be a smartphone, television, video game, computer, or even a wearable electronic device [12]. Screen time, as defined by Hinkley, includes the use of electronic devices with displays, such as televisions, DVD players, video games, and computers [4]. Screen time is defined here as the sum of time a person knowingly spends using any screen-based medium in this article.

Globally, children's screen time is on the rise. According to a recent study by Cheung in the UK, 51% of 6- to 11-month-old newborns use touchscreens daily [13]. Related survey statistics show that in the United States, mobile media use among children aged 2 to 4 years increased from 39% to 80% between 2011 and 2013 [14]. This hypothesis is supported by a cross-sectional study by Ribner [15]. This figure includes infants and toddlers aged 0 to 2 years. The average time spent using it was 43 minutes, whereas kids aged 8 to 12 watched television on average for more than 4 hours per day.

According to survey statistics, screen time among preschoolers in Asian countries is as high as 2.4–2.8 hours per day; relevant evidence suggests that the prevalence of screen addiction increases among younger children [1]. Additionally, Data from southern Germany showed that 530 3-year-olds were included in the sample. Among the children, 58.4% watched digital TV or DVDs for at least an hour every day, and 13.7% spent longer than an hour in front of a screen.

3.2 Effect of Screen Time on Children's Social Development

Recent evidence suggests that kids' metabolisms and bodies react differently to playing video games compared to watching television. In the past three years, researchers have looked at what effect watching TV has on people's interpersonal abilities. Screen time and social skills have been linked in these studies in positive, negative, and null ways [4]. Our investigation into this phenomenon led us to wonder whether or not screen time could be either passive or active [16]. Watching television is an example of what's known as "passive screen time," in which the viewer does very little to contribute to the action. Until the television is turned off, the programming will play once it is switched on. Active screen time, on the other hand, includes activities like playing video games or doing work on a computer, giving feedback in interactive software, helping people play physically active video games. [16]. Researchers believe that this distinction provides a more precise way to categorize things and a clearer way to view the positive and negative aspects of them.

3.2.1 Passive screen time and children's social development

Excessive passive screen time in young children is connected with issues with attention, social-emotional functioning, and conduct [17]. A longitudinal national study conducted by Zimmerman et al. also found that watching TV while doing something else is not good for you [18]. Children (6-11 years old) who watch TV are significantly tend to engage in bullying later in life. British researchers also discovered a link between 0.5% of children's aggressive behavior and the amount of time they spend passively staring at screens. Thus, there is evidence in the literature that excessive passive screen time harms young children's social development [17, 18]. If children spend much time in front of a computer, they may not spend enough time with others, forming relationships, or being active, which is necessary for children to grow and learn how to get along with others.

3.2.2 Active screen time and children's social development

Children's social development is not negatively impacted by active screen time, especially for older children. According to recent studies, playing active video games in the classroom can enhance academic achievement and decrease tardiness, absenteeism, and other problematic classroom behaviors [19]. Related research has demonstrated that the amount of time spent using electronic media has an impact on language development in young children. There is a significant correlation between the amount of time spent watching media on a daily basis by children between the ages of 3-5 and language development at the age of 6. If TV shows can give children experiences that help them grow, they can help their growth by watching TV. In the meantime, Lieberman et al. noted that appropriate playtime encourages children to exercise and engage in outdoor activities [19]. Enhancing young children's socialization, bonding, mutual support, and self-esteem. There is evidence to suggest that children would rather play active video games than traditional school games [20]. In conclusion, substantial evidence supports the positive cognitive and social effects of active screen time. Computers promote social interaction and foster an environment where children can speak frequently [16].

3.3 Effects of Screen Media Content on Young Children's Social Development

Relevant evidence suggests that media conveys much more than itself. Consequently, electronic media content can affect young children. Various media content has been shown to have different effects on children's social development, as noted by Huber et al. [21], requiring researchers to focus not only on the duration of screen exposure, but also on specific media content or media experiences. In this context, media content refers to any distributed data, text, music, image, or other comparable content, including but not limited to videos, games, and mobile applications. Most of the talk about how electronic media affects the development of young children today is negative, and the positive effects of electronic media are rarely mentioned.

3.3.1 Negative effects

In an analysis of various types of electronic media content and young children's aggression, Chinese researchers found that violent content in electronic media also increased young children's violent emotions. Since many cartoons have heroic themes, the content has countless violent problem-solving scenarios, such as the villain will eventually lose and the hero will win [1]. Young children often think being aggressive is an effective and fair way to solve problems because they do not know much and are good at copying. They also learn to be aggressive by watching others do it.

The American psychologist Bandura found in his famous psychological experiment, the Bobo Doll Experiment, that children who had watched aggressive films showed more aggressive behaviors than those who had not [22]. Based on this experiment, Bandura's Social Learning Doctrine has been widely used to illustrate how violent content in electronic media affects children's social development. When young children are exposed to several forms of screen media and cannot pick what to watch, they imitate and adopt violent behaviors. This results in decreased prosocial behavior and behavioral issues.

3.3.2 Positive effects

Nevertheless, a few researchers have argued that young children benefit from suitable electronic media content and that excellent electronic media content provides them with more options and fosters their social development [1]. While cartoon and generic programming-driven media content does not contribute to children's social and cognitive skill development, well-designed, age-appropriate television programs with clear educational goals are considered positive and can provide additional assistance for early language and literacy development [12]. It is well known that early language and literacy gains have been shown to facilitate the development of social skills. And social skills are positively correlated with social development. With help from their parents, children can make friends on social media, especially with people from different backgrounds. They can also use interactive software to be creative, share ideas, and learn social skills like empathy [5].

In addition, Ponti [12] also said that screens could help kids learn languages when they watch high-quality content and talk about it with their parents or caregivers. According to Mares' meta-analysis from 2005, children can gain a sense of belonging among their classmates and a desire to serve others through television and other media.

Combined with the above studies, it can be concluded that there is a consensus that the use of electronic media does more harm than good, especially for young groups of children. The negative impact of viewing violent programs on young children's social development is of particular concern to the public and academia. However, much less research has been done on self-selected exposure to pro-social content than violent content.

It is common knowledge that everything has two sides, which is also true of electronic media. Viewing any high-quality educational electronic media content during early childhood that is appropriate for the developmental characteristics of young children may be beneficial for their future social development. In this way, the authors hope that the above data will serve as a wake-up call to researchers that research on the topic of "media content positivity" should not stay the same but should be the focus of more sophisticated attempts to use quality media content as a tool for positive social change.

3.4 Influencing Factors of Electronic Media Use

3.4.1 Family socioeconomic status

Young children's electronic media usage also varies by family income level, with lower-income households using it more frequently than higher-income households. This idea is backed up by a study by Fulton et al. that found girls with a lower socioeconomic status watched TV more often than girls with a higher socioeconomic status [23].

In contrast, for children from low-income families' screen time is directly related to their academic and social development, and those children from low-income families who have access to the Internet

have time that is positively related to their reading performance. Some studies have found that children from wealthy families' screen time are negatively related to their academic and social performance [1]. The fact that Chinese children in one-child families watch more television than children in families with siblings screams the issue of sibling status. According to this study, children in the United States of Chinese heritage tend to watch TV than to play outside [24].

3.4.2 Parental involvement

Children's screen time is positively connected with parental screen time in general, according to studies. However, there are subtle changes in the association between different screen devices and age groups, which may be due to the incompetence of young children. For instance, smartphone usage is primarily controlled by parents [25]. Matarma et al. supported this idea in their study by stating that children's screen time is influenced by their parents and that mothers' usage habits and attitudes are more likely to influence young children's screen time compared to fathers [26]. Specifically, in a study with Chinese children, it was concluded that mothers less influenced by fathers were more influenced by computer screen time. In addition, a study that surveyed 157 young children showed that parental attitudes and rules significantly influenced children's screen time. The shorter the parental presence and the greater the variety of media devices in the home, the younger the age at which young children begin to access screens and the longer the screen time. The occurrence of such results may be related to the lack of supervision of children by rural parents in terms of children's entertainment.

In conclusion, parental media device usage, screen time, and children's screen time are all tightly associated [2]. To decrease children's screen time or develop the good impacts of screen media on young children, the first step is to encourage parents to set an example by regulating their electronic media use.

3.5 Interventions for Reducing Screen Media Usage

3.5.1 Sports activities

The extensive electronic media usage has an effect on the amount of time young children spend outdoors [1]. In 2017, Canadian and international researchers, non-governmental organizations (NGOs), and policymakers developed early childhood sports guidelines to promote and support healthy behaviors in young children. One of these recommendations suggests that Instead of watching television, children under the age of five should engage in at least 180 minutes of daily physical activity. Griffiths et al. and others observed that children who engaged in physical activity, regardless of the amount of time they spent on screen entertainment, exhibited fewer emotional and behavioral issues and more pro-social interactions [27]. This is supported by Hinkley's cross-sectional study, which found that outdoor play is advantageous to the social development of young children as an alternative to their use of social media [4].

3.5.2 Parents' attitudes toward young children's electronic media use

Previous studies have found that a family's economic and parents' education levels affect young children's use of electronic media. According to the ecosystem theory, children's behavior and development are affected by and controlled by environmental factors like the family. Schmidt et al. reported that parent education program effectively reduced preschoolers' screen time [28]. Given the similarity of the study findings, the researchers integrated the views of numerous scholars to come to that conclusion.

First, providing parents with future educational interventions and manuals on screen time will assist in reducing their screen time. Lin et al. found that parental interventions can assist children in broadening their horizons, comprehending and reinforcing their behavioral attitudes, acquiring knowledge and skills, and acting in a healthy manner with others [9]. To improve media intervention based on controlling the time and content electronic media use of children, parents must limit the frequency and duration of their children's electronic media use and screen the content of their

children's electronic media use [1]. Finally, parents develop rules for electronic media use such as where, when, and how often children use electronic media in the home [2].

When kids use electronic media, parents can interact with them effectively based on what is on the screen while they are with them to improve the quality of their interactions with their kids and build a good relationship with them [1].

3.5.3 Government policies and support from educational institutions

The American Academy of Pediatrics has guidelines for how much time young children should spend in front of screens, but studies have shown that many parents are unaware of these guidelines. This is especially true of low-income parents. Policymakers should, therefore, look into ways to inform transient populations' parents and grandparents of the potential negative effects of prolonged television viewing on their preschoolers' cognitive and social growth.

In addition, relevant educational institutions, such as preschools, should control the length and frequency of electronic media use in the classroom and allow young children to bring good habits into the home. In addition to being raised by their parents at home, young children spend most of their time in preschools for learning and play. Screen media usage in the preschool is closely governed by the instructor, who decides what content to present to the children and how long they may view it.

4. Implications

This review cross-referenced the literature on the screen usage and childrens' social development. The authors sought countermeasures to promote electronic media use among young children and reduce behavioral issues among young children. The authors suggest strategies and theoretical innovations for young children's use of electronic media. They also give scientific and reasonable theoretical advice to encourage better use of electronic media and reduce behavioral problems in young children.

The current discussion of the influence of electronic media use on social development of preschool children is mostly negative. There are few age-appropriate electronic media content effects on young children's social development. This review pointing out both the negative effects of screen media on young children and the positive effects of social media. The purpose of this review is to focus educators' attention on the role of screen media usage in children's development and the effective use of electronic media devices so that electronic media can be better utilized to reduce the development of behavioral problems in young children. This study can help parents figure out how to use electronic media devices in the home better and encourage the use of electronic media.

5. Conclusion

With the rapid development of electronic media, substitution can cause many negative effects, and young children may use more electronic media devices and invest more hours in electronic media use. On the basis of this theoretical framework, there are currently countless studies on the negative impact of screen media usage on young children's social development, whereas few investigate the effects of age-appropriate electronic media content on the development of young children. However, letting young children exposed to content that is appropriate for electronic media can be beneficial. Therefore, this study has numerous implications for professionals and parents who seek to guide children's screen-based play and learning. The authors concluded that, despite the negative association between excessive television viewing and children's cognitive development, timely positive media content may promote young children's social development. Future researchers should establish a baseline threshold for passive screen time viewing to reduce electronic media's negative effects. In addition, researchers have found that active screen time is related with academic achievement positively, not decrease social skills in children. In some cases, active screen time is encouraged, and relevant educators and parents confront the role of active screen time.

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