

Digital Media and Children

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Abstract

Today, digital media occupies an important place in human life and children live in this technological environment. Exposure to excessive and inappropriate digital media content, especially in early childhood, when brain development is important, has negative effects both in childhood and adulthood. Excessive and poor quality digital media use has been found to be associated with early effects such as sleep problems, negative self-regulation skills, cyberbullying, psychological disorders, and adult diseases such as obesity and cardiovascular disease. In the light of these data, the American Academy of Pediatrics does not recommend screen use for children before 18 months, except for video chat. It is important for parents to choose quality content in the use of digital media, to be a role model for their children, to guide them and to keep in touch with their children while using the screen.

Keywords: Children, digital media, internet use



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Introduction

At the beginning of the most important technological developments that left their mark on the 20th century, traditional media tools such as television and radio and the internet, which is a product of new technological developments, come to the service of societies. The "Information Age", which started with technological developments, provides an environment for communication, socialization, education and learning with the introduction of the internet into our lives. While there were approximately 3.6 billion social media users worldwide in 2020, this number is expected to increase to approximately 4.41 billion in 2025¹. Digital environments, which have a large place in the life of modern people, also affect children, and today's children are born into this new technological environment. The attitudes of parents in their use of digital media and the limits they set for their children also affect the age and severity of children's exposure to digital media. The use of interactive social media should be considered especially in terms of risks in childhood, especially in the young age group with critical brain development. As a result of the ubiquity of digital media, it has been determined that children spend an average of more than 2 hours a day on digital media². The World Health Organization also draws attention to the fact that children spend most of their time with technology, emphasizing that excessive and problematic use of technology can be a public health problem, and recommends that the time spent by young children in front of the screen should be limited to a maximum of 1 hour a day³.

Effects of Digital Media

Although interactive social media can encourage interaction with peers with similar interests and facilitate communication and information exchange, the fact that the internet is easily and uncontrollably accessible due to its nature can negatively affect exposure to cyberbullying, sleep patterns and body image perception for the children who have not yet completed their psychosocial development. It can also facilitate access and transmission of harmful content, which can result in increased stress and anxiety. and cause retardation in cognitive skills, eye problems and metabolic diseases.^{4,5}

High-quality television content has been shown to positively affect learning, social and emotional skills in preschool children. Children under the age of three can learn vocabulary through video when certain conditions are met, such as non-verbal communication such as the caregiver's gaze and facial expressions, and interactive verbal communication.⁶ On the other hand,

symbolic, memory and attention skills are not sufficiently developed in children younger than 15 months. Thus, they can not comprehend the information they learned through the screen in three dimensions, learning occurs by memorization.⁷ They can not interact with the image, especially in the use of traditional media such as television. Using well-designed educational apps on mobile phones can help school-age children reinforce what they've learned.⁸ However, the fact that most apps are also designed for adults offers only a rote approach.⁸ Early and adequate child care interaction contributes to

Highlights

- Due to internet being easily and uncontrollably accessible, it may have negative effects especially in early childhood with critical brain development.
- Excessive and uncontrolled internet use has negative social, psychological, physical and developmental effects such as sleep problems, negative eating habits, self-regulation, developing internet addiction, cyber bullying, depression, and anxiety.
- In the digital age that today's children are born into, it is important to use high quality applications suitable for interactive age under parental supervision and to guide children on security and privacy issues.

behavioral and neurocognitive system development. Eye contact or joint visual attention between child and caregiver is associated with self-regulation and healthy attachment. In an environment where parents use television and mobile devices in the background, attention shifts away from parent-child interaction, causing less verbal and nonverbal interaction and parent-child conflict.^{9,10} Thus, the use of quality interactive media should be supported, especially under the guidance of parents of young children.

Language development is one of the strongest indicators of academic success.¹¹ Studies show that greater television exposure among young children is linked to poor language development.¹² In a study involving 6-24 month-old children in the USA, it was found that parental mobile device use and children's exposure to television were associated with an increase in average daily mobile device use and expressive language delay in children.¹³

Self-regulation is the conscious management of emotions, thoughts and behaviors.¹⁴ While the use of interactive quality digital media under parental supervision affects the learning and development of the child positively, excessive and uncontrolled media use may negatively affect the positive discipline practices and the development of children's self-control skills. Studies also show the effects of digital media use on self-control. In a study involving preschool children, a relationship was found between more tablet use and poor self-regulation.¹⁵ In another study, it was found that preschool children who spent more than 30 minutes a day on mobile applications had lower self-regulation scores.¹⁶

Use of problematic social media can lead to body dissatisfaction and a tendency to perceive oneself as overweight.^{17,18} A study among adolescents in Italy and the USA showed that internet addiction was significantly associated with low self-esteem and decreased life satisfaction.¹⁹ Internet addiction, which was first defined in the 90s, is defined as the situation in which an individual loses control of his/her internet use and continues to use the internet excessively and encounters problematic consequences that negatively affect his/her life.^{20,21}

According to Young, the diagnostic criterias for internet addiction are:²²

- Excessive mental preoccupation with the internet (constantly thinking about the internet, daydreaming about the activities done on the internet, thinking about the next activity planned to be done on the internet, etc.)
- Needing to use the internet more and more to get the desired enjoyment
- Unsuccessful attempts to control, reduce or completely quit internet use
- Feeling restless, depressed or angry in case of reducing or completely stopping internet use
- Staying on the internet for longer than originally planned, Family, school, work and stress due to excessive internet use
- Having problems with friends, jeopardizing or losing an educational or career opportunity
- Lying to others (family, friends, therapist, etc.) about the time spent on the Internet,
- Using the Internet to avoid problems or experience negative emotions (e.g., helplessness, guilt, depression, anxiety).

Internet addiction is significantly associated with psychological and interpersonal problems such as inability to relate to other people, loss of control over one's own behavior, withdrawal from social activities, difficulty in maintaining a regular schedule, sleep disturbance and decreased sleep, social withdrawal, loneliness, low motivation and low educational performance in adolescents.^{23,24} In a study involving European countries, the risk of internet addiction in 9th and 10th grade students was found to be between 0.8% and 1.7%.²⁵ In a meta-analysis, global internet addiction was found to be 6%.²⁶

It has been reported that excessive and uncontrolled use of digital devices is associated with negative health outcomes such as psychological problems, low emotional stability, depression, anxiety, symptoms of attention deficit, deterioration in emotional and social intelligence, and risk of social isolation.²⁷ In a study, it was shown that there is a relationship between intense social media/internet use and increased suicide attempts.²⁸ In a cohort study of 6595 people, adolescents who spent more than 3 hours per day using social media were found to be at high risk for mental health problems, especially internalization problems.²⁹ Another study revealed that the younger generation, known as "iGen," born into digital environment after 1995, is more likely to experience mental health problems than their peers (millennial predecessors).³⁰

Early childhood is a period in which food preferences and taste are shaped and healthy eating habits are acquired.³¹ New technological and other traditional media tools, which are open to uncontrolled access, can cause children to be exposed to food advertisements in an uncontrolled way, causing them to acquire poor eating habits, associated with metabolic diseases such as diabetes and obesity in adulthood.³² Studies show that food advertisements in digital media affect children's dietary preferences and eating habits.^{33,34}

Children who spend longer hours in front of a screen are more likely to experience sleep problems, as the screen is preferred over sleep and the blue light emitted from the screen can delay melatonin production and sleep.^{35,36} A study conducted in the USA reported that children who did at least 60 minutes of physical activity a day, slept between 9 and 11 hours a night, and had two hours or less screen use had higher cognitive levels.³⁷

Cyberbullying can be defined as the deliberate use of information and communication technologies such as electronic mail, smart phone, short message services, gaming and social media platforms, carried out repeatedly by a group or individual to support deliberate, repetitive and hostile behavior against an individual including spreading lies, posting embarrassing photos or videos, sending hurtful, abusive or threatening messages, images or videos, impersonating someone and sending mean messages to others on their behalf or through fake accounts.³⁸ As content is quickly shared and disseminated online, the victim may experience a lack of control, as well as a range of highly negative psychological consequences over time, such as social anxiety, depression, and suicidal ideas and attempt, especially when bullying behavior continues.³⁹ A 2018 study on the mental health of children and youth in the UK found that one in five children aged 11 to 19 had been cyberbullied (21.2%).⁴⁰ In another study conducted in England and involving 100,000 adolescents aged 15 years, 42% of the participants reported that they had experienced cyberbullying.⁴¹

In addition to its systemic effects, COVID-19 also affects all people of the world physically and mentally.⁴² During the pandemic, schoolchildren's isolation at home and the use of the internet for education/training, socializing and leisure activities have increased their risk of being exposed to online activities more than before during the COVID-19 pandemic. According to studies, internet use has increased by 50-70% in some parts of the world following the spread of COVID-19, as the introduction of distance education provides opportunities for children to connect and play with friends, parents and relatives while in isolation.⁴³

Digital environments can support online social development, social bonding with peers, and communication with family members at a distance.⁴⁴ Especially in adolescents, it can be used as an escape form to cope with low mood and difficult thoughts and to adapt to a new situation.⁴⁵ On the other hand, the social, intellectual and self-regulation skills of young children who are introduced to social media that are not designed for them and have limited preparations are at risk during the COVID-19 outbreak compared to children over 13 who have more digital media experience.⁴⁶ While media use is used as a coping strategy, it may be harmful for individuals at risk for addictive behaviors or psychological distress.⁴⁷ The World Health Organization and UNICEF draw attention to the fact that the COVID-19 pandemic may adversely affect the well-being of children and adolescents, especially with the effect of increasing media use.⁴⁸ A study of parents found that it is more difficult to control children's screen time during the COVID-19 pandemic, and nearly half of parents with

children aged 5-15 are forced to relax some rules about what their children do online in 2020. Increased online activity supports children to learn, socialize and play, but also puts them at higher risk. Increased use of the Internet can put children at greater risk for online harm, such as sexual exploitation and cyberbullying.⁴³

During the pandemic, it is important for parents to stay in touch with their children's friends, interact with their children through video games and online experiences, and encourage their children to stay physically active in front of screens.⁴⁹ During the pandemic, parents can regulate children's media use by watching digital media with their children and explaining or guiding them what they see.⁵⁰

Parental Tips

In a world where children "grow digitally", parents play an important role in teaching them how to use technology safely. Parents should follow age-appropriate apps, games, and programs for their children. The use of media devices should be by communicating with the child under parental guidance to encourage the child's learning and interactions. Families should monitor children's media content and apps used or downloaded.⁵¹ Parents become role models for their children with their attitudes to use digital devices and social media. Media-focused parents are more likely to have children who use more media.⁵² These parents are also less likely to respond to their children's requests for attention, and on the other hand, children may exhibit more attention-grabbing behavior.⁵³ The fact that parents regularly use digital cameras, mobile phones and tablets to take images and videos of their children and show the resulting image to the child on their digital devices causes children to accept the digital environment without limits and makes it difficult to set rules. A parent's use of screen media as an editing tool or a virtual "babysitter", giving the child a sedative or a device to keep them busy, will reinforce the continuation of problematic media use.⁵⁴

Since the use of digital media has become an ordinary part of life, especially including risk factors for children, and parents' attitudes and boundaries play an important role in children's use of digital media, the American Academy of Pediatrics has made recommendations:⁷

- Avoid media use except video chat for children 18 months and younger
- For children aged 18 to 24 months, use high-quality media with their parents to help their children comprehend what they watch.
- For children aged 2 to 5, watching high-quality programs under parental control should not be more than 1 hour per day
- For school children, media should not be allowed to take the place of other important activities such as quality sleep, regular exercise and family meals.

Recommendations to families for their children's use of digital media can be listed as follows:^{7,51}

- Avoiding using screen media other than video chat for children 18 months and younger

- Use of high quality media for 18 to 24 month old children with parents to help their children understand what they see
- Not watching high quality programs under parental control for more than 1 hour a day for children aged 2 to 5, and no more than 2 hours a day for children aged 5 to 8
- Not using social media before the age of 13
- Not using digital media during meals
- Ending screen use at least 1 hour before bedtime
- When using the screen, the child should be in contact, the children's understanding of the media content should be supported, not only verbal communication, but also non-verbal communication such as smiling and eye contact should be used.
- Children should be guided in learning to decide and evaluate what is "good" or "right" for them.
- Allow children to explore the media and compare social settings
- The child should be guided on issues such as privacy and security when using digital media resources

Digital media is an environment that takes place in the lives of today's children, which has psychological, social and physical consequences when excessive and uncontrolled use, and where families can protect them from risks by staying in touch with their children and using quality applications. In child health follow-up visits, it is important that pediatricians give advice to families about the use of digital media and answer their questions.

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