Effects of Technology on School Going Children in United States of America

Ethan Husk &David Connie

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Ethan Husk, New York University

David Connie, New York University

Abstract

In the last few decades, technology has completely revolutionized the way we do things, from the way we socialize and everything in between. One of the most noticeable differences is in the way children play and interact with each other compared with previous generations. The amount of time children spend on their devices has increased exponentially, and there is a concern that it is affecting their overall growth and development. Even though the recommended screen time by the American Pediatrics Association is at most 2 hours for preschool children and no screen time for children below the age of 2, a study by the University of Washington found that 66% of children under the age of 5 exceed this limit having an average of 4.1 hours' screen time a day. By adolescence age, their screen time soars to about 7.5 hours a day with more than a fourth of the time used multitasking between media leading to a total average time of about 10 hours, 45 minutes. It is, therefore, possible to see that technology has a negative effect on children since it affects their physical, mental, and social development as well as bring about adverse health outcomes. Children have become so stuck on their screens that they are not able to live in the real world. This has led to an increase in the rates of child obesity, mental health problems, a decline in social skills, among others. To facilitate the development of more holistic and healthy individual's parents should teach their children responsible and conscious behaviors when it comes to the internet. They should also limit and monitor online usage to ensure that children stay safe from potential risks and dangers that lurk on technological devices as well as ensure that they don't expose children to technology at an early age to make sure they are able to develop properly in their physical, mental and social capacities.

**Keywords:** *Technology, Children & United States of America*

1.1 Introduction

In the last few decades, technology has completely revolutionized the way we do things, from the way we socialize and everything in between. One of the most noticeable differences is in the way children play and interact with each other compared with previous generations. The amount of time children spend on their devices has increased exponentially, and there is a concern that it is affecting their overall growth and development. Children are, for instance, not getting enough exercise, and this is slowing down their mental and physical development. The overuse of technology has also been associated with the increasing rates of dyslexia since children are struggling to grasp information at a quick rate. American Cancer Society has also warned that phones and computers emit radiation that increases the risk of cancer in young children (Chassiakos et al., 2016). Technology is especially harmful to children under the age of 2 years; this is because, at this age, it is essential for children to develop spatial, visual motor skills that are gained through outdoor activities. Exposure to technology at such a young age can, therefore, delay cognitive development. US Center for Disease Control and Prevention (CDC) also warns that children who spend over 8 hours a day playing video games can experience vision issues such as eye fatigue, focus issues, and blurry vision, what's more, is the fact that it can lead to bad posture due to the misalignment and subluxation of the spinal cord (Chassiakos et al., 2016). This paper, therefore, argues that technology has a negative effect on children since it affects physical, mental, and social development as well as brings about adverse health outcomes.

Even though the recommended screen time by the American Pediatrics Association is at most 2 hours for preschool children and no screen time for children below the age of 2, a study by the University of Washington found that 66% of children under the age of 5 exceed this limit having an average of 4.1 hours' screen time a day. By adolescence age, their screen time soars to about 7.5 hours a day with more than a fourth of the time used multitasking between media leading to a total average time of about 10 hours, 45 minutes (Rosen et al., 2014). Current research indicates that the body mass index for children and adolescents has increased in the last 30 years. Within the last three decades, twice as many children and thrice as many adolescents are suffering from obesity. The CDC reports that among children aged 6 to 11 years, the percentage of obesity has increased from 7 to 18%, similarly for children aged 12 to 19 years old, the obesity rate has increased from 5% to 18% (Rosen et al., 2014). The increasing obesity rates have been linked to the increasing screen time among children and adolescents. This is because, with an increase in media consumption, there is a decrease in exercise as well as the prevalence of poor eating habits. Watching a lot of television often results in overeating and inadequate physical activities. It is almost impossible for both children and adults to resist the temptation of food while watching TV. This happens due to the number of ads about food that occur while they are glued to the television.

2.1 Literature Review

Studies have established that normal-weight children have lower screen times compared to obese and overweight children. The use of technology is, therefore, a potential cause of poorer health among children. This is concerning since most American parents have reported that their children live in a technology cocoon surrounded by multiple gadgets and devices in their personal bedroom. More than 50% of children have been found to have a television in their bedroom as well as video gaming equipment and their phones (Rosen et al., 2014). Unhealthy habits at a young age are dangerous since habits established at childhood will be replicated later in life according to research. For instance, habits established at the age of 6 can predict physical activity, screen time, and body mass index at the age of 14. Unhealthy habits related to technology may, therefore, be responsible for the rising cases of obesity in the United States. Currently, over 39.8% of American adults are overweight while 79% have been determined to be overweight (Rosen et al., 2014)
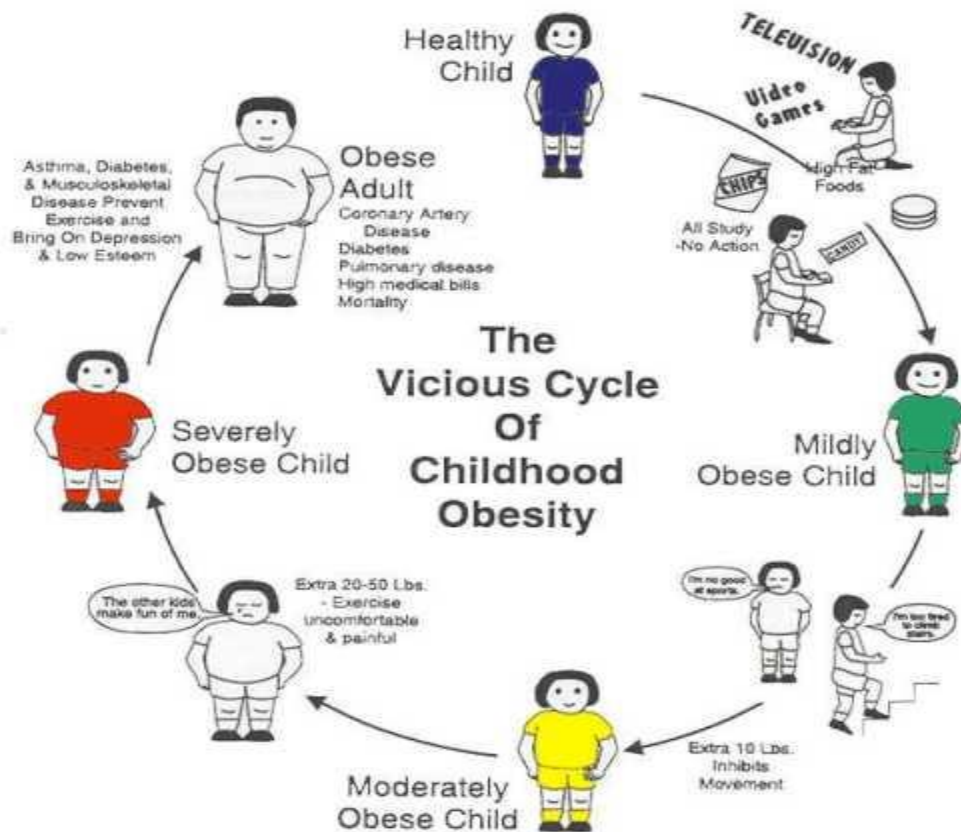
On top of not getting enough exercise, children are not able to take advantage of the benefits of the outdoors. The outdoors have very many positive effects on the body. For one, children get access to sunlight, which provides Vitamin D, which is necessary for children to be able to fight infections as well as have healthy skin. Sunlight also facilitates the production of melanin, which

is essential to keep a child's sleep cycle regular. Sleep is actually disturbed by the blue light from devices such as phones and tablets. This is because the blue light suppresses the production of the hormone melanin hence interfering with the regular sleep cycle (Cain & Gradisar, 2010). This eventually leads to poor quality sleep

Research also indicates that excessive exposure to television, video games, and the internet causes a number of psychological and medical health issues. Excessive screen time has been linked to an increase in the levels of depression, anxiety, aggression, and attention problems. A particular study found that excessive screen time related to the internet and video games led to increased sadness, suicide ideation, and suicide among teenagers in America. A study focusing on Norwegian teens linked back pain and headaches to the overuse of computers, television, and video games. Research has also found that excessive watching of television is responsible for attention problems in the teenage years, while another found that watching television 90 minutes before bed causes poor sleep quality among children (Cain & Gradisar, 2010). Excessive watching of television among children has also been associated with problem behaviors such as the increase in the levels of aggression while violent media on TV has been linked to antisocial tendencies, inattention and emotional distress among children in the second grade

The impact of overexposure to technology on the brain is disconcerting. Children's brains are still developing, and as such, they are very susceptible to environmental influence. Video games, for instance, release the hormone dopamine, which compares to the effects drugs have on the brain. The overuse of technology can, therefore, very easily result in addiction. Executive functions of the brain can also be negatively affected by the excessive use of technology. Excessive use of technology interferes with the brain's ability to plan, organize, and control one's impulses. The frontal lobe of the brain is responsible for the executive functions of the brain, such as emotional regulation, judgment, and cognitive skills; overuse of technology, however, leads to the shrinkage of the frontal lobe in children. Research also indicates that overexposure to technological devices leads to the atrophy of the grey matter or shrinkage of grey matter. Grey matter is responsible for emotion, speech, decision making, muscle control, memory, and perception (seeing and hearing). There is also volume loss in the insula, which facilitates the development of empathy and the ability to read social cues. Too much exposure to technology can, therefore, hinder language acquisition, emotional development, social development, and mental acuity

The overuse of video games and the internet has been linked to increasing cases of delinquency and internalizing and externalizing problems among the American youth. There are also reported cases of increased social phobia, anxiety, and lower academic performance associated with the excessive use of video games. Studies focusing on violence in video games have found that adolescents who play more of these games exhibit higher levels of aggression. The minds of young children can be very easily molded, and violence that is being exhibited in video games is teaching children that violence is normal. Children are, therefore, picking up the wrong traits from the content they access through technology (Mustafaoğlu et al., 2018). They can, for instance, be taught to glorify habits such as stealing and smoking by the people they idolize on social media such as YouTube personalities. Even though playing with close friends can increase feelings of wellbeing, playing multi-player games online with strangers heightens feelings of loneliness. Furthermore, playing video games an hour before bed has been linked to poor quality sleep among

adolescents. Results are generally the same when it comes to the internet. A study estimated the rate of internet addiction to be between 1.6% and 36.7% for both American and non-American children (Rosen et al., 2014). This population reports higher levels of depression and attention deficit disorder

China has actually recognized video game addiction as a clinical disorder. As such, there exist clinics devoted to the rehabilitation of this addiction. In the US, even though the problem is not diagnosed, it exists since children are spending up to 11 hours on their devices. Toddlers and young children are very likely to miss out on what is going on around them, which slows down their development. It is through observing their surroundings that young children are able to learn. This is because it is through interactions with their caregivers that they are able to develop a curiosity facilitates the acquisition of intelligence, listening skills, and empathy (Mustafaoğlu et al., 2018).

There is data that supports that for any individual child who frequents the internet, this child is likely to spend 100 minutes less with friends and family compared to children who use the internet less often. These children have also been found that more satisfaction with their virtual online friends that when they are in the company of real people. These children would, therefore, rather spend time online than socialize with their actual friends. A study conducted found that when children exhibiting signs of internet addiction were forced to unplug from the internet for 24 hours, they reported a lot of frustration, loneliness, anxiety (Alghamdi, 2016).

Another major concern with the use of technology among children is their safety on these platforms. Most of the time, children spend time online without adult supervision; they are, therefore, at risk of falling victim to predators who stalk various chatrooms looking for potential victims. Pedophiles are thus likely to lure children and take advantage of them. Recent reports by federal agents have shown that predators have become very innovative and are consistently finding new ways to network and exploit children. Even seemingly friendly sites such as Facebook are now being used as directories for potential victims. This is because young kids are posting a lot of personal information on social media, information which can then be used by predators to lure them (Alghamdi, 2016). Another source of concern is cyberbullying. Online is a major problem, especially among adolescents, and offenders often use social media to send awful messages. These hurtful messages can negatively affect a child's self-esteem and confidence as well as induce depression, body dysmorphia, and suicide

Technology may also be acting as a hindrance to educational development. This is because most children cannot be able to solve simple math problems without relying on a calculator or spell a word without spell check. Although these tools are extremely useful, they hinder educational development since children are becoming increasingly dependent on them. Another hindrance to education is the lower academic performance and the inattention problems that have been associated with the overuse of technology. Children are now unable to pay attention in class since they are used to being overly stimulated. Children are used to paying attention to many different things at once and are hence unable to focus on one thing being taught in class. Children who use too much technology have a lower ability to focus than those who use technology minimally (Mustafaoğlu et al., 2018). They are used to a lot of excitement wand as such simple class activities may not hold the same fascination to them. Children who are exposed to a lot of technology are

also unable to process information effectively since they tend to only think superficially. This is because they have been unable to develop critical thinking skills. The inability to focus interferes with children's ability for deep thought and problem-solving.

Technology has also affected social interaction among children. Due to a lot of social isolation, children are unable to pick up on social cues that would help them develop meaningful relationships with their peers. The inability to develop social skills at a young age is likely to follow these children as they grow and develop. These children also show difficulty in developing emotions compared to others who do not use as much technology. These children are also likely to succumb to social anxiety, and as such, they may feel bored and unhappy when they are in a school environment (Mustafaoğlu et al., 2018).

There are, however, those who argue that technology affects children positively. For one, technology facilitates education since it makes information easily accessible and retrievable. The wealth of information available on the internet has taught children how to be independent since they have been able to do things by themselves. Using YouTube as an example, there are countless children who have been able to leverage the information available to them to catapult themselves to fame and fortune; these children have achieved the success that has far surpassed their parents. There are also shows on TV that are educational and hence benefit children; one example is Sesame Street. Technology has employed in many schools to facilitate learning and has, in fact, increased comprehension among students (Huda et al.,2017). Regardless, however, there is no denying that technology does indeed have a lot of benefits if used in the right way; however, anything in excess is harmful. Currently, the attitude is that technology is the answer to all the world's problems, forgetting the fact that technology is responsible for the atomic bomb and nuclear weapons, which can cause great harm. Despite the positive contributions of technology, excessive use is still harmful to children's development; parents should, therefore, be more vigilant and control the amount of screen time their children are exposed to on any given day. They should also monitor the content to ensure that they are not exposed to media that may harm their brain development. On top of that, they should encourage children to partake in outdoor activities and socialize with other children and thus strike a balance between the virtual and the real world.

3.1 Conclusion

In conclusion, it is, therefore, possible to see that technology has a negative effect on children since it affects their physical, mental, and social development as well as bring about adverse health outcomes. Children have become so stuck on their screens that they are not able to live in the real world. This has led to an increase in the rates of child obesity, mental health problems, a decline in social skills, among others. To facilitate the development of more holistic and healthy individual's parents should teach their children responsible and conscious behaviors when it comes to the internet. They should also limit and monitor online usage to ensure that children stay safe from potential risks and dangers that lurk on technological devices as well as ensure that they don't expose children to technology at an early age to make sure they are able to develop properly in their physical, mental and social capacities.

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