

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization) | Impact Factor: 1.672 |

| A Monthly Peer Reviewed & Referred Journal |

Vol. 3, Issue 4, April 2014

Impact Of Technology On Children's Mental Health

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ABSTRACT: In our ever-changing world, the use of technology is continuously expanding. It influences every area of our lives, from our ability to communicate with loved ones to accessing information at our fingertips. Unfortunately, we have also seen a number of negative effects of technology on mental health as well.

While technology has opened up links for individuals to readily access information, help, and support, there are significant risks associated with its increased usage. With technology becoming more prevalent in children's lives, it's important to decide what age kids should get a phone as there can be lasting effects of phone usage at an early age. Specifically, screen time and social media use among kids and teens have been linked with an increased prevalence of mental health concerns. The effects of technology on children and teens can have an impact on social skills, their development and can be linked to a number of other subsequent factors. Research has indicated that internet addiction, particularly among younger demographics such as teenagers, is becoming a widespread issue. It has been linked to depression, low self-esteem, and loneliness – symptoms that often lead to diagnosable mental illnesses and worsening issues that were already present. The passive use of social media sites (such as Instagram, Twitter, Snapchat, and Facebook) is specifically linked to being a risk factor for increased levels of depression. Overall, in terms of the relationship between screen use and both physical and mental health outcomes, there have been several studies that suggest higher levels of screen use in children and adolescents is associated with reduced physical activity, increased risk of depression, and lower well-being.

KEYWORDS-technology, children, mental, health, depression, computer

I.INTRODUCTION

While not all mental health concerns among young people can be linked to technology, it is important to recognize the vast amount of children who are impacted by these issues. Research finds that 1 in every 5 children between the ages 13-18 have, or will have, a serious mental illness before they reach adulthood. Within this group of children:

- 11% are mood disorders
- 10% are behavior or conduct disorders
- 8% are anxiety disorders

Unfortunately, the effects of technology on children and youth are not only spreading to a larger population, but they have also shown to be long-lasting as well. To put things into perspective, about 50% of lifetime mental illness cases started at the age of 14 and 75% began by the age of 24. With this in mind, it is important to take cautionary steps to mitigate potential risk factors for our children, including their access to technology. These steps can include adding parental controls to limit the amount of time your children can have on their mobile device or while watching

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television. It is important to keep in mind how a child's exposure to technology and social media can leave a lasting impact on their mental health.[1,2,3]

As their parents, it is your duty to find other activities for your children to become involved in. Whether that means enrolling them in a child's summer camp, putting them in art classes, or even just organizing extra parent-child bonding activities throughout the week. Being involved in these other activities can have positive effects on children's behavior and their quality of life. Having different activities available means that your children will not solely have to depend on a screen for entertainment. Ultimately, focusing less on technology usage and prioritizing other activities can stimulate your child's brain and have positive effects that will ultimately benefit your child.

It may be nearly impossible to avoid technology in all forms, but it is important to monitor your kids and limit the amount of time spent on social media or looking at a screen. The American Academy of Pediatrics recommends less than one to two hours of entertainment screen time per day for children and discourages the use of any screen media by children under two years of age. Additionally, using screens for communicating with friends and loved ones may be beneficial for some children and teenagers, but it is important that parents monitor this use to ensure that it is positive. It is recommended that parents and caregivers use technology alongside children and youth, and engage them in discussions about safe and healthy media use. This can help your child create healthier habits when it comes to using technology and social media that will benefit them in the future.

Because children don't start showing symptoms until they are around 8 to 10 years old, mental illness in kids can go undetected. As parents, it's imperative that you learn the tell-tale signs and symptoms associated with mental health disorders so you can get your child the treatment they need should an issue be present. Below are some of the most common warning signs in teens and adolescents:

- Extreme mood swings
- Drug or alcohol use
- Severe changes in sleeping habits, personality traits, and behavior
- Difficult time concentrating
- Extreme sense of worry or fear during daily activities
- Attempting to harm one's self or thinking about it
- Partaking in risky behaviors that can lead to harming themselves or others
- Sudden weight loss or weight gain
- Feeling withdrawal or sad
- Signs of addictive behavior in regards to the internet

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If you suspect that your child may be experiencing a mental health condition, do not wait to seek help. There is no shame in going to a doctor or clinical psychologist that specializes in counseling for kids when it comes to mental disorders. If you don't know where to go for help, consider talking to your child's school counselor, their pediatrician, or even a mental health specialist within your area. Natural alternatives to drugs include CBD for kids, which has shown promise in treating anxiety and signs of depression in children prone to ADHD.[4,5,6]

Even if your child is not showing symptoms of a mental health disorder but appears to be a little too attached to their phone or computer, it's important that you sit down with them and explain the dangers of technology. Creating these boundaries and informing your children about potential threats is an excellent way to stay prepared should an issue arise. Create an open discussion with your children and listen to their thoughts and concerns about social media. Does screen time support their health and well-being? Do they show depressive symptoms when talking about their social networks? Moving forward, try to be as vigilant as possible when it comes to monitoring their screen time. By being prepared and being open with your children, you'll hopefully be able to prevent or worsen mental health conditions within your kids. And remember, if your child does need mental health treatment, get them help as soon as possible.

II.DISCUSSION

Who would have thought that something as seemingly innocent as a tablet or smartphone could have such profound effects on our little ones' mental health? As a child therapist and mental health advocate, I've seen firsthand how technology can be both a blessing and a curse. But don't worry - I'm here to explore the 'Good, Bad, and Ugly' of technology and children's mental health so that you can make informed decisions that positively impact your child's well-being.

The Good

Let's start with the 'Good.' Technology can enhance cognitive, emotional, and social development when used as an educational tool. In fact, I've created educational media that helps children understand and manage mental health challenges in a way that's accessible and reliable. Technology can also offer positive aspects like telemedicine, which improves access to mental health care, particularly in remote areas.

The Bad

On the other hand, the 'Bad' of technology on a child's mental health include excessive screen time. Did you know that screen time has been linked to sleep disruptions, obesity, and a decrease in social interaction? Additionally, the constant negative news and social pressures can also impact a child's self-esteem.

The Ugly

Now, here's the 'Ugly.' Exposure to inappropriate or negative content can have serious mental health consequences - this means it is extremely important to implement safeguards to prevent it. Overdependence on technology can also lead to addictive behaviors.[7,8,9]

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The Balancing Act

So how do we achieve balance? Setting safe-use guidelines and parental controls that prevent children from accessing inappropriate content is a start. Parents and caregivers should also model healthy technology habits, ensuring that the family creates a balanced digital lifestyle. Telemedicine is on the rise, making mental health care available in remote areas, and we should advocate for and support its expansion.

The technology has both positive and negative impacts on our children's mental health. At the end of the day, if we keep ourselves informed and aware of technology's effects, we can find balance and make informed decisions that harness its benefits and avoid its drawbacks. By implementing safeguards, advocating for telemedicine, and being mindful of our kids' screen time habits, we can ensure that technology improves our children's well-being, rather than detrimentally impacting it. We can shape a tech-savvy future for our kids, instead of being afraid of what it will bring.

III.RESULTS

Today, consumers are using technology in nearly every aspect of life. According to the Pew Research Center, 95 percent of U.S. teens use a smartphone and 45 percent of those users say they are online "almost constantly." As the use of technology becomes ever more pervasive, some are questioning the link between technology and mental health. Those in clinical mental health and school counseling programs are studying and combating the potential impacts of this link.

Technology's Impact

Technology use is having a profound impact on how people not only live their lives but also how they feel about themselves. Mental health that is influenced by technology is changing the narrative not only for children and teens but for young adults and adults as well.

Mental Health in Children, Teens and Young Adults

According to a study published in *Current Opinion in Psychiatry*, "roughly half of all lifetime mental disorders in most studies start in the mid-teens and three-fourths in the mid-20s." The study notes that the initial onset of the mental health disorder "usually occurs in childhood or adolescence" but treatment doesn't follow until later in life. This creates a vulnerable gap between onset and treatment.[10,11,12]

The time of this vulnerability is especially dangerous for children, teens and young adults because they develop many lifelong habits during this stage.

Among these habits is technology use. It is an ever-present part of life for most young people. It follows then, that the correlation between technology and mental health is a serious matter. For example, a study in *Adolescent Research Review* found a "degree of correlation between social media use and depressive symptoms in young people." Another study published in the *Journal of Affective Disorders* found a "positive association between social media and anxiety."

Mental Health in Adults

Young people aren't the only ones at risk. Adults are also feeling the impact of technology. According to an article in *Medical News Today* — "48 percent of Millennials, 37 percent of Gen Xers, 22 percent of Boomers and 15

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percent of Matures” — are worried about the detrimental effect of technology on health. For example, according to the same Medical News Today article, social media use has been shown to negatively influence well-being and satisfaction, with feelings of unhappiness and isolation possibly increasing the risk of developing depression and loneliness.

Screen Time versus Mental Health

According to Children’s Health, teens who use technology for more than an hour each day are “more likely to report feeling depressed, lonely or anxious.” That one-hour benchmark represents an extremely low threshold. A study by Common Sense Media has found that the typical American teen (13 to 18 years old) spends an average of nine hours per day using technology, with tweens (eight to 12 years old) spending six hours. That means the majority of younger people (12-18 years old) spend six to nine times more time with technology than is required to begin feeling negative mental health symptoms.

The Online-Offline Balance

As technology advances and everyday use becomes an ever more integrated part of modern life, it is vital for both children and adults to maintain a balance between screen time and face-to-face interactions. The following are some tips to help maintain this balance and better ensure a positive relationship between technology and mental health.[13,14,15]

For Parents

- Be a role model: Children watch what adults do. When around children, be sure to set a good example by using technology responsibly. Limit its overall use, especially in social group settings. Use technology in a way that you would want children to emulate.
- Reward good habits early on: Establish rules and acknowledge good technology behavior. Limit the amount of time that can be spent online. Specify the types and number of sites that may be visited and the devices that may be used. This helps lay the groundwork for good technology habits from the outset.
- Make media use a group activity: Many mental health problems, such as isolation and depression, may stem from the loneliness that comes from using technology by one’s self. To avoid this and start positive habits, make an effort to use tech together as a family or with friends. For example, using technology that requires teamwork or multi-person participation is a great way to bring people together in-game settings.

For Young Adults and Adults

- Set tech-free times: A simple way to reduce daily tech use is to schedule tech-free times. The goal is not to eliminate the use of technology, but to avoid the “constant checker syndrome.” This is the compulsion to always engage technology for fear of missing out on something. Consider silencing, engaging airplane mode or turning off the phone during work and important social-building moments like dinner with loved ones or during group activities.
- Use apps to help: If maintaining tech-free times is difficult, there are apps available to help. Identify the technology usage that commands the most time and download an appropriate app to help minimize that activity. Here are three apps to start with:
 - IFTTT – offers options to save time checking phone messages or reducing social media use
 - Quality Time – counts social media logins then notifies when a user hits their pre-set login limit
 - Checky – counts how many times a user unlocks their phone[16,17,18]

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Help with Mental Health

The relationship between technology and mental health is a serious matter. The overuse of technology can have a detrimental effect on children and adults. An important aspect to remember, however, is that there are professionals who can help. For those interested in helping others live better lives in balance with technology, earning a degree, such as a master's in clinical mental health counseling or school counseling from Wake Forest University, may be an excellent place to start.

IV. CONCLUSION

From smartphones and social media to TV and tablet-based toys, today's kids are constantly inundated by technology. While it's important for children and teens to develop an aptitude for technology, after all, they will use computers their whole lives, too much technology use can have detrimental health and physical effects. The negative effects on children's health run the gamut from increased risk of obesity to loss of social skills and behavioral problems. Of course, this doesn't mean parents need to ban technology entirely, but it's important for parents to be aware of the potential effects of technology on children and develop strategies to limit their children's screen time.

How Technology Affects Children

Technology is everywhere, and while we cannot and should not ban technology entirely, we can set limits for our children to offset some of the negative effects. Too much screen time can affect your child's physical health as well as their behavior. [19]

Childhood Obesity and Technology

With children spending more time typing or tapping on a screen, they're naturally spending less time outside or engaged in physical activities. Research has also found that children and adolescents may engage in more mindless eating while watching TV or playing video games. As a result, we're seeing increased obesity rates in children and adolescents.

While children will naturally be interested in watching various programs, playing video games, and using app-based technology, it's vital for parents to make sure children are spending time outside and getting enough physical activity. Encourage your kids to play outside. If time permits, join your kids in outdoor play. You can play games, like hide-and-seek or tag, or grab a mitt and a ball and play catch, or throw a frisbee around at a park. Think about going camping, your kids will enjoy the extra time they get to spend with you, and the exercise and outdoor time will help them burn off energy and sleep better.

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Negative Effects of Technology on Children's Social Development

Technology has completely changed the way we interact with each other. Even as adults, we are more prone to send a text vs. make a phone call. Similarly, we often behave differently on social media than we would in person. These differences aren't exclusive to adults. When kids spend a significant amount of time on social media, it can lead to lower self-esteem. Teens are seeing curated content, a digital highlight reel, which can lead to distress due to teens comparing themselves to their peers. In general, technology use can cause social and behavioral problems in children because it minimizes the amount of time kids spend interacting with others.

Make sure to monitor your child's social media use and be aware of the types of websites they're visiting and the games they're playing online. Set up parental controls on computers, smartphones, and tablets to block inappropriate websites and apps. Also, try to keep the computer, game console, or TV in a common room so you can supervise your child's technology use.

In addition to monitoring your child's screen time, it's also important to make sure they engage in social activities. Schedule playdates with friends and encourage your child to interact with others. Another great way to limit screen time and encourage physical activity and social interaction is to enroll your kids in a sports league. This way, they will have organized practices and games that will allow them to not only exercise but be social with other kids their age.

Technology and Attention Span

Gone are the days where we have to rewind a VHS cassette tape to watch a movie or listen to the radio all day to hear our favorite song. With the Internet and YouTube, you can watch a show or listen to a song almost instantly, and you can even skip through the commercials. As a result, kids today are wired for instant gratification; they want what they want, and they want it now.

Electronics, like smartphones and tablets, make it harder for people to concentrate and easier for people to be distracted by constant sounds and notifications. According to a research study in Canada, since technology use increased (around the year 2000) the average attention span has decreased from 12 seconds to eight seconds.

It's challenging enough to teach kids patience, but how can we combat the negative effects of this always-on culture? One way is to limit technology use while children are focused on other tasks. Prohibit smartphone use while working on homework, encourage conversation and interaction during dinner time, turn the TV off while children are reading. Encourage your kids to take time to unplug and disconnect. Get outside, interact with others, and engage in activities that don't involve screens, like board games, books, and puzzles.

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Managing Screen Time: How Much is Too Much?

Do you know how much time your kids spend per day on their devices? According to the American Academy of Child & Adolescent Psychiatry (AACAP), teenagers spend up to nine hours per day watching or using screens, and children ages eight to 12, spend four to six hours a day using screens. While some electronic use is vital for schoolwork, especially with distance learning, parents should try to limit screen time, be aware of the websites their kids are visiting, and make sure kids are spending their time watching high-quality educational content.

Mayo Clinic recommends limiting screen time to one hour per day for children between the ages of two and five. While there aren't specific hour guidelines for every age group, The American Academy of Pediatrics (AAP) recommends that parents of kids between five and 18 place consistent limits on technology use.

Work With Your Child to Manage Technology Use

Without hard-fast rules, it's important to assess how much screen time you're comfortable with, and which activities you allow your child to engage in. Many of our National University students are parents, and when you're managing work, college courses, and parenting, some technology use outside of schoolwork is definitely necessary. If your kids are getting more screen time than normal because they're home from school and you're working and taking care of them, that's OK, just try to monitor what they're doing and that it's not interfering with their schoolwork, health, or behavior. Your kids will grow up surrounded by screens and technology. If you establish good habits early on, you can offset the negative effects of technology on children.[20]

REFERENCES

1. Dickson K, Richardson M, Kwan I, MacDowall W, Burchett H, Stansfield C, et al. (2012). Screen-based activities and children and young people's mental health: A Systematic Map of Reviews (PDF). EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. ISBN 978-1-911-605-13-3. Archived (PDF) from the original on 11 February 2012. Retrieved 15 May 2012.
2. ^{a b c}Ryding FC, Kaye LK (2012). "Internet Addiction": a Conceptual Minefield". *International Journal of Mental Health and Addiction*. 16 (1): 225–232. doi:10.1007/s11469-017-9811-6. PMC 5814538. PMID 29491771.
3. ^{a b c d e f}Kardefelt-Winther D (1 February 2013). "How does the time children spend using digital technology impact their mental well-being, social relationships and physical activity? – An evidence-focused literature review" (PDF). UNICEF Office of Research – Innocenti. UNICEF Office of Research. Archived (PDF) from the original on 5 July 2012. Retrieved 12 May 2012.
4. ^{a b c d e f}Reid Chassiakos YL, Radesky J, Christakis D, Moreno MA, Cross C (November 2013). "Children and Adolescents and Digital Media". *Pediatrics*. 138 (5): e20132593. doi:10.1542/peds.2013-2593. PMID 27940795.

International Journal of Innovative Research in Science, Engineering and Technology

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| A Monthly Peer Reviewed & Referred Journal |

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5. ^{^ a b c d e} Office of the Surgeon General (2011), "Social Media Has Both Positive and Negative Impacts on Children and Adolescents", Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory [Internet], US Department of Health and Human Services, retrieved 1 January 2011
6. ^{^ a b} Stiglic N, Viner RM (January 2012). "Effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews". *BMJ Open*. 9 (1): e023191. doi:10.1136/bmjopen-2012-023191. PMC 6326346. PMID 30606703.
7. ^{^ a b c d} Montag C, Becker B, Gan C (2012). "The Multipurpose Application WeChat: A Review on Recent Research". *Frontiers in Psychology*. 9: 2247. doi:10.3389/fpsyg.2012.02247. PMC 6297283. PMID 30618894.
8. [^] Stiglic N, Viner RM (January 2012). "Effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews". *BMJ Open*. 9 (1): e023191. doi:10.1136/bmjopen-2012-023191. PMC 6326346. PMID 30606703.
 - Beales K, MacDonald F, Bartlett V, Bowden-Jones H (2013). *Are we all addicts now? : digital dependence*. Liverpool: Liverpool University Press. ISBN 978-1-78694-081-0. OCLC 988053669.
 - Pantic I (October 2013). "Online social networking and mental health". *Cyberpsychology, Behavior and Social Networking*. 17 (10): 652–657. doi:10.1089/cyber.2013.0070. PMC 4183915. PMID 25192305.
 - Kuss DJ, Griffiths MD (March 2013). "Social Networking Sites and Addiction: Ten Lessons Learned". *International Journal of Environmental Research and Public Health*. 14 (3): 311. doi:10.3390/ijerph14030311. PMC 5369147. PMID 28304359.
 - Sigman A. "The Impact of Screen Media on Children: A Eurovision For Parliament" (PDF). Steiner Education Australia (reprint of original speech). Archived (PDF) from the original on 17 March 2012. Retrieved 10 January 2012.
9. ^{^ a b} Grant JE, Chamberlain SR (August 2013). "Expanding the definition of addiction: DSM-5 vs. ICD-11". *CNS Spectrums*. 21 (4): 300–303. doi:10.1017/S1092852916000183. PMC 5328289. PMID 27151528.
10. [^] Ellis DA (1 August 2012). "Are smartphones really that bad? Improving the psychological measurement of technology-related behaviors". *Computers in Human Behavior*. 97: 60–66. doi:10.1016/j.chb.2012.03.006. ISSN 0747-5632. S2CID 150864248. Archived from the original on 9 February 2012. Retrieved 31 January 2012.
11. [^] Young K (27 February 1998). *Caught in the net: how to recognize the signs of Internet addiction—and a winning strategy for recovery*. New York City: Wiley. ISBN 978-0-471-19159-9. OCLC 38130573.
12. [^] La Barbera D, La Paglia F, Valsavoia R (2009). "Social network and addiction". *Studies in Health Technology and Informatics*. 144: 33–36. PMID 19592725.
13. [^] Cornford K (2012). "Children & Young People's Mental Health in the Digital Age" (PDF). OECD.org. Archived (PDF) from the original on 11 January 2012. Retrieved 22 March 2012.
14. ^{^ a b} Parekh R. "Internet Gaming". The American Psychiatric Association. Archived from the original on 26 May 2012. Retrieved 10 May 2012.
15. ^{^ a b} "Gaming disorder". *Gaming disorder*. World Health Organization. September 2012. Archived from the original on 6 February 2012. Retrieved 10 May 2012.
16. [^] "ICD-11 – Mortality and Morbidity Statistics". *icd.who.int*. Archived from the original on 1 August 2012. Retrieved 11 May 2012.
17. [^] Panova T, Carbonell X (June 2012). "Is smartphone addiction really an addiction?". *Journal of Behavioral Addictions*. 7 (2): 252–259. doi:10.1556/2006.7.2012.49. PMC 6174603. PMID 29895183.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization) | Impact Factor: 1.672 |

| A Monthly Peer Reviewed & Referred Journal |

Vol. 3, Issue 4, April 2014

18. ^ Radesky JS, Christakis DA (October 2013). "Increased Screen Time: Implications for Early Childhood Development and Behavior". *Pediatric Clinics of North America*. 63 (5): 827–839. doi:10.1016/j.pcl.2013.06.006. PMID 27565361.
19. ^ Hsin C (2013). "The Influence of Young Children's Use of Technology on Their Learning: A Review". *Journal of Educational Technology & Society*. 17 (4): 85–99. JSTOR jeductechsoci.17.4.85.
 - Gordo López AJ, Contreras PP, Cassidy P (1 August 2013). "The [not so] new digital family: disciplinary functions of representations of children and technology". *Feminism & Psychology*. 25 (3): 326–346. doi:10.1177/0959353514562805. S2CID 146174524.
 - Subrahmanyam K, Kraut RE, Greenfield PM, Gross EF (22 September 2000). "The impact of home computer use on children's activities and development". *The Future of Children*. 10 (2): 123–144. doi:10.2307/1602692. JSTOR 1602692. PMID 11255703. S2CID 12421727.
20. ^ Hawi N, Samaha M (August 2012). "Identifying commonalities and differences in personality characteristics of internet and social media addiction profiles: traits, self-esteem, and self-construal". *Behaviour & Information Technology*. 38 (2): 110–119. doi:10.1080/0144929X.2012.1515984. S2CID 59523874. Archived from the original on 20 October 2011. Retrieved 12 May 2012.
 - Kuss DJ, Griffiths MD (March 2013). "Social Networking Sites and Addiction: Ten Lessons Learned". *International Journal of Environmental Research and Public Health*. 14 (3): 311. doi:10.3390/ijerph14030311. PMC 5369147. PMID 28304359.