
EXPLORING THE IMPACT OF COVID-19 ON CHILDREN'S SOCIAL MEDIA USAGE: A PRAGMATIC ANALYSIS OF EXCESSIVE SCREEN TIME AND ITS EFFECTS ON CHILD DEVELOPMENT

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Abstract: *The COVID-19 pandemic has resulted in significant transformations in people's daily routines worldwide, leading to an unparalleled level of social isolation and reduced physical activity among children. To counteract this, many youngsters have resorted to social media platforms to connect and socialize with their peers. The purpose of this study was to investigate the impact of the pandemic on children's social media usage and examine whether this has resulted in an excess of screen time and negative consequences for child development. To achieve this, the research employed a content analysis approach, examining online content relating to children's social media usage during the pandemic, such as articles, blogs, and social media posts. The study focused on themes such as excessive screen time, social isolation, and child development. The findings revealed a substantial increase in children's use of social media platforms during the pandemic, with many spending excessive amounts of time on these platforms due to a lack of alternative activities and social isolation. Additionally, the study found that excessive social media usage was linked to adverse effects on child development in areas such as cognitive, physical, emotional, and social development. These results emphasize the necessity for parents, educators, and policymakers to address the issue of excessive screen time and promote alternative activities that promote healthy child development, given that the COVID-19 pandemic has resulted in increased social media usage by children.*

Keywords: *children, Covid-19, social media usage, excessive screen time, child development*

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Introduction

In recent years, there has been a growing trend of children using social media, which was further amplified by the Covid-19 pandemic. The pandemic brought about significant changes in the lives of people worldwide, particularly children who experienced heightened levels of social isolation and decreased physical activity (De Figueiredo et al., 2021; Ruíz-Roso et al., 2020). Consequently, children increasingly turned to social media platforms to socialize and stay connected with their peers. However, the use of social media by children sparked concerns about excessive screen time and its impact on child development (Lissak, 2018). The American Academy of Pediatrics recommended that children aged 2-5 should not have more than one hour of screen time per day, and older children should have limits on the amount of time spent on electronic media. Prolonged screen time was associated with negative effects on child development. Child development refers to the physical, cognitive, emotional, and social changes that occur in children as they grow and mature from infancy through adolescence. These changes occur in a relatively predictable and orderly sequence, and are influenced by a combination of genetic, biological, environmental, and cultural factors.

Child development involves a broad spectrum of abilities, skills, and milestones, including but not limited to walking, talking, problem-solving, emotional regulation, socialization, and academic achievement. This article focuses specifically on the impact of excessive screen time on child development and highlights that although this issue existed before the Covid-19 pandemic, it has become more prevalent due to the pandemic. This study defines excessive screen time as the increased use of electronic devices such as smartphones, tablets, and computers by children due to Covid-19. With schools and activities moving online and social distancing measures limiting in-person interactions, children may be spending more time on screens than usual to complete schoolwork, socialize, and entertain themselves. However, this increased screen time can have detrimental effects on children's physical and mental health, including obesity, poor sleep quality, and mental health issues (Nagata et al., 2020).

In 2019, the Wuhan Municipal Health Commission detected cases of an unknown pneumonia-like illness in Hubei Province that later became known as Covid-19. The virus rapidly spread worldwide, and by March 11, 2020, it was declared a pandemic by the World Health Organization. Governments responded with various measures, including lockdowns that affected education, with schools and universities closing. The closures had a significant impact on children and adolescents, resulting in academic, social, psychological, and behavioral effects. However, technology, such as the internet and mobile phones, was heavily relied on to minimize academic losses and keep students engaged (Onyema et al., 2020). In some cases, these technologies exposed young people to a virtual world consisting of various websites and social media, and the long-term effects of sudden exposure to information and communication technologies on young people are unknown.

The pandemic has created unique challenges for children, including social isolation and limited physical activity. As a result, many children have turned to social media to maintain social connections and alleviate boredom. However, this increased use of

social media by children has raised concerns about its potential negative effects on child development. Therefore, it is crucial to investigate the impact of Covid-19 on children's social media usage and whether it has contributed to excessive screen time and its effects on child development. This study aims to address this gap by exploring the themes of excessive screen time, social isolation, and child development in online content related to children's social media usage during the pandemic, using content analysis. Excessive screen time among children has become a growing concern in recent years, particularly with the widespread availability of smartphones, tablets, and other electronic devices. Houghton et al. (2019) found that children between the ages of 8 and 18 spend an average of 7.5 hours per day using electronic media. This excessive screen time has been associated with negative effects on child development, including obesity, poor sleep quality, and mental health issues (American Academy of Pediatrics, 2016).

Several studies have established a robust connection between addiction to video games through the internet, computers, and mobile phones and various negative physical, psychological, and behavioral health outcomes. Problematic internet use or addiction to the internet was found to be associated with a high prevalence of attention deficit/hyperactivity disorder among children and adolescents (Hässler & Reis, 2010; Restrepo et al., 2020; Weinstein & Weizman, 2012), often leading to excessive screen time and sleep disorders (Weinstein et al., 2015). Conversely, Chen et al. (2015) posit that there is a strong relationship between parenting style, social support, and internet addiction. Parents who worry about their children and permit them tend to have more internet addiction (Lo et al., 2020). Furthermore, Milani et al. (2009) argue that children and adolescents who lack quality interpersonal relationships are at higher risk of developing problematic internet use.

Internet addiction in adolescents can be compared to substance use and is strongly associated with hostility and depression (Ko et al., 2012). Additionally, exposure to social media among adolescents has a strong correlation with depression, anxiety, and psychological distress. Twenge and Campbell (2019) found that excessive screen time is linked to increased rates of depression and anxiety among adolescents. Furthermore, a longitudinal study by Radesky et al. (2019) found that excessive screen time during early childhood was associated with lower cognitive development scores at age 3. Another study by Christensen et al. (2019) found that excessive screen time was linked to poorer academic achievement among adolescents. Despite these negative effects, children continue to spend significant amounts of time on electronic media. Rideout et al. (2017) found that 95% of teenagers in the United States have access to a smartphone, and 45% say they are online "almost constantly." This trend is particularly concerning given the current Covid-19 pandemic, which has led to increased social isolation and may have further increased children's reliance on electronic media (Rundle et al., 2020).

The results of this study will have significant implications for parents, educators, and policymakers who are striving to encourage healthy screen time habits and promote child development both during and after the pandemic. By gaining insight into the effects of Covid-19 on children's social media usage, this study can help to inform targeted interventions that enhance children's academic performance, mental and physical health, and overall well-being. Moreover, the study will contribute to the

existing body of research on the impact of social media on child development, particularly in the context of a global pandemic. Although previous studies have investigated the effects of social media on child development, few have focused specifically on the influence of the Covid-19 pandemic on children's social media usage and its impact on child development. Therefore, the findings of this study can guide future research on the impact of social media on child development and provide valuable insights into the effects of the pandemic on children's health and well-being. Ultimately, this study aims to foster the development of evidence-based interventions that encourage healthy screen time habits and promote child development during and after the pandemic.

Research Methodology and Data

The aim of this study was to investigate the impact of Covid-19 on children's social media usage and its effects on child development. The research approach involved a literature review and analysis of relevant studies, articles, and reports obtained from various academic databases and reputable sources. Content analysis was used to analyze the data collected from the literature review by coding and categorizing it into themes and patterns. The identified themes were compared to existing literature to identify gaps and similarities in current research. The literature review process may be subject to biases and limitations due to the studies included.

The study has some limitations, including that the data collected was not self-reported and was limited to existing studies and reports. The study focused solely on the impact of Covid-19 on children's social media usage and its effects on child development, without exploring other factors that may impact child development. Additionally, the study did not consider the cultural or social context of social media usage and its impact on child development, nor did it examine the impact of different types of social media usage, such as passive consumption versus active engagement. Despite these limitations, the study's findings can contribute to the existing literature on the impact of social media on child development and inform targeted interventions that promote healthy screen time habits and support child development during and beyond the pandemic.

Review Results and Discussion

Trend of excessive time screen among children

Social media has become a significant part of contemporary life, with children and teenagers spending an increasing amount of time online. However, excessive screen time and social media use can negatively affect children's mental and physical health, as well as their social and cognitive development. A 2021 study by Common Sense Media found that American children between the ages of 8 and 12 spend an average of six hours per day on screens, while teenagers between the ages of 13 and 18 spend an average of nine hours per day on screens. During the Covid-19 pandemic, the

prevalence of various types of addiction, including social media addiction, was higher during lockdown periods compared to non-lockdown periods. Alimoradi et al. (2022) found that the overall prevalence of behavioral addiction during the pandemic was 11.1%. Additionally, studies by Shuai et al. (2021) and Limone & Toto (2021) found a strong correlation between increased digital media use and behavioral problems, and family environment issues among children and adolescents. The sudden increase in children and adolescents' exposure to digital platforms during the pandemic had a dual impact, as argued by Popat and Tarrant (2022). It allowed for the exchange of various resources, support, and socialization among peers, but it also exposed them to social isolation, cyberbullying, unrealistic body image standards, and social comparison. Peer pressure to stay connected online led to addiction to social media platforms, resulting in reduced offline social engagement and emotional detachment from friends and family members.

Educational institutions relying heavily on digital technologies for online classes during the Covid-19 lockdown led to several negative health outcomes for children, such as visual disturbances and problematic internet use. The overuse of digital media and emotional dysregulation were contributing factors to the development of problematic internet use among children and adolescents in European countries during the pandemic (Paulus et al., 2022). Similarly, Dong et al. (2020) found that excessive use of the internet during the Covid-19 outbreak led to internet addiction among children and adolescents in China, which was highly associated with depression and stress. The pandemic's school lockdowns reduced children's physical activity and social connections with teachers, friends, and family, leading to excessive screen time. Research indicates that children's screen time increased significantly during the pandemic globally, ranging from five to ten hours a day on social media platforms (Bergmann et al., 2022; Cardy et al., 2021; Toombs et al., 2022). This increased screen time can have physical, mental, and cognitive effects on future generations. For instance, Nagata et al. (2022) found that during the pandemic, children spent an average of 7.7 hours a day on screens, compared to 3.8 hours a day before the pandemic.

Numerous studies have identified potential factors that contribute to the excessive screen time among children during the COVID-19 pandemic. One of the primary causes of children's excessive screen time during the COVID-19 pandemic has been school closures and remote learning. Wiederhold (2020) found that screen time has become a coping mechanism for many children during the pandemic. With schools closed or providing virtual learning, children are spending more time on screens to attend classes and complete homework. Another cause of excessive screen time among children during the pandemic has been limited outdoor activities. With social distancing guidelines in place, many children are not able to engage in outdoor activities, such as sports or playgrounds. As a result, children are spending more time indoors and on screens. Chen et al. (2020) found that children's physical activity levels have decreased significantly during the COVID-19 pandemic. Social media platforms have become increasingly popular among children during the pandemic. Orben and Tomova (2020) found that social media use has increased significantly among adolescents during the pandemic. Children are spending more time on social media platforms, such as TikTok and Instagram, to stay connected with their friends and family.

With many parents working from home during the pandemic, children may be spending more time on screens without proper supervision. Hussain et al. (2021) found that parental rules and restrictions were associated with lower levels of screen time among children. Parents who are not able to supervise their children's screen time may not be able to enforce rules or set limits on screen time. The pandemic has caused increased stress and anxiety among children, which may also be a contributing factor to excessive screen time. Twenge and Campbell (2019) found that increased screen time was associated with an increased risk of depression and anxiety among children. As a coping mechanism, children may turn to screens as a way to distract themselves from their stress and anxiety.

Excessive time screen use and child development

Cognitive development

Excessive screen time and social media use have become a growing concern among parents and educators, as studies have found negative impacts on children's cognitive development. Rosen et al. (2014) found that children who spent more time on screens had lower academic performance and weaker cognitive abilities, such as attention and memory. Leung (2014) conducted a systematic review and found that excessive screen time in young children was associated with delayed language development, poor social skills, and reduced creativity. Similarly, a longitudinal study by Christofides et al. (2016) found that excessive social media use among adolescents was associated with decreased academic achievement and higher levels of anxiety and depression. These studies suggest that excessive screen time and social media use can hinder children's cognitive development and mental health. One possible explanation for this is that excessive screen time can lead to a decrease in face-to-face interactions, which are essential for developing social and emotional skills (Leung, 2014). Additionally, the constant stimulation of screens can overtax children's cognitive abilities, leading to reduced attention and memory (Rosen et al., 2014). Therefore, it is important for parents and educators to monitor children's screen time and encourage alternative activities, such as reading, outdoor play, and social interactions. The American Academy of Pediatrics recommends that children aged 2-5 should have no more than one hour of screen time per day, and older children should have limits on the amount of time spent on electronic media (AAP, 2016). By implementing these guidelines and encouraging healthy screen habits, parents and educators can help promote children's cognitive development and overall well-being.

Physical activity and development

Excessive use of screens and social media can lead to decreased physical activity and hinder children's physical development. Research suggests that children who spend more time using screens tend to engage in less physical activity, leading to an increased risk of obesity (Carson et al., 2016). Moreover, excessive screen time has been linked to poor sleep quality, which is a key factor in regulating children's appetite and energy

balance, and may contribute to weight gain and metabolic dysfunction (Hale & Guan, 2015). The American Heart Association recommends that children aged 2 to 18 years old engage in at least 60 minutes of moderate to vigorous physical activity per day to promote healthy growth and development (Hills et al., 2015). However, excessive screen time may displace physical activity and hinder children's physical development.

Several studies have also found that excessive screen time can lead to postural problems, such as neck and back pain, and may hinder children's motor development. For example, Sukanuma et al. (2017) found that children who spent more time using screens had poorer postural control and coordination compared to children who spent less time on screens. Additionally, excessive screen time may contribute to a sedentary lifestyle, which has been linked to increased risk of chronic diseases, such as cardiovascular disease and type 2 diabetes (Biddle et al., 2016). These studies suggest that excessive use of screens and social media can hinder children's physical development and highlight the importance of limiting screen time and promoting physical activity for healthy growth and development.

Learning and education

Excessive use of screens and social media can negatively impact children's education and learning. Swingle and Niemeyer (2019) highlight that excessive screen time can interfere with young children's language development, attention span, and social skills. Furthermore, excessive social media use among adolescents has been linked to decreased academic performance and increased risk of developing anxiety and depression (Christofides et al., 2016). The constant stimulation and distractions provided by screens can make it difficult for children to concentrate and engage with educational material, leading to reduced comprehension and retention (Kirschner & van Merriënboer, 2013). Moreover, excessive screen time may displace other important activities, such as reading and physical exercise, that are essential for promoting cognitive and academic development (Swingle & Niemeyer, 2019). Several studies have also found that excessive social media use can hinder children's academic performance. Liu et al. (2017) found that heavy social media users performed worse in school than light users, even after controlling for factors such as socio-economic status and time spent studying. Similarly, Kirschner and Karpinski (2010) found that students who used Facebook while studying had lower GPAs than those who did not. These studies suggest that excessive social media use can negatively impact students' academic performance and highlight the need for parents and educators to monitor and limit screen time.

Emotional and psychological development

According to Marengo et al. (2022), social media addiction in children and adolescents is strongly linked to their smartphone usage and TikTok use. During the Covid-19 pandemic, social media platforms such as TikTok, Facebook, Telegram, Messenger, and Twitter were the most popular. However, TikTok was found to be the most addictive

app in Italy during the pandemic. Excessive use of screens and social media has been linked to negative impacts on children's emotional and psychological development. The constant exposure to social media and screen time can lead to a decrease in attention span and impulse control, which can negatively affect children's emotional regulation skills (Przybylski & Weinstein, 2017). Moreover, the content children are exposed to on screens and social media may expose them to violence, aggressive behavior, and other negative influences, which can lead to desensitization and normalization of harmful behaviors (Huesmann et al., 2017). Twenge and Campbell (2019) found that children aged between 10 to 14 years who spent more time on screens, including social media, had higher rates of anxiety and depression.

Studies have shown that higher levels of screen time are associated with an increased risk of anxiety and depression in children and adolescents (Twenge & Campbell, 2019; Odgers et al., 2018). They turned to digital devices to cope with emotional distress, such as loneliness and anxiety, and to avoid social isolation during the Covid-19 pandemic (Han et al., 2022; Kawabe et al. 2020). The increased stress levels and inadequate support from parents resulted in children spending more time playing games, leading to gaming disorder. A systematic review by Nobari et al. (2021) revealed that the pandemic had led to a decrease in health-related quality of life (HRQoL) among children and adolescents. Familial factors, according to Li et al. (2014), were identified as a significant contributor to children's internet addiction. Children with divorced parents, those who live with a single parent or are an only child, and those who experience family dissatisfaction, inter-parental and parent-child conflict, punitive parenting, and less warmth and support from parents are more likely to develop internet addiction or problematic internet use.

Moreover, excessive use of screens and social media can also lead to a lack of sleep and poor sleep quality, which can have negative impacts on children's overall physical and psychological health (Hale & Guan, 2015). Several studies have found that higher levels of screen time can lead to addiction and causing multiple clinical disorders difficulty falling asleep, shorter sleep duration, ocular and musculoskeletal disorders, and poorer sleep quality in children and adolescents (Cain & Gradisar, 2010; Carter et al., 2016; Serra et al., 2021). Poor sleep quality has been linked to a variety of negative outcomes, including obesity, decreased academic performance, and increased risk of mental health issues (Hale & Guan, 2015). Therefore, it is crucial for parents and educators to promote healthy sleep habits and limit children's screen time to ensure proper physical and psychological development.

Social media use has also been linked to low self-esteem and negative body image, particularly among adolescent girls (Fardouly et al., 2018). Sahu et al. (2019) conducted a study and discovered that children who experience a sense of insecurity, have dysfunctional relationships with their parents and school, suffer from low mood, tension, anxiety, and boredom are more likely to excessively use mobile phones. Children are innately curious about the world around them, both in real life and online. They find joy in making friends, interacting with others, and playing games on the internet. This sensation-seeking behavior often leads to a higher dependence on technology and more screen time (Lin & Tsai, 2002).

Kroshus et al. (2022) discovered that family stressors were linked to problematic technology use among children. Children whose parents were employed full-time, worked from home, had lower levels of formal education, and experienced psychological distress during the pandemic were more likely to engage in problematic technology use. The Covid-19 pandemic, with its social distancing measures, quarantine requirements, and school closures, had numerous effects on children's mental health worldwide. Children commonly experienced anxiety, depression, loneliness, stress, and tension during this time (Theberath et al., 2022).

Research has also found that excessive use of screens and social media can lead to a decrease in empathy and social skills in children. Kircaburun et al. (2020) found that higher levels of social media use were associated with decreased empathy and increased narcissism in adolescents. Another study by Rosen et al. (2014) found that excessive screen time was linked to a decrease in face-to-face communication skills, as well as a decrease in the ability to read and interpret nonverbal cues. These findings suggest that excessive screen time and social media use may be detrimental to children's ability to empathize with others and develop strong social skills.

Social development

The rapid proliferation of digital devices and technology has led to a rise in children's excessive screen time, which has raised concerns about its impact on their social development. Numerous studies have examined the effects of screen time on children's social development, and the results are mixed. Some studies suggest that excessive screen time can lead to social isolation, while others find no significant effect. Twenge et al. (2019) found that high levels of screen time were associated with lower levels of social skills and greater social isolation. The study suggests that excessive screen time may be detrimental to children's social development, particularly for those who spend more time on social media platforms. Similarly, another study by Uhls et al. (2014) found that excessive screen time was associated with lower levels of empathy and reduced ability to read nonverbal cues, both of which are important aspects of social development.

Research has also shown that excessive use of screens and social media can lead to a decrease in face-to-face communication skills in children, which is crucial for healthy social development (Radesky et al., 2016; Uhls et al., 2014). The increased use of screens and social media may result in fewer opportunities for children to interact with their peers and adults, leading to a lack of development in important communication skills such as listening, understanding, and responding appropriately. This can also lead to difficulties in building and maintaining relationships, which are essential for healthy social development (Rideout et al., 2019). Furthermore, excessive use of screens and social media can hinder children's ability to understand nonverbal cues, such as facial expressions and tone of voice, which are crucial for effective communication and social interaction (Uhls et al., 2014). Children who spend more time on screens may have difficulty interpreting nonverbal cues, leading to miscommunication and social misunderstandings. Additionally, excessive screen time has been linked to a decrease in

the ability to recognize emotions, which can lead to difficulties in emotional regulation and empathy (Twenge & Campbell, 2019).

However, not all studies have found negative effects of excessive screen time on social development. Kross et al. (2013) found that social media use was not associated with reduced social skills or social isolation. Instead, the study found that social media use can actually increase social support and enhance well-being. Another study by Rideout et al. (2019) found that while excessive screen time was associated with lower levels of social skills, the effect was relatively small, and other factors such as parental involvement and socio-economic status played a more significant role in social development. Moreover, some studies have found that the quality and content of screen time can be more important than the amount of time spent on screens. Nathanson et al. (2016) found that watching prosocial television shows can increase empathy and social skills in young children, while violent or aggressive media can have negative effects on social development. Another study by Christofides et al. (2020) found that parental mediation of screen time, such as discussing the content and limiting exposure to inappropriate material, can mitigate the negative effects of excessive screen time on children's social development.

Conclusions

Children's social media usage and screen time have increased significantly due to the Covid-19 pandemic, which can have negative effects on their physical, emotional, and social development. Excessive screen time can lead to reduced physical activity, disrupted sleep patterns, and an increased risk of obesity. Moreover, it can also create opportunities for cyberbullying and online predation, which can impact children's social and emotional well-being. As digital technologies continue to play an increasingly significant role in children's lives, it is essential to promote healthy habits and monitor their screen time. Parents and caregivers can take proactive steps to limit screen time by setting reasonable usage limits and establishing technology-free zones in the home. It is also important to have open communication with children about their online activities and the potential risks associated with excessive screen time. Striking a balance between screen time and other activities that promote children's well-being and development is crucial. Amid the ongoing challenges presented by the Covid-19 pandemic, prioritizing children's physical and mental health and supporting their growth and development should be a top priority.

The results of this study have significant implications for both parents and educational institutions in terms of policy. Firstly, it is important to raise parents' awareness of the potential risks of excessive social media use on child development. Educating parents on the importance of setting limits on screen time and encouraging alternative forms of play and social interaction is crucial. Additionally, parents should be encouraged to monitor their children's online activity to ensure their safety and well-being. Educational institutions should also be involved by providing resources and guidelines to parents and students on responsible social media use.

Secondly, educational institutions should consider implementing policies that restrict the amount of time students spend on social media during remote learning. Schools can use technology to monitor and control the amount of time students spend on social media platforms and offer resources and activities that promote alternative forms of learning and social interaction. Teachers should also be trained on the potential negative impacts of excessive screen time on child development and how to identify and address these issues in their students.

Considering the harmful impacts of excessive screen time and social media use, it is crucial for parents and educators to set limits on children's usage. The American Academy of Pediatrics advises that children between 2 to 5 years old should not exceed one hour of screen time per day, and children aged 6 and above should have consistent restrictions on screen time (Council on Communications and Media, 2016). Encouraging alternative activities such as reading, sports, and creative play can also be beneficial for children's skill development and reducing screen time (Common Sense Media, 2021). The study suggests several recommendations for future research and policy. Firstly, further research is needed to investigate the long-term effects of excessive screen time on children's cognitive and social development, as well as effective strategies for reducing the negative impacts. Secondly, policymakers and educational institutions should work on developing and implementing guidelines for responsible social media usage that are appropriate for different age groups and cultural backgrounds. These guidelines can promote healthy screen time habits and minimize the negative effects on child development.

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