

Article

Not peer-reviewed version

Perceptions and Strategies for Managing Screen Time among School-Going Children Aged 12-14 Years in Dhaka, Bangladesh: A Qualitative Study

[Shahria Hafiz Kakon](#)*, Nahian Soltana, Bidhan Krishna Sarker, Tanjir Rashid Soron, [Md Shakil Ahamed](#), [Fahmida Tofail](#), [Rashidul Haque](#)

Posted Date: 10 March 2026

doi: 10.20944/preprints202603.0630.v1

Keywords: screen time; children; perception; strategies; digital devices



Preprints.org is a free multidisciplinary platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This open access article is published under a [Creative Commons CC BY 4.0 license](#), which permit the free download, distribution, and reuse, provided that the author and preprint are cited in any reuse.

Disclaimer/Publisher's Note: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

Article

Perceptions and Strategies for Managing Screen Time Among School-Going Children Aged 12-14 Years in Dhaka, Bangladesh: A Qualitative Study

Shahria Hafiz Kakon ^{1,*}, Nahian Soltana ², Bidhan Krishna Sarker ³, Tanjir Rashid Soron ⁴, Md Shakil Ahamed ², Fahmida Tofail ² and Rashidul Haque ¹

¹ Infectious Diseases Division, International Centre for Diarrheal Disease Research, Bangladesh, Dhaka, Bangladesh

² Maternal and Child Nutrition, Nutrition Research Division, International Centre for Diarrheal Disease Research, Bangladesh, Dhaka, Bangladesh

³ Maternal and Child Health Division, International Centre for Diarrheal Disease Research, Bangladesh, Dhaka, Bangladesh

⁴ Telepsychiatry Research and Innovation Network Ltd., Dhaka, Bangladesh

* Correspondence: shahriahafiz@icddr.org; Tel.: +880 1726 428760

Abstract

Screen time among students in Bangladesh has increased in recent years, reflecting global trends in digital device use for entertainment, education, and communication. Concerns are growing about the effects of excessive screen exposure on children's mental, physical, and social well-being. This study explored the perspectives of students, parents, and teachers on excessive screen time, its impacts, and strategies for regulating children's screen use. An exploratory qualitative study was conducted between January and April 2024 in six purposively selected schools (three English and three Bangla-medium) in Dhaka. Participants included 25 students aged 12–14 years from classes six-ten (56% male), along with parents and teachers. Data were collected through focus group discussions and in-depth interviews and analyzed using inductive thematic analysis. Students reported negative effects of excessive screen use, including sleep disturbances, eye strain, sedentary behavior, irregular eating habits, reduced social interaction, irritability, emotional distress, and academic difficulties. Some benefits were noted, including improved digital literacy and access to educational resources. Parents and teachers described strategies such as setting time limits, monitoring content, restricting internet access, and encouraging offline activities. The findings highlight the complexity of children's screen engagement and the need for context-specific guidelines to promote healthy screen use.

Keywords: screen time; children; perception; strategies; digital devices

1. Introduction

In today's digital era, excessive screen time (ST) among students has emerged as a growing public health concern, particularly due to its potential impact on their academic performance, mental well-being, physical health, and social development. [1] ST is basically the time spent with any type of screen or device, including smartphones, tablets, televisions (TVs), video games, computers, and so on. [2] Parents and caregivers stand by the belief that ST has both positive and negative consequences on developing children. [3] Although concerns regarding excessive screen use predominated in stakeholders' narratives, the existing literature also underscores several potential benefits of digital media engagement. When used in moderation, screen time can enhance academic learning, facilitate peer interaction, support identity formation, and improve access to health-related information. In particular, active use of social media platforms may promote social connectedness and provide emotional support, compared with more passive forms of engagement. With the

increased chances to engage with other people, the use of social media, which includes posting various content on social platforms, has also increased. [4] These creative skills, if utilized correctly, can have a good impact on the children's development. [4] In addition, ST is also linked to learning and exploring new domains as well as extracurricular activities; also, and a positive academic orientation. [5,6] A qualitative paper by Raja et al. in urban India stated that there were some benefits of recreational ST in children, such as keeping them distracted while they could complete their regular household chores; appeasing their demands, and perhaps, viewing educational content could influence them positively. [7] On the contrary, the harmful impacts of excessive ST consist of stress, depression, and anxiety, reduced well-being, sleep disturbance, and weight gain. [4,8] A study by Solomon-Moore et al. conducted interviews with 51 parents of children aged 8-9 years; highlights included that, as screen viewing is a norm in modern society, most parents found it difficult to restrict this behavior. [9]

A relevant study suggested that ST-induced poor sleep, nighttime use of digital devices, and dependency on cellular phones have been linked to depressive symptoms. [10] In addition, a review conducted in Russia illustrated that the predominant changes as a result of increased ST are disorders of mental health and sleep; further consequences are disorders in the musculoskeletal system, such as pain syndrome, metabolic disorders, and obesity, and lastly, decreased muscle power (hypodynamia). [11] The indirect consequences are behavioral disorders and, subsequently, trouble in active socialization of the child. [11] Another scoping review demonstrated that, holistically, raised ST is associated with negative consequences such as decreased self-esteem, increased chances and severity of mental health problems and addictions; slowed and/or delayed learning and comprehension abilities, and lastly, an overwhelming risk of premature cognitive decline. [12] A recent study in Dhaka, Bangladesh, revealed that adolescents in this city who have high recreational ST and are not meeting physical activity recommendations are likely to have psychosocial difficulties. [13]

Nonetheless, research shows that parents' knowledge and other straightforward actions may reduce children's ST significantly. [14] As primary caregivers, parents play a central role in regulating household behaviors, with the authority to monitor activities and establish rules and boundaries to guide their children's conduct. [15] Parental controls, such as setting passwords and blocking inappropriate content can be an option. [15] Moreover, evidence suggests that participation in extracurricular activities—such as involvement in sports teams or music groups—helps structure children's daily routines and plays a crucial role in limiting and regulating their media use. [16] Additionally, research indicates that children's screen time is influenced by parents' beliefs and attitudes, the creation of device-free spaces, scheduling screen-free periods, role modeling, and screen-time parenting practices, including setting and enforcing rules and actively managing screen use. [1] Furthermore, research suggests that the educational institutes should take steps on how much time children should spend using screens both inside and outside of the classrooms, and inform students and parents about it. [14]

It is essential for family members, teachers, and healthcare professionals to understand the harmful effects of excessive screen use and to adopt strategies that support children's healthy development. This study aimed to explore the perspectives of students, parents, and teachers on excessive screen time and its impacts, as well as to identify strategies for regulating and monitoring children's screen use. The findings are expected to inform new approaches that encourage children to reduce excessive device use and maintain a more balanced lifestyle.

2. Materials and Methods

2.1. Study Design

This qualitative study adopted a narrative approach to examine perceptions of students regarding excessive screen use and the strategies that should be taken to regulate excessive screen use. Data was collected between January 2024 and April 2024. Participants were purposively

recruited and comprised children aged 12–14 years, along with their parents and school teachers. To achieve a comprehensive understanding of the research objectives, two qualitative methods were utilized. In-depth interviews (IDIs) and Focus group discussions (FGDs) were conducted with students, parents, and teachers to explore individual perceptions, experiences, beliefs, and management strategies for reducing screen time among students in detail. Using both methods enabled methodological triangulation and enhanced the depth and credibility of the findings.

2.2. Study Setting

The study was conducted in the Dhaka city corporations, the capital of Bangladesh, characterized by high urban density, diverse socio-economic settings, and rapid digital adoption among school-aged children. Six schools were selected purposively; among them, 3 schools were selected from the Dhaka South city corporation, and 3 schools were selected from the Dhaka North city corporation. The participating institutions represented both Bangla and English medium education systems, ensuring inclusion of different socio-cultural contexts. Schools were selected in consultation with education authorities and based on willingness to facilitate research activities. Data collection was carried out within classroom settings after school hours and on school premises as arranged by school authorities to ensure comfort and privacy.

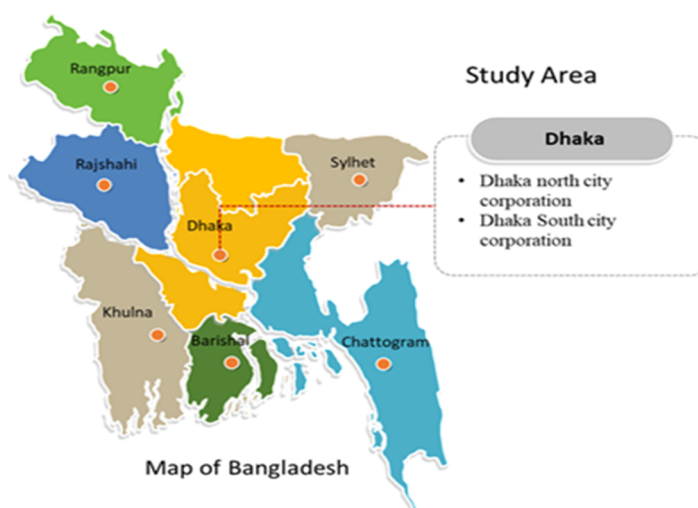


Figure 1. Study area.

2.3. Study Participants and Sampling Procedures

Students aged 12–14 years, enrolled in classes 6 to 10, were considered eligible if they reported using screens for more than two hours per day. Screen use encompassed smartphones, tablets, laptops, personal computers, televisions, and handheld gaming devices. Students aged 12–14 years were selected as this developmental stage marks early adolescence, characterized by increasing autonomy, identity exploration, and heightened engagement with digital media, while remaining under parental supervision. Students with known physical or psychological conditions were excluded to avoid potential confounding influences. Parents and students were recruited and interviewed separately. Parents qualified for participation if they had at least one school-attending child who demonstrated excessive digital device use and if they were the primary caregiver responsible for establishing and enforcing household rules related to screen time. Eligible students were independently selected from participating schools based on the predefined inclusion criteria. Teachers were interviewed independently to develop potential strategies for managing screen time, as they play a significant role in student development and education. There are no hard and fast rules to determine non-probabilistic sample sizes. Point of saturation has been and remains the “theoretical stopping point” for determining how many interviews to conduct in qualitative research with purposive sampling as its groundwork. As revealed, this is only an intellectual signpost, and the lack

of an in-the-field guide to sample size will be needed before we can consider achieving any sort of saturation. [17]

A heterogeneous sampling approach was employed for the in-depth interviews (IDIs) to ensure the inclusion of participants with varied backgrounds and experiences. In contrast, a relatively homogeneous sampling strategy was applied for the focus group discussions (FGDs) to facilitate comfortable interaction and shared dialogue among participants. FGDs and IDIs were arranged with students, parents, and teachers separately at school after school hours to allow adequate time and to minimize potential interruptions. Efforts were made to include participants from different classes, age groups, and sexes to reflect a broad range of perspectives. In total, 12 IDIs and six FGDs were carried out across six schools, and data collection continued until thematic saturation was achieved.

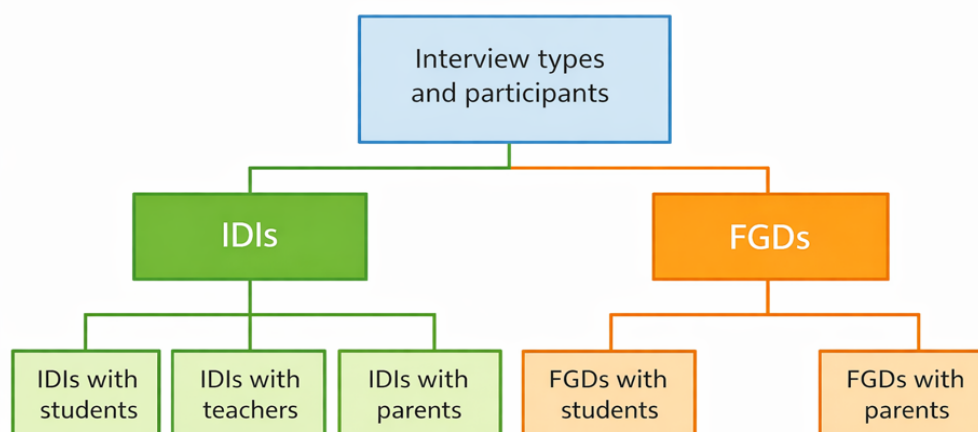


Figure 2. Framework showing participant categories and qualitative interview types.

2.4. Data Collection Procedures

Data were collected using audio recordings, supported by comprehensive field notes. Semi-structured guidelines were designed and pre-tested for each participant group for IDI and FGD. The questions were open-ended and exploratory, addressing screen use patterns, perceived benefits and challenges, and strategies for managing screen time among students. Follow-up probes were employed to encourage participants to elaborate while avoiding leading their responses. Each IDI lasted approximately 40–60 minutes, and FGDs lasted a maximum of 90 minutes. The interviews were held in the teachers' common room after regular class hours, providing a comfortable environment where participants could openly share their views. Following the collection of informed written consent, the focus group discussions and in-depth interviews were conducted on the school premises in a quiet and private space designated by the school authorities. For FGD, participants were arranged in a circular seating format to promote active engagement and interaction, and all sessions were audio-recorded. To ensure privacy and confidentiality, no unauthorized individuals were permitted to enter the room during the interviews or discussions. All interviews were conducted in Bangla, the national language of Bangladesh, with strict attention to maintaining participants' privacy and confidentiality throughout the process. Data collection was led by a Senior Research Officer with more than five years of experience in qualitative research, while a Field Research Assistant with over three years of relevant experience was responsible for taking detailed field notes. Both team members underwent comprehensive training before initiating the study.

Table 1. Interview method and sampling.

| Method | Type of schools | | Type and number of participants | | |
|--------------------------------|-----------------|---------|---------------------------------|---------|---------|
| | Bangla | English | Children | Parents | Teacher |
| In-depth interviews (IDIs) | 6 | 6 | 5 | 3 | 4 |
| Focus Group Discussions (FGDs) | 3 | 3 | 20 | 24 | - |

A Mental Health Expert oversaw the overall interview process to ensure the application of appropriate qualitative techniques, ethical sensitivity, and interviewer neutrality. The expert provided feedback to the research team when required, but did not directly participate in the interviews or observe individual participants. The interviewers were also responsible for transcription, coding, and preparing summaries of the data. To enhance the credibility and dependability of the findings, the study incorporated perspectives from multiple stakeholder groups: students, parents, and teachers, thereby capturing a broad range of experiences and viewpoints.

2.5. Analysis

The first stage of qualitative data analysis began by organizing and preparing the field data, including interviews and field notes. In order to maintain confidentiality, the recorded interviews were renamed with symbolic identifiers. Then, the interview data were transcribed verbatim into Bangla and reviewed. Transcribed data were read multiple times for familiarization before developing a codebook containing emerging codes derived from the transcripts. Coding categories were derived from initial research as well as emerging concepts. Coding of interviews, IDI, and FGD data was coded in matrices. Thematic analysis was used to identify trends of concepts in and across individual codes. The method involved inductive analysis. While conducting interviews, relevant notes were collected. All the field notes and interviews (with or without recording) were considered for the data analysis process and transcribed similarly. After categorization, the data were synthesized and interpreted to explain the findings. To strengthen the rigor of the study, data triangulation was employed at several levels: methodological (using both IDIs and FGDs), researcher (involving multiple investigators), and data source (including various participant groups). These approaches increased the trustworthiness of the findings, reduced potential bias, and captured the richness and diversity of participants' perspectives.

3. Results

The findings include some basic demographic information, the perceptions and strategies regarding ST in children. Perceptions include physical health problems, behavioral problems, mental health problems, and an impact on academic performance. Perception also consisted of the development of digital literacy, the development of communication skills on the digital platform, and a window to be involved in extracurricular activities. Strategies comprised of setting time limits, blocking internet, encouraging self-regulation, encouraging children to pursue different activities and creating device-free time and pursue different activities.

3.1. Demographic Characteristics of Participants

A total of 25 children participated in this study along with their respective parents or teachers. All the children were aged between 12 and 14 years of age, and the majority were male (14 out of 25). Most participants (12 out of 25) were students of class eight and attended Bangla medium schools (16 out of 25), while the remainder studied in English medium schools. A large proportion of the

participants (16 out of 25) belonged to a nuclear family. Fathers were engaged in business (16 out of 25), whereas the majority of mothers were housewives (23 out of 25). Most of the children (15 out of 25) had at least one device and were Wi-Fi users (23 out of 25). All participants reported using smartphones, followed by 19 children who had access to smart televisions. The socio-demographic characteristics of the participants are presented in Table 2.

Table 2. Socio-demographic characteristics of the IDI and KII participants.

| Socio-demographic traits | IDI (Students) | IDI (Teachers) | IDI (Parents) | FGD (Students) | FGD (Parents) | Total Participants (IDI & FGD) |
|--|-----------------------|-----------------------|----------------------|-----------------------|----------------------|---|
| Age (years) | | | | | | |
| 12 to 18 years | 5 | 0 | 0 | 20 | 0 | 25 |
| >19 years | 0 | 4 | 3 | 0 | 24 | 31 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |
| Sex | | | | | | |
| Male | 3 | 2 | 2 | 9 | 6 | 22 |
| Female | 2 | 2 | 1 | 11 | 18 | 34 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |
| Religion | | | | | | |
| Islam | 5 | 4 | 3 | 20 | 22 | 54 |
| Hindu | 0 | 0 | 0 | 0 | 2 | 2 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |
| Respondent's level of education | | | | | | |
| Class 1 to 9 | 5 | 0 | 1 | 20 | 1 | 27 |
| Class 10 to above | 0 | 4 | 2 | 0 | 23 | 29 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |
| Respondents Occupation | | | | | | |
| Teacher | 0 | 4 | 1 | 0 | 0 | 5 |
| Student | 5 | 0 | 0 | 20 | 0 | 25 |
| Business | 0 | 0 | 1 | 0 | 1 | 2 |
| Housewife | 0 | 0 | 1 | 0 | 13 | 14 |
| Service | 0 | 0 | 0 | 0 | 6 | 6 |
| Professionals | 0 | 0 | 0 | 0 | 4 | 4 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |
| Monthly household income of respondents (BDT) | | | | | | |
| 5001-25000 | 0 | 0 | 1 | 6 | 3 | 10 |
| 25001-50000 | 1 | 0 | 0 | 1 | 8 | 10 |
| 50001-Above | 4 | 4 | 2 | 13 | 13 | 36 |
| Total | 5 | 4 | 3 | 20 | 24 | 56 |

Through in-depth interviews (IDIs) and focus group discussions (FGDs), two broad themes emerged: a) Perceptions regarding the effects of excessive screen time on students, b) Parental

strategies to regulate students' screen time. Each theme and its corresponding subthemes are described below with illustrative participant quotes.

3.2. Perceptions Regarding the Effects of Excessive Screen Time on Students

Most participants highlighted concerns regarding the potential negative impacts of prolonged screen use on physical, behavioral, and mental well-being, while a smaller number of participants noted that screen use could offer certain benefits for children.

3.2.1. Physical Health Problems

a) Sleep disturbances

All participants, students, parents, and teachers reported that excessive screen time adversely affects children's sleep quality and duration. Students particularly noted that device use at bedtime disrupts their sleep patterns and hinders falling asleep. One student of an English medium school reported,

"I spend a long period on a small screen (smartphone) at night after a meal. As a result, my sleep is hampered; sometimes, I need to stay awake the whole night due to lack of sleep." (IDI; Student; English medium school).

Similar findings were observed from the parents' perspective as well. One parent said,

"While viewing a cell phone, new content comes one by one, which diverts children's minds from sleeping. For example, the time of sleeping is 10 p.m., and if you continue watching on your mobile until 2 a.m., it will affect your sleep." (IDI; Parent; Bangla medium school).

In addition, many students reported that spending extended periods on devices before bedtime disturbs their sleep cycle, causing them to wake up at night, experience bad dreams, and leading to interruption of sleep. They also added that incomplete sleep further leads to daytime sleepiness. One student said,

"When I use my mobile excessively at night before sleeping, I experience disturbances in my sleep. Around 3 or 4 a.m., I suddenly wake up. Sometimes, the things I watch on my mobile before sleeping appear in my dreams." (FGD; student English medium school).

Furthermore, most of the teachers shared their observations from their students regarding sleeping issues, stating that the sleeping problem affected children's academic learning and performance. One teacher said,

"Due to lack of proper sleep, students often arrive at school late, cannot concentrate in the classroom, and struggle to think creatively. This results in a loss of productivity. Surprisingly, students from higher classes (seven and eight) frequently fall asleep during class time." (IDI; Teacher; English medium school)

b. Difficulties in vision

The participants expressed that the blue light emitted from screens is the cause of several eye problems. The most common eye problem claimed by the students was eye pain, especially at night when they excessively use their devices after lights out. Regarding this problem, one student stated,

"When the light from the mobile phone falls on my eyes for a long time, I feel pain in my eyes and experience a headache." (FGD; Student; Bangla medium school).

Similar findings were revealed from the discussion of parents, where many parents reported that their children often complained of pain in their eyes. Parents added that they consulted with doctors as well. One parent said,

"My daughter complained of eye pain several times. When we visited the doctor, the doctor prescribed glasses and strictly advised her to reduce screen time." (IDI; Parent; Bangla medium School).

Similar findings were revealed from the discussion of students, where they stated that staring at screens for extended periods blurred their vision and also caused watering of eyes. A student said,

“When I play video games excessively on my computer, my eyes become tired, blurry, and watery. I don’t feel comfortable until I take a nap” (IDI; Student; English medium school).

When discussing the overuse of devices and their effect on the eyes, students reported that the eyes are connected to the brain. They explained that excessive device use first affects their eyes, then impacts their head, causing headaches and a feeling of heaviness in their head. A student said,

“In the past, I used my phone with full brightness, which might have caused me headaches.” (IDI; Student; Bangla medium school).

Similarly, teachers shared their observations from their classrooms that the number of students with eye problems is increasing in their classrooms. One teacher said,

“Online gaming is increasing rapidly, and it’s affecting their health. I’ve noticed that students who sit at the front of the class cannot clearly see what I write on the board. They either come closer to the board or I have to tell them what it says.” (IDI; Teacher; English medium school)

c. Inactive lifestyle and health problem

All participants perceived that excessive screen time led to pain and discomfort in multiple parts of the body. Students reported numerous health problems related to posture and musculoskeletal issues, such as neck pain, back pain, shoulder pain, wrist pain, numbness in the extremities, headaches, heaviness in the head, and pain in the hands and legs due to spending long periods on digital devices. One student said,

“Sitting in one place for a long time while using a mobile phone causes physical discomfort. My hand felt numb, and I experienced pain in my waist, shoulder, and neck.” (FGD; Student; Bangla medium school).

The study also found similar findings from the parents’ end. Many parents revealed that prolonged hours spent on screens reduced physical activity among children since digital devices are replacing outdoor play and physical exercise, resulting in a more sedentary lifestyle that can have potential health consequences, including obesity and muscle weakness. One said,

“Watching digital devices for long periods reduces children’s physical activity, negatively affects their stamina and bodily development, and can lead to obesity.” (IDI; Parent; Bangla medium School).

In this context, several teachers shared their perception that children are developing various health issues as a result of spending more time on digital devices. One teacher said,

“Obesity is a serious issue that leads to diabetes and fatty liver. Additionally, students from classes seven or eight, who should be enthusiastic, are becoming less energetic. They sometimes even struggle to carry their school bags.” (IDI; Teacher; English medium school)

3.2.2. Behavioral Problems

a. Aggressive and irrational behavior

The study data revealed that excessive use of digital devices was linked to the development of aggressive behavior in children. Most parents reported that attempts to restrict screen time were a major trigger for these reactions. Children addicted to gaming and social media often responded with anger, irritation, arguments, or shouting when their access to devices was restricted. One parent said,

“I have noticed that when my son starts playing a game, he just cannot seem to stop playing it. Recently, I asked my older son to stop playing games, and he reacted aggressively, almost as if he was about to break the computer and table.” (FGD; Parent; English medium school).

Similar findings were revealed from the discussion with students, where most of the students said that they felt annoyance, rage, sadness, and stubbornness when their parents interfered and snatched their devices when they were playing. A few of them reported that they struggled to control their emotions and often expressed their dissatisfaction through anger when they found themselves

disrupted during a crucial moment of the game, and if they were engaged in something interesting. One student stated,

"When I receive a call in the middle of my gaming, I feel annoyed and irritable as I could not complete the level." (FGD; Student; Bangla medium school)

While discussing aggressive behavior, a few parents mentioned that their children became violent, leading them to engage in hostile actions such as breaking things in their homes. One parent said,

"One of my relatives' sons, due to restrictions on playing video games, started shouting at his parents and broke the showcase glass and other furniture in their home." (IDI; Parent; Bangla medium school).

Furthermore, students and parents mentioned that playing violent video games and watching harsh content influenced children to behave aggressively. Parents said that children perceive certain behaviors depicted in media as "cool" or desirable without fully understanding the negative consequences. They also imitate actions they saw in video games or on television without understanding the potential harm or real-life implications. In this regard, one of the students stated,

"I think anyone can become interested in fighting after watching violent content. There are many violent games that can also influence people to become violent." (FGD; Student; English medium school).

Additionally, parents also reported that excessive screen time led children to become disobedient as well. They mentioned that their children could not follow instructions to stop using devices or to attend to other tasks when engrossed in devices. One parent mentioned that,

"My son becomes angered over very simple issues, and I cannot control him. Spending time on his device has become an addiction for him. He struggles with his education and does not listen to us. Because of these behaviors, I have consulted with a counsellor." (FGD; Parent; English medium school)

b. Impaired communication and its impact on relationships

The study found that excessive screen time diminished social interaction among children. The majority of students reported that spending more time on screens hindered them from direct interaction with family members and others, negatively affecting their communication skills. Several students mentioned limitations in their ability to communicate, such as difficulty articulating their thoughts into sentences; trouble continuing a conversation, and, most importantly, a lack of desire to talk. They also added that losing communication skills disrupted their social life, discouraging them from meeting relatives, participating in social gatherings, going outside, and preferring to stay at home. A student from an in-depth interview said,

"I experienced a situation with one of my friends who was addicted to his device and disconnected from the outside world. When he started talking with me, I found it difficult to continue the conversation. It became evident that his communication skills had deteriorated due to excessive device usage." (IDI; Student; English medium school).

Another student said,

"Those who are addicted to digital devices tend to behave unfriendly. They avoid talking to people and distance themselves from friends." (IDI; Student; English medium school).

Moreover, most parents expressed concern about the disruption of their children's social relationships due to excessive screen time. They emphasized the importance of maintaining social connections, such as participating in social events, respecting elders and behaving well towards everyone, as they believe these qualities are essential for children's communication skills and future development. One parent said,

"Nowadays, my son's sociable behavior has been decreasing. He used to talk more, but now he tends to stay quiet. He will respond to questions when prompted, but he doesn't engage in conversation beyond that." (IDI; Parent; Bangla medium school).

Similar perceptions were also revealed from the in-depth interview and FGD with students. Some students said that they lost opportunities to interact with their parents as they were preoccupied with devices. One of the students said,

"It's true, family time is diminishing, and I sometimes feel sad about it. Recently, my father mentioned that I have reduced chatting with them because of my gaming, and he even invited me to talk with him." (IDI; Student; English medium school).

A few of the parents reported that they found a gap between them and their children. One parent stated that,

"Being a mother of my kids, I feel they have lacked affection, dedication, respect, and love towards me. These qualities are diminishing nowadays because they are devoting most of their attention to mobile devices." (FGD; Parent; Bangla medium school)

c. Laziness and diminished proactiveness

Most of the participants revealed that spending prolonged time on digital devices discouraged them from engaging in physical activities by increasing laziness. Many parents mentioned that their children's physical activities have declined due to addiction to gaming and other media use, which kept them hooked indoors rather than exploring the outside world. They also added that sitting in one place and spending most of their leisure time has become a habit for them, ultimately leading them into a cycle of inactivity. For instance, one parent stated,

"My daughter has become noticeably slow and lazy in her day-to-day life compared to a general person. She spends all her time on her mobile phone. Previously, she was so happy and energetic, but now she has become silent and moody." (IDI; Parent; Bangla medium school)

d. Irregular eating habits

The majority of students and parents reported that excessive screen time negatively impacted the eating patterns of the children. In relation to that, many parents reported that children could not manage their time in everyday life due to screen time, which led them to develop irregular eating habits. The common eating problems of children mentioned were delaying meals, skipping them altogether, forgetting to drink water, eating at unusual times, and being unable to fully taste their food while being distracted by devices. One parent said,

"Sometimes when we are not at home, my child has lunch at 5 p.m. Moreover, many aspects of his life are affected negatively by excessive mobile phone use." (IDI; Parent; Bangla medium school).

Besides, as a consequence of excessive digital device usage, some participants, particularly parents, believed that excessive screen time decreased children's appetite. One parent said,

"They (children) lack the desire to eat. The interest and importance they once provided on food are now entirely shifting to the mobile phone at the dining table. This distraction can lead them to take an hour to consume what should only take fifteen minutes." (IDI; Parent; Bangla medium school).

While discussing reduced appetite in children, a few parents displayed concern regarding unhealthy eating habits on children's health, emphasizing nutritional deficiencies. One parent said,

"My children are becoming malnourished (skinny). They do not eat on schedule; they eat whenever they want to eat." (FGD; Parent; Bangla medium school)

e. Imitating digital role models

The participants, including parents, students, and teachers, reported that imitating is one of the risky behaviors exhibited by children due to the use of digital media. Parents mentioned that children desire to imitate the lifestyle habits they see on media platforms like Facebook, Instagram, and TikTok without fully understanding the outcomes. One parent stated,

"My daughter says she is a member of the BTS Army (a fanbase for the musical band also known as Bangtan Boys). Now, she dreams of moving to South Korea and living there like them. She does not seem like a normal person anymore; her lifestyle is entirely occupied by BTS." (FGD; Parent; Bangla medium school).

Interestingly, many students, especially girls, mentioned that when they scroll, liking and commenting on social media platforms, they exposed the unrealistic beauty standards and curated images of their peers by photo editing filters, which made them feel less glamorous or attractive. Echoing the same voice, many boy students believed that social media portrayed negative behaviors as cool, and teenagers often adopted these behaviors without considering the consequences. Moreover, some parents and teachers revealed that media portrayals often shape children's expression of emotions, as they are occupied by digital media from morning to night. One of the parents shared his observation and said,

"When they find any exciting things, they pronounce the sound 'siuuu' (which they copied from a football player). They want to use TikTok viral terms, cutting their hair and dressing up like them." (IDI; Parent; English medium school).

3.2.3. Mental Health Problems

a. Stress, anxiety, and depression

Some teachers, parents, and students reported that screen addiction, especially gaming, developed anxiety in children. Simultaneously, students mentioned that sometimes they are unable to embrace failure in games, and disturbance while playing it led to stress. Moreover, some parents reported that addiction to screen time reduced social interaction and exploration of the outside world, leaving them alone in real life, pushing them into depression. Parents reported that reducing social interaction further affects children's relationship with family because children's widespread use of digital devices, particularly gaming addiction and social media use, reduces face-to-face interactions with family members, especially with parents. They claimed that children find happiness in the virtual world, which has changed their communication patterns, such as texting, voice calls, video calls, and sharing memes on social media with peers, where family members are mostly absent.

b. Impact on academic performance

Many participants revealed that excessive use of digital devices negatively affects students' academic performance. In this context, the majority of students reported that using digital devices distracted them from concentrating effectively on their studies. One student expressed,

"After using my mobile, even when I sit down to study, my mind is still stuck on the mobile. I feel like I could keep using it more." (FGD; Student; Bangla medium school).

Similarly, parents revealed that constant distraction made it difficult for them to focus on their studies. Some parents also mentioned a decline in their children's study time due to prioritizing devices over study. One parent remarked,

"While studying, my son frequently checks his mobile, which reduces his concentration. The focus he once had is no longer there." (FGD; Parent; Bangla medium school).

From another perspective, some teachers revealed that children's creativity declined due to their dependency on online resources rather than engaging in brainstorming to create something new for their academic activities. One teacher stated,

"At my school, I teach literature. I've noticed that students are becoming less creative in their writing, lacking imagination, and having trouble concentrating, seeming unmindful." (IDI; Teacher; English medium school).

Furthermore, all participants emphasized that as a result of excessive device use, their academic performance is directly impacted, resulting in lower grades. One parent expressed concern, stating,

"My son's roll number is dropping from 20 to 50. He only spends one hour on coaching and private tutoring. The rest of the day, he's glued to his mobile." (FGD; Parent; Bangla medium school)

Additionally, a teacher said,

"We often see students exhibiting fear of participating in board exams due to inadequate preparation, as they spend more time on screens." (IDI; Teacher; English medium school).

Another student provided a similar remark towards her friend's bad grades due to over use of mobile,

"My friend failed her Class 9 final exam, and the school didn't allow her to move on to Class 10. I advised her to hand over her phone to her mother first and requested her mother to advocate for her promotion." (IDI; Student; Bangla medium school).

Many students also reported that spending a long time on screens negatively affected their studies and made them feel anxious about their academic performance. Furthermore, a few students mentioned that their level of anxiety increased when exams approached. One of the students reported,

"After using my mobile phone for a long time, I suddenly got tense and thought, 'Allah! I did not complete my work.' My mother will definitely scold me if my school teacher informs her. Still, I continued to use it." (FGD; Student; Bangla medium school)

3.2.4. Development of Digital Literacy

A small number of participants mentioned that screen time encourages children to improve digital literacy, as there are plenty of resources on digital platform which children use as guidance for preparing their academics. They also mentioned that children can learn almost anything instantly by accessing information online. Besides, they mentioned that screen time allows children to explore apps, video games, and software in different languages, particularly English, which contributes to children's digital literacy and language development. One student said,

"You may notice, there are many learning things in the digital devices, I mean, video games, it is not just a game, there are many learning things involved with video games, like graphics, physics, coding, and so on." (IDI; Student; English medium school).

Furthermore, some teachers highlighted the benefits of using digital devices in the classroom. They noted that multimedia resources captured students' attention and encouraged active participation. Compared to traditional lectures, they found digital tools more effective, as lectures alone often failed to maintain children's focus. Incorporating elements like role play and sound helped sustain students' engagement. Additionally, visualizing complex topics gave students a practical understanding, making it easier for them to grasp difficult concepts. One teacher said,

"Their (children's) concentration increased if we use digital devices in the classroom. They feel curious if we provide lectures using audio and video in the classroom. It is psychological that if you want someone to focus on something, then you have to use role play and sound along with speech delivery." (IDI; Teacher; English medium school)

a. Improvement in digital communication skills

Some participants expressed those certain activities of screen time actively enhanced the communication skills of children through collaborative gaming and shared learning experiences. They stated that children connect online with their friends to play games, as some games allow them to interact with their friends as part of the game. Moreover, sometimes the class teacher gave an assignment in the classroom by forming a group, which encouraged students to interact with their classmates and form a group connecting online through WhatsApp or Messenger to complete the class assignment. One student said,

"I love playing games, we have a group for playing games, I enjoy it very much, sometimes I talk with them, this group seems like a community to me." (IDI; Student; English medium school)

b. Engagement in extracurricular learning:

Some parents, students, and teachers mentioned that there is availability of educational games and learning apps which assist children to improve skills beyond their entertainment, as these offer a platform to explore and discover their interests. Based on their preference, children can learn anything, such as dancing, painting, science, and sports, on their own without the help of others. They mentioned that these diverse activities help children identify their passions.

3.3. Parental Strategies to Regulate Students Screen Time

Parents adopted diverse strategies to manage their children's screen exposure. The following subthemes summarize these approaches.

3.3.1. Setting Time Limit

Data revealed that most of the parents mentioned setting time as the first strategy to restrict children's screen time, though they think that the strategy does not work all the time. They explained that, though they set time for their child's screen time but their efforts remain futile, because children never stop using devices until parents take the device by force. One parent of an English medium school said,

"I do believe that each parent tries their best to restrict their children's screen time, but all we know is that 2 hours or 1 hour, whatever, all is equal to the children because they will not be satisfied with whatever time is given to them. If you ask them to stop the device after 20 minutes, they will request you to give them more time. If you ask them to stop the device even after 2 hours, even then they will request you to give them more time". (FGD; Parent; English medium school).

Echoing the same voice, parents claimed that they are bound to snatch or unplug the device (e.g. mobile, laptop, or tablet) from children in order to impose restrictive rules in order to reduce screen time. One parent of an English medium school said,

"Even though I limit their screen time but they do not listen to that at all; what I do now when I see that the time has been over, what time was given, then I just snatch the device. I think spending screen time more than 1 hour is excessive use" (FGD; Parent; English medium school)

3.3.2. Blocking WiFi or the Internet

An interesting strategy was revealed from the discussion of parents, where some parents mentioned blocking the WiFi connection to reduce children's screen time. One parent of an English medium student said,

"There is a setting in my husband's mobile which can block the WiFi; their main attraction is using the internet, they do not have so much interest in other things. When the internet is blocked, then they give back the mobile instantly". (FGD; Parent; English medium school).

Similar findings were revealed from the students' voices. They said that their parents sometimes block or switch off the internet connection if they overuse the devices. One student from an English medium school said,

"My parents ask me to turn off my mobile phone before going to sleep, but when I don't pay heed to them after asking me repeatedly, then they just take away my mobile. Sometimes they block the internet connection too" (IDI; Students; English medium school)

3.3.3. Encouraging Children's Self- Regulation

Rather than setting a time limit for children, some parents, especially working parents, emphasized teaching children self-regulation as they were unable to restrict their children's screen time. They emphasized motivating the children by giving suggestions and recommendations for self-determination, and the time restriction. One parent of an English medium school said,

"I could not be able to impose any rule. Because I do believe that, as we are both working parents, we cannot monitor our child all the time. If I impose any rules today, I will not be able to maintain them tomorrow. That's why I try to develop some values in him so that he can determine his screen time by himself. Besides this, I try to monitor his discipline, but I could not restrict his screen time to two hours." (FGD; Parents; English medium school).

Similar findings were revealed from the discussion of students, where students voiced against the restrictive strategy of parents. They said th[at the friendly behavior of parents can play an

important role in developing a child's responsibility for self-determination of screen time. One student of an English medium school said,

"It would be too much if parents become too strict, because if they become friendly, they can make us understand the detrimental effects of excessive use of devices. They (parents) should not be strict to an extreme level. They can tell us about how much time we should use the device. But I don't support the extreme level of strictness." (IDI; Student; English medium school)

3.3.4. Engaging Children in Alternative Activities

Some parents mentioned engaging children in physical activities as precautionary steps to keep children active and redirecting them from overexposure to screen use. They mentioned about playing football and badminton in order to make them physically active. Moreover, some parents mentioned involving the children in different kinds of learning centers, like skating, karate, dancing, and painting, to keep children active. Interestingly, some parents mentioned involving children in household chores to reduce children's screen time. In addition, some parents added providing delicious food to the children or other rewards for them if they reduced excessive ST. Besides this, some parents also mentioned taking the child for a visit outdoors to reduce their screen time, but this was not feasible at all times due to the work schedules of the parents.

3.3.5. Promoting Educational Content

Most of the parents mentioned encouraging children to view learning content by providing suggestions, so they could try to motivate the children to utilize their screen time positively. One parent from a Bangla medium school said,

"As I could not restrict my child's screen time, I thought about how the screen time could be used for something good. I used to suggest to him to view something good contents like motivational or learning content. I tell him to enjoy the screen time but in a positive way." (IDI; Parent; Bangla medium school).

Overall, the findings highlight a complex interplay between screen time and children's physical, behavioral, and psychological development. While excessive screen exposure was associated with sleep disturbances, aggression, social isolation, and academic decline, moderate and guided use demonstrated potential benefits in enhancing digital literacy and communication skills. Parents play a crucial role in mediating this balance through both restrictive and participatory strategies.

4. Discussion

The current research sheds light on perceptions among the students, parents, and teachers regarding excessive screen time and its aftermath. In addition, it also illustrates certain strategies that can be acted on to balance screen time for school-going children.

In this study, we found that all the participants had access to smartphones, followed by most of them indulging in smart televisions, laptops, and tablets. In terms of perceptions, the majority of participants expressed negative views regarding excessive screen time, whereas a smaller proportion of participants shared some positive perspectives about screen use. In terms of the negative effects of screens, they suggested physical problems such as sleep hindrances, difficulties in vision, increased sedentary lifestyles leading to pain, discomfort, and obesity. Furthermore, they enumerated some behavioral issues such as irrational and hostile behavior, impaired communication, reduced pro-activeness, hampered eating habits, and creating idols or role models and enacting them. Certain mental health problems were also reported in this qualitative investigation, such as the risks of the development of stress, anxiety, and depression among the children. The parents also feared that excessive ST could be deleterious to their academic progression. However, the parents also mentioned some positive aspects of ST, such as the development of digital literacy, enhanced communication skills on digital platforms, and participating in various extracurricular activities.

In this study, some points were mentioned concerning strategies that they would otherwise implement for their children to monitor and maintain their ST. Approaches such as setting time limits, blocking internet connectivity, encouraging children's self-regulation, creating device-free time, and pushing them to engage in learning content while using devices were some ways parents thought were useful for children in the coming days to attain an equilibrium between the normal and digital world.

Our findings were consistent with other research. For instance, a quantitative investigation done in Goa, India, revealed that most of the parents felt that their child is spending more time using smartphones (79%), television (73%), followed by video games (51%).[18] Furthermore, 60% of parents mentioned that prolonged screen time is detrimental to children's eye health, and as a consequence, 71% of parents are trying to seek outdoor activities to do with their children despite their busy schedules. [18] A review of the relevant scientific literature found that screen time was negatively associated with sleep outcomes, mainly shorter sleep duration and delayed sleep timing, in 90% of the studies.[19] Due to the availability of devices in the child's bedroom, ST is considered a primary reason for insufficient and poor-quality sleep, which occurs by means of some mechanisms as: i) time exchange -while an increasing amount of time is spent in front of screens, a dozen use less on sleep. (ii) Mental activity, Psychological and physiological alertness, content of theme, and communication on social media play a role as well, which may inhibit not only the effort to fall asleep but also sleep maintenance. (iii) Effect of light on circadian rhythm; the impact on circadian rhythm is by suppressing the production of the sleep-promoting hormone melatonin because of bright light coming from screens and in their place. [19–21]

Consistent with previous qualitative research, several parents were anxious about the fact that screens were becoming an addiction for their children. [22], Additionally, many parents expressed concern about the "dull" or "zoning out" effect of screens. They also highlighted worries regarding the impact of screen use on children's attention spans and potential for antisocial behavior. [23]

A relevant meta-analysis revealed that television viewing and video game playing appeared to be the activities that most negatively affected the academic outcomes in children. Additionally, recent research in Wuhan, China, expressed that viewing television on school days was negatively linked with academic performance, physical activity, and anxiety states; whereas, television viewing on non-school days was positively connected with sleep duration.[24] Additionally, using electronic games was positively correlated with night snacks and less breakfast intake, but negatively related with sleep time and self-esteem. Lastly, using social media was negatively linked to academic performance; however, it was positively associated with BMI z-score, physical activity, and anxiety states. Additionally, evidence suggests that all parents reported the conflicts between family members as a consequence of screen use. [25] This involved breakdown in the relationship between parents and children, between siblings, and between parents with different styles or expectations around managing screen time. Other sub-themes emerging from the qualitative narrative included: decreased face-to-face communication and impacts on the behavior and well-being of the children. Another systematic review and meta-analysis. expressed that, parents confessed that prolonged screen usage hampered their children's normal childhood; also affected the children's psychological and physical development, and devices acted as an obstacle in terms of communication and family time with their children. [26] They also responded by adding that the sedentary nature of using gadgets could affect their children's social functioning and physical activity, which could result in social separation and childhood obesity, respectively.

Evidence suggests that parents believed that it was essential to provide children opportunities to learn how to use technology; another perceived benefit was that screen time offered options for learning and education. Additionally, most of the parents interviewed believed screen time was important for the relaxation of their children. [22]

Moreover, findings indicate that some of the participants emphasized parents' roles to regulate and control their children's ST behavior through establishing rules and being more punctual about monitoring their children's ST time. Participants also discussed both physical and mental health

benefits of playing outside or engaging in physical activities, which concentrate mental health, enhance the immune system, and cognitive development. [22] In addition, some authors suggest that setting time limits for screen-viewing in relation to specific events, monitoring that involves the whole family, which in turn leads to inventing a family-specific set of other activities instead of screen viewing, and lastly, developing a child's self-control and discipline to regulate their own screen viewing. [27]

Additionally, evidence suggests that some parents claimed that they used warnings, timers, or settings on the device to enforce the time limits of screen-viewing for the kids. [25] Another paper adds that implemented strategies included applying rules like "no screen time during certain times of the day", keeping away devices and their remote controls from children, or simply turning off the electronic equipment. [26] In addition, parents employed tactics such as increased quality time with the children and 'outdoor physical activities' to achieve digital screen balance." Similarly, parents agreed that it is empirically evident that establishing good patterns through role modelling was more effective than early childhood television viewing and promoting more physically active lifestyles. [26]

Screen time is an unavoidable fact these days. It serves as a relief at times for the busy and tired parents who are overburdened with different kinds of demands, workloads, and life hustles. Because of the small nuclear family set up we have these days and no, or very little, extended family support, media and devices are those options that parents can choose to keep their children entertained, safe for a while. In this digital era, parents know for sure that being technologically advanced is highly essential for their education as well as for future job security, hence they allow it to a certain extent. It can also be said that withdrawal of these gadgets can lead to emotional outbursts or aggressiveness in children, which many parents would expect, and some would fear the management of these situations, some due to lack of time, and some would perceive themselves as unable to control these disruptive behaviors.

Lastly, there is scope for immense research which would provide evidence relating to screen time and its association with children's overall health and development, so healthcare providers can provide consistent and evidence-based education to the parents and guardians.

5. Conclusions

Excessive involvement with gadgets and devices can have both positive and negative impacts on children. This qualitative paper attempts to elaborate on the insights of parents, teachers, and students regarding ST and also elucidate some interventions that could be applied to reduce ST. Overall, it is essential for parents, educators, and healthcare professionals to comprehend the possible perils of imprudent ST as well as execute relevant strategies to promote the healthy development of children. The findings underscore the importance of culturally appropriate guidance, awareness campaigns, and community-level support to empower families in managing screen time effectively. Collaborative efforts between schools, healthcare providers, and policymakers can also play a vital role in promoting digital well-being among adolescents. Future interventions should prioritize family-centered approaches, promote digital literacy, strengthen parental capacity, and integrate screen time education into school health programs to encourage healthier technology use among early adolescents.

Author Contributions: Conceptualization, S.H.K., F.T., R.H.; methodology, S.H.K.; formal analysis, S.H.K., N.S.; investigation, S.H.K., N.S.; data curation, S.H.K., M.S.A.; writing, original draft preparation, S.H.K., N.S., M.S.A.; writing, review and editing, S.H.K., N.S., B.K.S., T.R.S., M.S.A., F.T. and R.H.; supervision, F.T. and R.H.; project administration, S.H.K.; Senior Author, F.T. and R.H. both performed the role of senior author. All authors have read and agreed to the published version of the manuscript.

Funding: The current study was financially supported by the Bangladesh government's Mujib100 Research Grant for Women award, in collaboration with icddr, b, grant no. 1945.

Institutional Review Board Statement: The protocol of this qualitative research was approved by the Institutional Review Board (IRB) of icddr,b (Protocol No: PR-22002).

Informed Consent Statement: Written informed consent was obtained from all respondents (students, parents, and teachers), and assent was also secured from the students, as they were above 11 years of age, before conducting the interviews. All respondents were informed in Bengali about their rights regarding voluntary participation, including the option to withdraw from the interview at any time. The interviewers clearly explained the study's objectives, the purpose of their involvement, their roles, potential risks and benefits, as well as assurances of anonymity and confidentiality. After being fully informed about these aspects, respondents made their own decision about whether to take part in the study.

Data Availability Statement: The data from the current study is available from the corresponding author upon reasonable request.

Acknowledgments: The author would like to acknowledge their affiliation with the icddr,b and its core donors who provide unrestricted support to icddr,b for its operations and research, including the Governments of Bangladesh and Canada. We gratefully acknowledge our core donors for their support and commitment to icddr,b's research efforts. The authors are also grateful to the school authorities for their unconditional support.

Conflicts of Interest: The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

Abbreviations

The following abbreviations are used in this manuscript:

| | |
|-------|------------------------|
| IDI | In-Depth Interview |
| FGD | Focus Group Discussion |
| Wi-Fi | Wireless Fidelity |

References

1. Lindsay, A.C.; Arruda, C.A.; Machado, M.M.; Greaney, M.L. "If you let them, they will be on it 24 hours a day": qualitative study conducted in the United States exploring Brazilian immigrant mothers' beliefs, attitudes, and practices related to screen time behaviors of their preschool-age children. *JMIR Pediatr. Parent.* 2019, 2, e11791.
2. Hill, D.; Ameenuddin, N.; Reid Chassiakos, Y.L.; Cross, C.; Hutchinson, J.; Levine, A.; Boyd, R.; Mendelson, R.; Moreno, M.; Swanson, W.S. Media and young minds. *Pediatrics* 2016, 138.
3. Hammons, A.J.; Villegas, E.; Robart, R. "It's been negative for us just all the way across the board": Focus group study exploring parent perceptions of child screen time during the COVID-19 pandemic. *JMIR Pediatr. Parent.* 2021, 4, e29411.
4. Anderson, M.; Jiang, J. *Teens, social media & technology* 2018.
5. Huston, A.C.; Anderson, D.R.; Wright, J.C.; Linebarger, D.L.; Schmitt, K.L. *Sesame Street viewers as adolescents: The recontact study*. In *G Is for Growing*; Routledge: New York, NY, USA, 2014; pp. 131–143.
6. Willoughby, T. A short-term longitudinal study of Internet and computer game use by adolescent boys and girls: prevalence, frequency of use, and psychosocial predictors. *Dev. Psychol.* 2008, 44, 195.
7. Rajaa, S.; Rehman, T.; Surendran, G.; Sulgante, S.; Thulasingam, M. An initiative to limit screen-time in children aged between 6 and 18 years in an urban area in Puducherry: a qualitative study. *Int. J. Adolesc. Med. Health* 2022, 34, 281–287.
8. Twenge, J.M.; Campbell, W.K. Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. *Prev. Med. Rep.* 2018, 12, 271–283.

9. Solomon-Moore, E.; Matthews, J.; Reid, T.; Toumpakari, Z.; Sebire, S.J.; Thompson, J.L.; et al. Examining the challenges posed to parents by the contemporary screen environments of children: a qualitative investigation. *BMC Pediatr.* 2018, 18, 1–2.
10. Lissak, G. Adverse physiological and psychological effects of screen time on children and adolescents: Literature review and case study. *Environ. Res.* 2018, 164, 149–157.
11. Mukhametzyanov, I. Screen time and health of children and adolescents. In Proceedings of the 1st International Conference on Technology Enhanced Learning in Higher Education (TELE), 24 June 2021; IEEE: 2021; pp. 252–255.
12. Neophytou, E.; Manwell, L.A.; Eikelboom, R. Effects of excessive screen time on neurodevelopment, learning, memory, mental health, and neurodegeneration: A scoping review. *Int. J. Ment. Health Addict.* 2021, 19, 724–744.
13. Khan, A.; Uddin, R.; Burton, N.W. Insufficient physical activity in combination with high screen time is associated with adolescents' psychosocial difficulties. *Int. Health* 2018, 10, 246–251.
14. Sigman, A. Time for a view on screen time. *Arch. Dis. Child.* 2012, 97, 935–942.
15. Sanders, W.; Parent, J.; Forehand, R. Parenting to reduce child screen time: A feasibility pilot study. *J. Dev. Behav. Pediatr.* 2018, 39, 46–54.
16. Poulain, T.; Meigen, C.; Kiess, W.; Vogel, M. Media regulation strategies in parents of 4- to 16-year-old children and adolescents: a cross-sectional study. *BMC Public Health* 2023, 23, 371.
17. Guest, G.; Namey, E.; Chen, M. A simple method to assess and report thematic saturation in qualitative research. *PLoS ONE* 2020, 15, e0232076.
18. Shetty, A.; Naik, N.; Usgaonkar, U.P. Parents' perception about children screen time and myopia during COVID-19 pandemic. *Kerala J. Ophthalmol.* 2023, 35, 161–167.
19. Hale, L.; Guan, S. Screen time and sleep among school-aged children and adolescents: a systematic literature review. *Sleep Med. Rev.* 2015, 21, 50–58.
20. Cain, N.; Gradisar, M. Electronic media use and sleep in school-aged children and adolescents: A review. *Sleep Med.* 2010, 11, 735–742.
21. Crowley, S.J.; Acebo, C.; Carskadon, M.A. Sleep, circadian rhythms, and delayed phase in adolescence. *Sleep Med.* 2007, 8, 602–612.
22. Hinkley, T.; McCann, J.R. Mothers' and father's perceptions of the risks and benefits of screen time and physical activity during early childhood: a qualitative study. *BMC Public Health* 2018, 18.
23. Adelantado-Renau, M.; Moliner-Urdiales, D.; Cavero-Redondo, I.; Beltran-Valls, M.R.; Martínez-Vizcaino, V.; Álvarez-Bueno, C. Association between screen media use and academic performance among children and adolescents: a systematic review and meta-analysis. *JAMA Pediatr.* 2019, 173, 1058–1067.
24. Yan, H.; Zhang, R.; Oniffrey, T.M.; Chen, G.; Wang, Y.; Wu, Y.; et al. Associations among screen time and unhealthy behaviors, academic performance, and well-being in Chinese adolescents. *Int. J. Environ. Res. Public Health* 2017, 14, 596.
25. Arundell, L.; Gould, L.; Ridgers, N.D.; Ayala, A.M.; Downing, K.L.; Salmon, J.; Timperio, A.; Veitch, J. "Everything kind of revolves around technology": a qualitative exploration of families' screen use experiences, and intervention suggestions. *BMC Public Health* 2022, 22, 1606.
26. Chong, S.C.; Teo, W.Z.; Shorey, S. Exploring the perception of parents on children's screentime: a systematic review and meta-synthesis of qualitative studies. *Pediatr. Res.* 2023, 94, 915–925.
27. Jago, R.; Zahra, J.; Edwards, M.J.; Kesten, J.M.; Solomon-Moore, E.; Thompson, J.L.; et al. Managing the screen-viewing behaviours of children aged 5–6 years: a qualitative analysis of parental strategies. *BMJ Open* 2016, 6, e010355.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.