

Social and Behavioural Changes in Children Due to Extended Use of Mobile Phones in India

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Abstract—Digital technology and smartphones have significantly changed the lives of children in India. Affordable Internet and improved digital access have made mobile phones an everyday essential. These devices shape how children communicate, learn, and spend their free time by providing access to educational content, entertainment, and social networking. However, prolonged and unrestricted use may negatively affect social development, behaviour, and mental health (Yogesh et al., 2024). This study examined the impact of extended mobile phone use on children in India. **Objective:** This study aimed to assess the mental and social changes resulting from prolonged use, analyze the social and behavioral consequences of excessive screen time, and explore the roles of parents, educators, and decision-makers in supporting responsible use. **Methodology:** This study uses a descriptive-analytical research design based on secondary data from peer-reviewed journals, books, government reports, and publications by organizations such as UNICEF, the World Health Organization, and the Internet and Mobile Association of India. Thematic analysis detected key patterns in mobile phone use, behavioral changes, and social engagement. **Findings:** Results show that Prolonged mobile phone use was associated with heightened irritability, reduced attention span, digital dependence, and decreased participation in outdoor activities. Excessive time spent on digital devices may hinder cognitive development and scholastic concentration. Socially, children are shifting from face-to-face to virtual communication, which may limit the development of key skills, such as compassion and teamwork. Excessive use can also weaken family relationships and increase exposure to online risks, such as cyberbullying. The study shows that while mobile phones are essential to modern life, excessive use can harm children's social and behavioral development. Parental supervision, digital competence, and policy

measures are important for encouraging balanced and responsible mobile phone use among children.

Index Terms—Mobile phones, children, social behavior, screen time, digital exposure, India.

I. INTRODUCTION

Digital technology has rapidly advanced. Smartphones are now widely available and have changed the way children in India interact with their environment. (Idoiaga-Mondragon et al., 2025) Over the past 10 years, mobile phones have become a regular part of children's lives, shaping how they communicate, learn, and connect. (NK & CG, 2025) Affordable internet and expanded digital access mean many children start using mobile devices at a young age. On the positive side, digital access has enabled children to access educational resources, develop technical skills, and stay connected with peers and family (Shah & Phadke, 2023). At the same time, increased screen time is now normal as people grow up, and this change can also bring certain drawbacks, such as challenges to social development and well-being (Adela et al., 2025). (Aggarwal et al., 2024). India is one of the world's largest digital markets, with over 750 million Internet users, many of whom are young (Internet and Mobile Association of India [IAMAI], 2023). Research shows that children in India spend approximately 2–4 hours a day on mobile phones, frequently exceeding the recommended limits (Common Sense Media, 2021). According to the World Health Organization (2019), children aged 5-17 years are recommended to have no more than 1 h of recreational screen time per day, and even less for children under 5. A UNICEF report (2021) notes that

more access to digital devices has changed how children interact, moving their social lives from face-to-face to online. The World Health Organization (2019) also advises limiting children's screen time, as excessive digital exposure can be harmful. Recent studies in the Indian context have revealed that prolonged mobile phone usage is associated with noticeable changes. Recent research in India has shown that spending a lot of time on mobile phones is linked to changes in how children behave socially. Excessive screen time means children have fewer chances for face-to-face interaction, which is important for learning communication, empathy, and cooperation (Sharma & Joshi, 2021). More children now choose to connect through social media and games, which may cause social withdrawal and less real-world interactions. (Peprah et al., 2024) Reports also show that over 70% of schoolchildren use mobile devices every day, and many are becoming dependent on them and spending less time outdoors (Ministry of Education, Government of India, 2022). Studies have also highlighted that excessive mobile phone use can affect family relationships, as children spend less time interacting with parents and siblings (Chatterjee & Saha, 2020). Furthermore, peer relationships are increasingly influenced by Internet platforms, commonly resulting in superficial exchanges and increased exposure to risks such as cyberbullying and social comparison. (Singha & S., 2024) It is important to note that changes in children's social and behavioural patterns are affected by various factors beyond mobile phone use. Urbanisation, family structure, availability of safe play spaces, parental involvement, socioeconomic status, extracurricular opportunities, and cultural attitudes toward technology all play important roles. These factors can confound or interact with the impact of mobile phone use in various ways. For example, children in city settings may have higher levels of digital exposure due to better access to devices but may also experience less opportunity for outdoor play, which can affect their social development independently of screen time. Socioeconomic status may affect both the availability of mobile phones and the presence of support systems and alternative recreational activities. Parental involvement and family structure can moderate the effects of mobile phone use by shaping household rules, providing supervision, and encouraging offline interaction. Similarly, cultural attitudes toward

technology may influence how digital devices are embedded into daily life and the emphasis placed on balancing online and offline experiences. Considering these factors provides a more comprehensive understanding of the relationship between digital technology and children's social development. Since the pandemic, children's mobile phone use has increased due to online learning and electronic communication (Presta et al., 2024). This rise has supported continued education and digital skill development during school closure. However, concerns remain regarding the enduring effects on children's social development and behaviour. This study reviews national and regional data to assess how extended mobile phone use affects children's social and behavioral patterns in India.

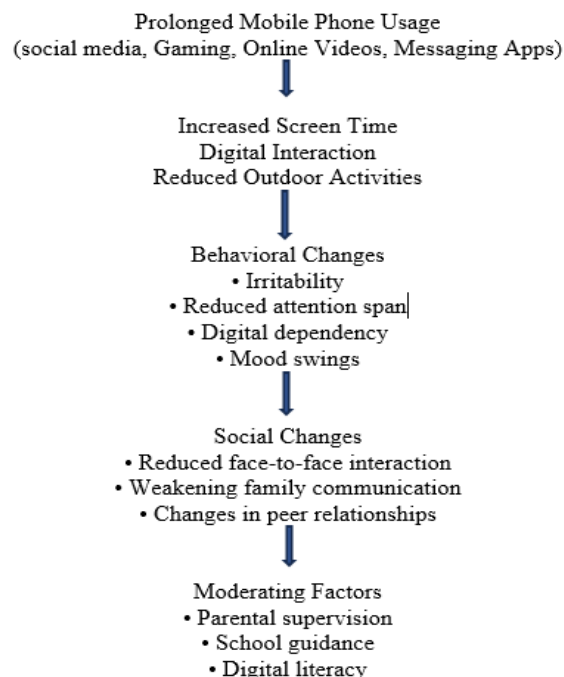
II. OBJECTIVES

- To examine the mental and social changes in children due to extended mobile phone use in India.
- To analyze the social and behavioural consequences associated with excessive display time.
- To explore the role of key stakeholders in encouraging balanced mobile phone use.

III. CONCEPTUAL FRAMEWORK

The conceptual framework of this study illustrates the relationship between prolonged mobile phone use and social and behavioural changes in children. As digital technology expands and smartphones become more accessible in India, mobile phones have become central to children's daily routines. In this system, long-term mobile phone use is the independent variable, while children's social behaviour, psychological well-being, and lifestyle patterns are the dependent variables. Extended mobile phone use exposes children to digital content such as social media, online games, videos, and messaging apps. These activities influence their routines, communication styles and interactions. According to the Social Learning Theory, children adopt behaviours by observing and imitating their environment, including digital media. Prolonged device use can lead children to adopt behaviours and attitudes from

internet platforms and communities, and displacement theory suggests that time spent on digital devices can replace essential activities such as outdoor play, reading, socializing, and family conversations. As a result, excessive mobile phone use may limit children's opportunities to develop key social and emotional skills through real-life experiences. The framework also considers psychological and environmental factors. Consuming online entertainment and using social media can affect children's attention spans, emotions, and relationships. Research indicates that heavy screen time may cause irritability, difficulty focusing, digital addiction, and reduced participation in physical activity. The framework highlights the important roles of parents, educators, and decision-makers. Parental supervision, digital competence education, and support for responsible technology use can influence children's mobile phone habits. Support from parents and teachers helps children develop healthy digital behaviors and mitigates the negative effects of excessive use. To summarize, the framework indicates that prolonged mobile phone use can lead to behavioral changes such as irritability, reduced attention, and digital addiction, as well as social changes such as decreased face-to-face interaction and weaker family bonds. These effects can be reduced by following definite guidelines, increasing awareness, and adopting responsible digital habits.



IV. METHODOLOGY

This study examines the effects of prolonged mobile phone use on children's social and behavioral patterns in India using a systematic approach to achieve its research objectives.

V. RESEARCH DESIGN

This study used a descriptive-analytical research design. The descriptive component explains children's mobile phone usage and related social and behavioral changes, while the analytical component examines links between long-term use and psychological, social, and behavioral effects. This research primarily analyzed existing studies and reports on children's digital behavior.

Nature of Study

This study was based on a secondary data analysis. Information on children's mobile phone use and its developmental effects was gathered from existing sources, enabling the study to review prior research and identify key trends and patterns.

Data Sources

The data for this study were collected from various reliable sources, including

- Peer-reviewed academic journals and research articles.
- Government reports and policy documents.
- Publications by international organisations such as UNICEF and the World Health Organisation.
- Reports from national institutions and research organisations, such as the Internet and Mobile Association of India.
- Books, online databases, and credible websites related to child development and digital technology.

These sources provided valuable information on children's screen time, behavioral changes, and the social effects of mobile phone use.

Sampling Technique

Because this study used secondary data, purposive sampling was used to select relevant research articles, reports, and publications. Only studies that focused on children's mobile phone use, screen time, and psychological and social effects were included.

Data Collection Method

Data were collected through the review and analysis of published studies, statistical reports and research papers. These sources provided information on mobile phone use, screen time, behavioral outcomes, and social changes in children.

Data Analysis Technique

The data were analyzed using thematic analysis to identify common themes and patterns regarding the effects of prolonged mobile phone use on children's social and behavioral development. The analysis focused on the key topics. Given the reliance on secondary data, purposive sampling was used to select relevant articles, reports, and publications. Only studies focusing on children's mobile phone use, screen time, and associated psychological and social effects were included. The results of different studies were compared and combined to draw clear conclusions about how mobile phone use affects children in India.

Limitations of the Study

This study relies exclusively on secondary data and does not include primary data collection methods, such as surveys or interviews. The findings were based on previous research and reports. Variations in research methods and sample groups across these studies may influence the interpretation of the results regarding the effects of mobile phone use and screen exposure on children's social, behavioral, and psychological development. It is important to acknowledge that secondary sources may be subject to certain biases, such as selection bias, publication bias, or differences in how the data were collected and reported. Some studies may have focused on specific regions, age groups, or socioeconomic backgrounds, which can affect the generalizability of the conclusions. To address these biases, this study incorporated data from diverse sources and prioritized peer-reviewed, reputable publications. Nonetheless, the possibility of residual bias remains, and the results should be interpreted with these limitations in mind.

VI. LITERATURE REVIEW

The increasing use of mobile phones and digital devices among children has become a global concern because of its potential impact on their physical,

cognitive, and social development. According to the World Health Organization (2019), children under the age of five should not exceed one hour of screen time per day, as excessive exposure is associated with reduced physical activity, delayed cognitive development, and behavioral problems. Studies across different countries further indicate that children engaging in more than three hours of daily screen time are more likely to experience sleep disturbances and attention-related problems. Globally, digital technology is playing a significant role in shaping children's environments. A report by UNICEF (2021) highlights that one in three Internet users worldwide is under the age of 18, demonstrating widespread digital exposure among children. While technology enhances learning and communication, excessive usage may reduce face-to-face interactions and increase risks, such as cyberbullying and digital dependency. Supporting this, Common Sense Media (2021) found that children aged 8–12 years spend an average of 4 hours and 44 minutes daily on-screen media (excluding schoolwork), which is linked to lower concentration levels and decreased participation in physical activities. Several empirical studies have explored the psychological and behavioral implications of prolonged screen exposure. Twenge (2018), in a large-scale study involving over 500,000 adolescents, found that individuals who spent more than five hours daily on smartphones were twice as likely to report depression and loneliness. Similarly, Christakis (2016) reported that early exposure to digital media may lead to attention deficits and delayed language development in young children. Przybylski and Weinstein (2017), however, suggested that moderate use of digital devices may not be harmful, but excessive use is associated with reduced psychological well-being and life satisfaction. Experimental evidence also supports the negative effects of excessive digital engagement. Uhls (2014) demonstrated that children who abstained from digital devices for five days showed significant improvement in recognizing facial emotions and social cues. Furthermore, Livingstone (2018) emphasized that increased digital communication is gradually replacing face-to-face interactions, potentially affecting the development of interpersonal skills such as empathy and communication. Rideout (2017) observed that children aged 0–8 years spend approximately 2.5 hours daily on digital media, often

at the cost of outdoor play and family interaction. Additionally, Griffiths (2017) highlighted that excessive smartphone use may lead to behavioral addiction symptoms, including anxiety, irritability and mood swings.

VII. NATIONAL PERSPECTIVE

In the Indian context, rapid technological advancements and affordable Internet access have significantly increased children's exposure to mobile devices. The Internet and Mobile Association of India (2023) reported that India has over 750 million Internet users, with a large proportion of them being children and adolescents. It is estimated that 60–70% of urban children have regular access to smartphones, primarily for entertainment, gaming, and education, and the COVID-19 pandemic further accelerated digital engagement among children. The Ministry of Education (2022) reported that more than 70% of schoolchildren relied on mobile devices for online learning, leading to a substantial rise in daily screen time, often exceeding three hours per day. Sharma and Joshi (2021) found that 65% of schoolchildren in Delhi used smartphones for more than two hours daily, with associated behavioral issues such as irritability and reduced attention span.

Excessive smartphone use has also been linked to weakened family relationships and social interactions. Chatterjee and Saha (2020) reported that higher mobile usage correlates with reduced interaction between children and their family members. Similarly, Singh and Kumar (2019) found that nearly 45% of adolescents in North India exhibited moderate to high levels of smartphone dependency, which was associated with sleep disturbances and poor academic performance. Further studies have highlighted the impact of mobile phone usage on physical and social development. Kaur and Sharma (2018) observed that over 50% of children prefer mobile gaming over outdoor activities, potentially affecting their physical health. Reddy, Krishna, and Reddy (2020) emphasized that excessive screen time limits opportunities for real-life peer interaction and social learning. Additionally, Gupta and Verma (2019) reported that 58% of parents are unaware of the recommended screen time guidelines, resulting in unregulated device usage among children. Psychological and social risks have

also been identified in the literature. Patel and Mehta (2021) found that children using smartphones for more than three hours daily are more likely to experience anxiety and reduced academic engagement. Das and Roy (2022) further highlighted that increased use of social media exposes children to risks such as cyberbullying, social comparison, and psychological stress.

VIII. FINDINGS OF THE STUDY

This study analyzed social and behavioral changes among children due to prolonged mobile phone use in India using secondary data sources, including government reports, international organization publications, and peer-reviewed studies. The thematic analysis of the available literature revealed several important patterns related to children's mental health, social behavior and family interactions.

Increasing Screen Time Among Children

One of the most significant findings of this study is the rapid increase in children's screen time in India. According to the Internet and Mobile Association of India, India has more than 750 million Internet users, with children and adolescents representing a large share of this population. Reports indicate that children spend an average of 2–4 hours per day on mobile phones, often exceeding the limits recommended by the World Health Organization. The shift to online learning during and after the COVID-19 pandemic has further increased children's reliance on mobile devices for educational activities, entertainment, and communication.

Behavioural Changes and Digital Dependency

The study found that prolonged mobile phone use is closely associated with noticeable behavioral changes in children. Many studies have reported that children who spend excessive time on mobile phones exhibit irritability, impatience, mood swings, and dependency on digital devices. Children may develop a strong attachment to mobile phones and exhibit discomfort or anxiety when they are unable to access them. This growing dependency is often linked to digital addiction and can negatively affect children's daily routines and habits. (Oktay & Ozturk, 2024)

Decline in Attention Span and Academic Focus

Another important finding of this study is the impact of mobile phone usage on children's cognitive abilities

and academic concentration. Exposure to high-speed digital content, games, and social media can lead to fragmented attention and difficulty focusing on academic tasks. (Naik et al., 2025) Research indicates that children who spend long hours on mobile phones often struggle to concentrate on schoolwork, reading, or classroom activities. Excessive screen exposure may negatively influence learning outcomes and academic performance. (Lukram et al., 2026)

Reduction in Physical and Outdoor Activities

The study also revealed that prolonged mobile phone use reduced children's participation in physical and outdoor activities. Instead of engaging in sports, games, or other recreational activities, many children prefer to spend their free time on smartphones, playing games, watching videos, and browsing social media. This shift toward sedentary behavior can negatively affect children's physical health, fitness levels, and sleep patterns. (Physical activity, 2024)

Changes in Social Interaction Patterns

A major social finding of this study is the shift from traditional face-to-face communication to digital interaction. Children increasingly communicate with their friends through social media platforms, messaging applications, and online gaming communities. According to UNICEF, this growing reliance on digital communication can limit opportunities for developing essential social skills, such as empathy, cooperation, and effective interpersonal communication. Consequently, some children may experience social isolation or difficulty in building meaningful relationships.

Impact on Family Relationships

The findings also highlight the influence of mobile phone use on family dynamics. When children spend long hours using mobile devices, they often interact less with their parents and siblings. This reduction in family communication may weaken emotional bonds and reduce opportunities for shared activities and household discussions. Several studies suggest that excessive mobile phone use can lead to decreased family engagement and increased generational communication gaps.

Influence on Peer Relationships

The study found that children's peer relationships are increasingly shaped by the use of digital platforms.

While mobile phones allow children to remain connected with friends, the quality of these interactions may be superficial compared with face-to-face communication. Children may experience social pressure to maintain an online presence or to compare themselves with their peers based on social media content. Such comparisons can affect self-esteem and emotional wellbeing. (Swain, 2024)

Exposure to Online Risks and Cyberbullying

Another important finding is the growing exposure of children to online risks due to prolonged mobile phone use. The increased use of social media and online platforms has made children more vulnerable to issues such as cyberbullying, online harassment, and exposure to inappropriate content. Cyberbullying can have serious psychological effects on children, including stress, anxiety, and emotional distress. (M et al., 2024)

Psychological and Emotional Consequences

This study also identified several psychological effects associated with excessive mobile phone use. Children who spend extended time on digital devices may experience sleep disturbances, stress, anxiety, and emotional instability. Constant exposure to social media content and online comparisons can lead to negative self-perceptions and reduced self-confidence. (Taddi et al., 2024)

Importance of Parental Guidance and Regulation

The final finding emphasizes the critical role of parents, educators, and policymakers in managing children's mobile phone use. Studies suggest that children who receive proper supervision and guidance regarding digital habits are more likely to maintain a healthy balance between online and offline activity. (A Scoping Review of Digital Well-Being in Early Childhood: Definitions, Measurements, Contributors, and Interventions, 2021) Establishing screen-time limits, encouraging outdoor play, and promoting digital literacy can help reduce the negative effects of excessive mobile phone use.

IX. CONCLUSION

The rapid growth of digital technology and the widespread availability of smartphones have significantly influenced the daily lives of children in

India. Mobile phones have become important tools for communication, education, and entertainment purposes. However, this study's findings indicate that prolonged, unregulated mobile phone use can lead to various social, behavioral, and psychological challenges among children. The study revealed that children in India are increasingly exposed to digital devices from an early age, often spending several hours each day on mobile phones. Although digital technology has enabled online learning and information access, excessive screen time has been associated with several negative outcomes. These include behavioral issues such as irritability, reduced attention span, digital dependency, and decreased participation in physical and outdoor activities. The findings also suggest that prolonged mobile phone use can influence children's cognitive development and academic performance by reducing their concentration and increasing distractions. From a social perspective, the study shows that children are increasingly shifting from face-to-face interactions to virtual communication. This shift may affect the development of essential interpersonal skills, such as empathy, cooperation, and effective communication. Additionally, excessive mobile phone use can impact family relationships by reducing direct interactions between children and their parents or siblings. Peer relationships are increasingly shaped by social media and online platforms, which may sometimes lead to superficial interactions and exposure to risks such as cyberbullying and social comparison. Furthermore, the study emphasizes that children who spend long hours on mobile phones may experience psychological effects such as anxiety, stress, and sleep disturbances. These challenges highlight the importance of monitoring and regulating children's digital activities to ensure healthy social and emotional development. In conclusion, although mobile phones are an integral part of modern society and offer many educational and social benefits, their excessive use by children requires careful management. Parents, educators, and policymakers must work together to promote the responsible and balanced use of mobile technology. Encouraging outdoor activities, strengthening family interactions, improving digital literacy, and establishing clear guidelines for screen time can help minimize the negative effects of prolonged mobile phone use. Future studies must address ongoing gaps in the field by conducting longitudinal studies that

track the long-term impact of mobile phone use on children's development across different age groups and settings. Experimental and intervention-based studies are also needed to evaluate the effectiveness of strategies such as digital literacy programs, parental mediation approaches, and school-based guidelines for mitigating negative outcomes. Additionally, further research could focus on differences across regional, socioeconomic, and cultural contexts within India to ensure that the recommendations are inclusive and evidence-based. Ultimately, creating a balanced digital environment will enable children to benefit from technological developments while maintaining healthy social relationships, mental health, and overall development.

X. RECOMMENDATIONS

Based on the study's findings, multiple recommendations can be proposed to reduce the negative social and behavioural effects of prolonged mobile phone use among children in India. These recommendations focus on the role of parents, educators, policymakers, and society in encouraging balanced and responsible use of mobile technology. To create lasting change, the following specific policy measures and programs could be implemented:

- The introduction of government-led digital wellness campaigns, such as a "Safe Screens India" program, can raise national awareness about healthy digital habits among parents and children.
- The Ministry of Education could mandate regular digital literacy workshops in schools, equipping students with information about online safety, appropriate screen time, and the risks of digital addiction.
- State governments could pilot and scale up "Screen-Free Days" in schools, encouraging students to engage in collaborative, creative, and physical activities without digital devices.
- The establishment of community-based digital counselling centres would provide parents and children with guidance on managing device use and accessing resources for digital well-being.
- Policymakers could require technology companies and internet service providers to include parental control features and child-safe

settings as the default on devices marketed for children.

- The creation of clear national guidelines on age-appropriate content and daily screen-time limits, along with widespread dissemination of these guidelines through school handbooks, community clinics, and public service announcements.
- These targeted examples demonstrate how actionable policy initiatives can address the issue at multiple levels and support healthier technology use in childhood.

Parental Monitoring and Guidance

Parents play a vital role in regulating children's mobile phone usage. They should establish clear rules on screen time and ensure children do not spend excessive time on mobile devices. Parents are encouraged to limit screen time according to the World Health Organisation's guidelines, which recommend controlled exposure to digital screens for children. In addition, parents should encourage children to participate in outdoor activities, hobbies, and face-to-face interactions with family members and friends.

Promotion of Healthy Digital Habits

Children should be educated about the responsible and balanced use of mobile technology. Schools and families can promote healthy digital habits by encouraging children to use mobile phones mainly for educational purposes rather than excessive entertainment. Time management skills should also be taught so that children can balance academic activities, recreation, and digital engagement.

Increasing Awareness Among Parents and Communities

Many parents are unaware of the potential risks associated with excessive screen time. Awareness programs should be organised at the community and school levels to educate parents about the psychological, behavioural, and social impacts of prolonged mobile phone usage. Organisations such as UNICEF have emphasised the importance of digital literacy and parental awareness in protecting children from online risks.

Role of Schools and Educators

Educational institutions should play an active role in guiding students toward responsible digital usage.

Schools can implement programs that teach students about digital well-being, online safety, and the potential consequences of excessive mobile phone use. Teachers can also encourage group activities, sports, and classroom discussions that promote interpersonal communication and social interaction among students.

Encouraging Physical and Outdoor Activities

Children should be encouraged to spend more time in physical and outdoor activities such as sports, creative games, and social play. These activities are essential for children's physical, emotional, and social development. Schools and communities should create safe environments where children can engage in recreational activities and develop healthy social relationships.

Government Policies and Regulations

The government can play an important role in addressing excessive mobile phone use among children by introducing policies that promote safe digital environments. Authorities can collaborate with educational institutions and technology companies to develop guidelines that regulate screen time and protect children from harmful online content. Reports by the Internet and Mobile Association of India suggest that increasing digital penetration requires stronger digital safety policies and awareness programs.

Promotion of Digital Literacy and Online Safety

Children should be taught digital literacy skills to understand the safe and responsible use of mobile technology. This includes awareness about cyberbullying, online privacy, misinformation, and responsible behaviour on social media platforms. Educational programs can help children develop critical thinking skills and make informed decisions while using digital devices.

Balanced Use of Technology for Education

Mobile phones should be used as tools to support education rather than becoming sources of distraction. Schools and parents should encourage children to use educational applications, online learning platforms, and other digital resources that support their academic growth. Balanced use of technology can help children benefit from digital innovation while minimizing its negative effects.

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Conflict of Interest

The authors confirm that there are no conflicts of interest that may have influenced the content or findings presented in this paper.

Author Contributions

Mr. Pranshu Kushwaha conceptualized and authored the research paper under the supervision of Dr. Mohd. Husain. contributed to the methodological Rigour of the paper. All authors reviewed and approved the final manuscript.

Ethics approval

This study was carried out by ethical guidelines, with informed consent obtained from each participant before their involvement.

Data availability

data was collected from Secondary sources with the diverse range of sources

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