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SCREEN TIME AND EMOTIONAL REGULATION IN CHILDREN (8–14 YEARS)

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ABSTRACT

The digital age has revolutionized childhood experiences, with children increasingly immersed in screens for education, entertainment, and social interaction. While moderate screen exposure offers cognitive and informational benefits, excessive and unguided screen time has been linked to adverse emotional and behavioural outcomes. This study explores the relationship between screen time and emotional regulation among Indian children aged 8–14 years—a critical period of socio-emotional development. Employing a mixed-method design, data was gathered from 300 children across urban and rural settings in India, alongside inputs from parents and teachers. Quantitative findings revealed a significant negative correlation between screen time and emotional regulation skills, particularly among children with over 4 hours of daily screen exposure. Qualitative themes uncovered frequent mood swings, irritability, impulsive reactions, and emotional withdrawal. The content type (educational vs. entertainment or gaming), the presence or absence of parental mediation, and sleep disruption further influenced emotional health. Urban children were more affected than their rural counterparts, highlighting the role of environment and lifestyle. The paper concludes with recommendations for parents, schools, and policymakers, stressing the importance of digital literacy, emotional education, and structured screen use in safeguarding the emotional well-being of children.

INTRODUCTION

In the 21st century, screens have become central to children's lives. From smartphones and tablets to laptops and televisions, children are now more connected than ever before. According to the Kaiser Family Foundation (2020), children globally spend an average of 4–7 hours daily interacting with screens. In India, the National Sample Survey (2021) indicated that children's average daily screen time rose by 70% post-COVID-19, especially due to the shift to online education and limited outdoor mobility.

For children between 8 and 14 years, this phase represents a vital stage of cognitive, social, and emotional development. It is during this period that children begin to regulate emotions, form identity, develop empathy, and build social relationships. Emotional regulation refers to the ability to recognize, manage, and express emotions in a healthy, socially appropriate manner. The development of this skill is influenced by both intrinsic temperament and extrinsic environmental factors—including family dynamics, peer interaction, and increasingly, digital media exposure.

THE RISE OF SCREEN EXPOSURE

With the rapid digitization of schools, the proliferation of affordable mobile phones, and the growing popularity of entertainment platforms like YouTube, Netflix, and social media apps such as Instagram and WhatsApp, children in India are consuming digital content at unprecedented rates. The digital world offers a range of benefits—instant information access, creativity through gaming and video creation, and academic support. However, it also presents risks: cyberbullying, exposure to inappropriate content, and reduced physical and social engagement.

According to a 2022 report by IAMAI (Internet and Mobile Association of India), over 70% of children aged 8–14 in urban India own or have regular access to smartphones. Meanwhile, rural regions are catching up rapidly with the rise of government-led digital initiatives. With this surge comes concern: is excessive screen time compromising children's emotional well-being?

WHY EMOTIONAL REGULATION MATTERS

Children who struggle with emotional regulation may show frequent temper tantrums, aggressive behaviour, anxiety, low frustration tolerance, or social withdrawal. These difficulties can affect not only academic performance and peer relationships but also long-term mental health. Numerous international studies have explored the link between screen media and emotional dysregulation, citing screen overexposure as a risk factor for emotional immaturity, impulsivity, and even depressive symptoms.

However, there is a paucity of India-specific, age-focused psychological research in this area. Indian children grow up in a vastly different social ecosystem compared to Western contexts, with cultural emphasis on academics, joint family structures, and socio-economic disparities. Hence, findings from Western countries cannot be directly generalized to Indian children.

RESEARCH OBJECTIVES

This paper seeks to bridge that research gap by examining the impact of screen time on emotional regulation in Indian children aged 8–14 years. Specifically, the study aims to:

1. Assess the relationship between screen time duration and emotional regulation capacity.
2. Investigate differences in emotional outcomes between urban and rural children.
3. Examine the moderating roles of content type, sleep habits, gender, and parental mediation.

By combining empirical data with literature-based insights, this paper hopes to inform educators, parents, psychologists, and policymakers on managing digital use for healthier childhood development.

REVIEW OF LITERATURE

This section reviews the theoretical frameworks and prior research findings relevant to screen time and emotional regulation in children, with a mix of Indian and global sources.

THEORETICAL FOUNDATIONS

Social Learning Theory (Bandura, 1991)

Albert Bandura's Social Learning Theory asserts that individuals, especially children, learn behaviours through observation and imitation. Screens often expose children to unrealistic emotional expressions—cartoon violence, exaggerated drama, or impulsive social media behaviour—which may be internalized as acceptable forms of reacting to emotional stimuli. If children see characters responding with aggression, avoidance, or impulsivity, they are more likely to replicate those behaviours, especially in the absence of adult discussion or guidance.

Ecological Systems Theory (Bronfenbrenner, 1979)

Bronfenbrenner's model explains human development as an interaction between multiple environmental systems: family, school, media, culture, and society. Screen time often reduces the richness of face-to-face communication within the microsystem (e.g., between parents

and children), leading to reduced emotional scaffolding. In children who consume media alone, this lack of dialogue about emotions may stunt emotional literacy.

Cognitive Load Theory and Self-Regulation (Sweller, 1994; Thompson, 1994)

Thompson's view of emotional regulation includes biological (e.g., arousal), behavioural (e.g., impulse control), and cognitive (e.g., appraisal) dimensions. Overuse of screens may overwhelm a child's cognitive load with fast-paced, highly stimulating input—thereby impairing self-regulatory processes. The dopamine feedback loop created by gaming, likes on social media, or auto-play features also disrupts emotional balance.

GLOBAL RESEARCH EVIDENCE

Christakis et al. (2004)

In a longitudinal study in the U.S., early TV exposure was significantly correlated with attention deficits and emotional dysregulation by age 7. The effects were more pronounced in children with over 3 hours of daily screen use.

Twenge & Campbell (2018)

This study found that adolescents who spent more than 5 hours per day on screens were twice as likely to report symptoms of depression or anxiety compared to those with under 1 hour. High screen users also showed lower emotional resilience and social confidence.

Domoff et al. (2019)

Using interviews and parental ratings, this study revealed that problematic media use was associated with poorer parent-child relationships and lower frustration tolerance in children aged 8–12.

Rideout & Robb (2019)

A Common-Sense Media study showed that passive screen time (e.g., watching YouTube or scrolling social media) was associated with higher levels of boredom, sleep problems, and emotional detachment. Interactive use (e.g., educational games) had a more neutral or slightly positive impact.

2.3 INDIAN RESEARCH AND CONTEXTUAL STUDIES

Rao & Nair (2021)

In a Mumbai-based cross-sectional study involving 500 children, researchers found that those using screens for more than 3 hours daily had elevated scores on emotional lability and lower empathy levels. Parents noted more tantrums, irritability, and impulsive behaviour.

Sharma & Patil (2020)

This study on 250 school children in Bengaluru showed that screen time beyond 4 hours a day was significantly linked to poor sleep quality and decreased emotional regulation scores. Girls reportedly exhibited more anxiety, while boys showed more aggression—indicating gender-based differences in emotional expression.

Pandey et al. (2022)

Conducting a mixed-method study in rural Uttar Pradesh, researchers found that although children had less access to screens compared to urban peers, those with frequent gaming or video consumption habits showed emotional withdrawal and increased restlessness when offline.

NCERT Report (2021)

A nationwide survey by NCERT during the pandemic found that 67% of parents believed screen time negatively impacted their child's mood and attention span. Teachers reported reduced empathy and difficulty in group collaboration during online learning.

EMERGING TRENDS IN EMOTIONAL CHALLENGES FROM SCREEN USE

Emotional Numbing and Overstimulation

Children exposed to rapid content (e.g., Reels, Shorts, TikTok) may develop shortened attention spans and become desensitized to emotional cues, leading to "emotional blunting"—difficulty in recognizing or processing subtle emotions.

Fear of Missing Out (FOMO)

Social media can create a sense of inadequacy or exclusion in preteens. Seeing peers enjoying activities they're not part of triggers anxiety, jealousy, or sadness—especially in girls aged 10–14.

Disruption and Mood Dysregulation

Blue light from screens and excessive mental stimulation delay sleep onset, reduce sleep quality, and impair mood regulation. A 2021 Indian Pediatrics study linked screen-induced sleep disruption with increased emotional outbursts and decreased self-control.

Summary of Literature

From global evidence to Indian-specific studies, the literature clearly shows a growing consensus: excessive, unsupervised, and content-heavy screen time is a major risk factor for poor emotional development in children. While certain types of screen use (educational, co-viewed, age-appropriate) may offer benefits, the risks of emotional lability, social withdrawal, poor empathy, and anxiety are notably higher in high-screen groups.

Methodology

This section details the research design, sampling framework, tools used, and methods of data analysis for the present study on screen time and emotional regulation among children aged 8–14 years in India.

Research Design

This study employed a mixed-methods approach, combining quantitative and qualitative data collection to better understand both the measurable and subjective impacts of screen time on emotional regulation. The rationale for this design was to gather broad-scale data (using surveys) while also gaining nuanced insights through interviews.

A cross-sectional format was chosen for efficiency and feasibility, allowing for the collection of data at a single point in time across diverse settings. Ethical approval was obtained from relevant institutional boards, and informed consent was secured from parents, teachers, and school administrators. Children's assent was also sought in age-appropriate terms.

SAMPLE

A total of 300 children aged 8–14 years were selected as the primary participants. To ensure diversity in demographic variables, stratified random sampling was used based on region (urban/rural), gender, and socioeconomic background.

Sample Breakdown:

1. Urban Children (n = 150): Delhi, Mumbai, Bengaluru
2. Rural Children (n = 150): Punjab (Amritsar), Bihar (Gaya), Uttar Pradesh (Etawah)
3. Gender: 160 boys and 140 girls
4. Age Groups:
5. 8–10 years: 100
6. 11–12 years: 100
7. 13–14 years: 100

In addition to children, 150 parents and 40 school teachers (both government and private) were included for triangulation.

INSTRUMENTS AND TOOLS USED

Screen Time Questionnaire (STQ)

Adapted from Domoff et al. (2019), this parent-reported survey asked about:

1. Daily duration of screen use (weekday vs. weekend)
2. Type of devices used (smartphones, TV, laptop, tablet)
3. Nature of content (educational, gaming, social media, entertainment)
4. Parental control measures and co-viewing behaviour

2. Emotional Regulation Checklist (ERC)

Developed by Shields & Cicchetti (1997), this 24-item checklist was used to assess:

1. Emotional lability/negativity (e.g., mood swings, anger, crying easily)
2. Emotional regulation (e.g., ability to recover from distress, self-soothing)

Responses were rated by both parents and teachers on a 5-point Likert scale.

Semi-Structured Interviews

Conducted with 30 parents and 10 teachers (randomly selected), interviews explored:

1. Observed changes in children's emotional expression post-screen exposure
2. Behaviour before/after gaming, social media, or binge-watching
3. Family routines, emotional communication patterns, and screen rules

All interviews were conducted in English, Hindi, or Punjabi (as preferred) and transcribed verbatim.

Sleep and Behaviour Diary

In a smaller subset (n = 50), children maintained a 5-day log of sleep timings, screen use duration/content, and emotional reactions (e.g., irritability, sadness, or calmness). This diary helped cross-check survey responses.

DATA ANALYSIS TECHNIQUES

Quantitative Analysis

1. Descriptive statistics: Used to compute mean screen time, frequency of content types, and average emotional regulation scores.
2. Correlation analysis: Pearson's r calculated to measure the relationship between screen time duration and emotional regulation scores.
3. ANOVA (Analysis of Variance): Conducted to explore emotional regulation differences across regions (urban vs. rural), genders, and screen content types.
4. Regression analysis: Used to assess predictive value of screen time and parental involvement on emotional scores.

All quantitative data were processed using SPSS Version 27.

Qualitative Analysis

Interview transcripts were coded using thematic analysis. NVivo software was used to identify patterns such as:

1. Parental stress around digital parenting
2. Child tantrums and digital dependence
3. Mood swings after long screen exposure
4. Perceived gender differences in emotional response to digital content

Triangulation between qualitative and quantitative data enhanced the credibility and reliability of the results.

Ethical Considerations

1. Confidentiality and anonymity of participants were maintained.
2. Parental consent and child assent were mandatory.
3. The study avoided any personally identifying information in both survey and interview responses.
4. Children showing extreme emotional distress (identified during the process) were referred to school counsellors or local psychological support centres with parental knowledge.

DATA ANALYSIS AND FINDINGS

Descriptive Statistics

1. Average daily screen time: 3.7 hours
2. Urban children: 4.3 hours
3. Rural children: 2.9 hours

Content Type Usage:

1. 45% Entertainment (YouTube, Netflix)
2. 25% Gaming
3. 15% Educational content

4. 15% Social media

EMOTIONAL REGULATION SCORES

Children with screen exposure over 4 hours daily demonstrated:

1. Lower emotional regulation scores (mean = 2.4/5)
2. Higher emotional lability (mean = 3.9/5)

Rural vs Urban:

1. Rural children: mean emotional regulation score = 3.6
2. Urban children: mean = 2.8

Correlation and Regression Analysis

1. Screen time vs emotional regulation:
2. Pearson's r = –0.62, statistically significant at $p < .001$
3. Parental mediation vs emotional regulation:
4. Pearson's r = +0.48
5. Regression showed screen time and parental mediation jointly explained 45% of the variance in emotional regulation ($R^2 = 0.45$)

QUALITATIVE THEMES

From interviews with parents and teachers:

1. Mood swings after screen use (reported by 65%)
2. Tantrums when devices were removed (noticed by 70% of teachers)
3. Emotional withdrawal, especially among social media users
4. Increased parental stress managing screen addiction and children's irritability
5. Gender difference: Girls showed more anxiety, while boys displayed more impulsive aggression

DISCUSSION

The findings strongly support the hypothesis that excessive screen time negatively affects emotional regulation in children. This aligns with international literature as well as Indian studies (Rao & Nair, 2021; Twenge & Campbell, 2018).

KEY DISCUSSION POINTS:

1. Imitation of On-Screen Behaviour: Bandura's Social Learning Theory is validated, as children replicate emotional responses modeled in digital content—especially aggression and impulsivity in gaming and cartoons.
2. Ecosystem Influence: Bronfenbrenner's theory helps explain urban children's greater emotional difficulty: more isolation, screen dependence, and reduced family engagement.
3. Parental Mediation Matters: One of the most protective factors identified. Active co-viewing, setting screen limits, and discussing emotional experiences helped children regulate better.

4. Quality vs Quantity: Not just duration, but type of screen content matters. Passive video watching, fast-paced gaming, and emotionally loaded content worsened regulation. Educational or calming content had a neutral or even positive effect.
5. Rural Resilience: Despite growing digital access, rural children retained more outdoor play, community interaction, and family closeness—supporting emotional health.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The digital world is a double-edged sword for children. While it provides rich opportunities for learning and connection, unregulated screen time, particularly beyond 3–4 hours daily, is linked to emotional dysregulation, mood instability, poor frustration tolerance, and social withdrawal.

This study shows that screen use must be viewed through a psychological lens—considering what children watch, how long they watch it, who they watch it with, and how it affects their emotional world.

RECOMMENDATIONS

For Parents:

1. Limit screen use to less than 2 hours/day
2. Create screen-free zones: dining areas, bedrooms, family time
3. Choose educational and emotionally balanced content
4. Discuss content after watching—ask how it made your child feel
5. Encourage offline activities: sports, hobbies, conversations

For Schools:

1. Include digital wellness and emotional regulation education
2. Promote group interaction and empathy-building activities
3. Train staff to recognize signs of screen-related stress or dysregulation

For Policymakers:

1. Develop national guidelines on screen use by age group
2. Fund awareness campaigns for parents on screen risks and emotional development
3. Ensure mental health counsellors in schools

For Technology Designers:

1. Design age-appropriate, non-addictive content
2. Provide built-in screen time reminders
3. Develop features that encourage emotionally intelligent content (e.g., conflict resolution games, emotional awareness storytelling)

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