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Effect of Excessive Mobile Use on the Mental Health of Young Children

Dr. Ramdeo Prasad

Sr. Assistant Professor, P.G. Centre of Psychology, Gaya College, Gaya, Magadh University, Bodhgaya, Bihar (India)

ABSTRACT

The rapid increase in mobile phone usage among young children has raised concerns about its impact on mental health. This study investigates the effect of excessive mobile use on children below 10 years in the Gaya district of Bihar, comparing urban and rural populations. A total of 130 children (65 urban, 65 rural) were selected using random sampling. Data were collected through parent-reported questionnaires, including a Mobile Usage Questionnaire, Child Mental Health Inventory, and behavioral observations. Statistical analyses included mean, standard deviation, t-test, and chi-square test to examine the relationship between mobile use and mental health outcomes. The results indicated that urban children exhibited higher mobile usage than rural children. Excessive mobile use was significantly associated with anxiety, irritability, attention deficits, sleep disturbances, and lower overall mental health scores. Children with controlled screen time demonstrated better emotional regulation, social interaction, and behavioral stability. These findings emphasize the importance of monitoring screen time, promoting structured routines, and implementing parental and educational interventions to mitigate the negative effects of mobile addiction on young children.

Keywords- Mobile Addiction, Mental Health, Children Below 10 Years, Screen Time, Behavioral Issues, Emotional Regulation, Anxiety, Urban-Rural Comparison, Child Development, Bihar.

The rapid advancement of technology and the widespread availability of smartphones have significantly transformed the lifestyles of people across the globe. While mobile devices provide numerous educational and entertainment benefits, excessive use among children has become a growing concern. Young children, particularly those below the age of 10, are increasingly exposed to mobile phones for entertainment, learning, and social interaction. Although these devices can enhance learning and communication, prolonged and uncontrolled usage may adversely affect mental health, including attention span, emotional regulation, social interaction, and overall psychological well-being. Singh (2012) studied the impact of mobile phone usage on the cognitive development of children below 10 years. The study found that excessive mobile use was associated with reduced attention span and difficulties in memory retention.[1] Kumar and Verma (2013) investigated the relationship between screen time and emotional regulation among primary school children. The study found that children with higher screen exposure showed increased irritability and lower emotional control.[2]

Mobile addiction in children refers to excessive, compulsive, or inappropriate use of mobile devices that interferes with normal life activities. Sharma (2014) explored mobile addiction and its effect on social behavior among young children. The study found that children addicted to mobile devices demonstrated poor social interactions and reduced peer engagement.[3] Recent studies indicate that children who spend excessive hours on mobile phones are at risk of developing anxiety, irritability, sleep disturbances, reduced attention span, and even depressive symptoms. Reddy et al. (2015) examined the effects of mobile phone usage on sleep patterns in children aged 6–10 years. The study found that excessive mobile use was significantly associated with delayed sleep onset and poor sleep quality.[4] Patel (2016) investigated behavioral issues related to smartphone use in primary school children. The study found that prolonged use of mobile devices contributed to hyperactivity, attention deficits, and temper tantrums.[5] These negative effects can impact not only academic performance but also social development and emotional stability.

Children in the age group below 10 are particularly vulnerable because their brains are still developing, making them more susceptible to behavioral and emotional changes caused by excessive screen time. Gupta and Singh (2017) studied the psychological impact of mobile games on children below 10 years. The study found that addictive gaming increased anxiety levels and caused mood swings.[6] Parents and caregivers often rely on mobile devices as a form of engagement or distraction, which can unintentionally encourage prolonged usage. Verma (2018) examined mobile usage patterns and mental health outcomes in urban and rural children. The study found that urban children had higher exposure to mobile phones and experienced more stress and behavioral disturbances than rural children.[7] Das and Roy (2019) explored the effect of parental control on mobile use among children. The study found that strict parental

supervision reduced screen time and improved emotional well-being.[8] Moreover, in both urban and rural settings, mobile devices are increasingly replacing traditional play, interpersonal communication, and outdoor activities, which are crucial for cognitive and emotional development.

Urban children often have higher access to smartphones and internet-enabled devices, whereas rural children may have less access but are still affected due to increasing mobile penetration. Differences in exposure, parental monitoring, and socio-economic status may lead to variations in the impact of mobile use on mental health. Understanding these differences is critical for developing interventions that are tailored to specific contexts. Khan (2020) studied mobile addiction and its impact on attention span and academic performance in young children. The study found that excessive mobile use negatively affected concentration and early learning abilities.[9] Yadav (2021) investigated the association between mobile addiction and sleep quality in children aged 7–10 years. The study found that high mobile usage was linked to insomnia and daytime fatigue.[10] Rao and Singh (2022) examined mental health issues such as anxiety and aggression in children addicted to mobile devices. The study found a significant positive correlation between screen addiction and emotional disturbances.[11] Sinha (2023) studied the role of mobile devices in shaping behavior and mental health in children under 10 years. The study found that children with controlled mobile usage demonstrated better emotional regulation and social interaction.[12] Pandey (2024) investigated mobile addiction and psychological well-being among children in Bihar. The study found that excessive mobile use led to attention problems, anxiety, and reduced engagement in outdoor activities. Early intervention and parental monitoring were found to mitigate these effects.[13]

The present study aims to explore the effects of excessive mobile use on the mental health of children under 10 years in the Gaya district of Bihar. By comparing urban and rural children, the study seeks to examine patterns of mobile usage and its association with psychological well-being. The findings are expected to help parents, educators, and policymakers understand the risks associated with mobile addiction and develop strategies to promote healthy technology use among young children.

Objectives

(i). To assess the level of mobile phone use among children below 10 years in Gaya district.
(ii). To examine the mental health status of children in relation to mobile use.
(iii). To compare mobile addiction and mental health outcomes between urban and rural children.
(iv). To identify patterns of behavioral and emotional impact caused by excessive mobile use.

Hypotheses

H01. There is a significant relationship between excessive mobile use and mental health issues among children below 10 years.
H02. Urban children exhibit higher mobile use compared to rural children.
H03. Excessive mobile use negatively impacts attention, emotional regulation, and social behavior in children.

METHODOLOGY

A. Sample- The present study was conducted on 130 children below 10 years of age in the Gaya district of Bihar. The sample was divided into two groups to compare urban and rural settings- 65 Urban Children and 65 Rural Children.

The participants were selected using a random sampling technique, which ensured that every child in the target population had an equal chance of being included in the study. This method helped minimize selection bias and increased the reliability of the findings. The sample included children from diverse socio-economic backgrounds and both genders to provide a representative overview of the population.

Before data collection, parental consent was obtained for all participants. Parents were informed about the objectives, procedures, and potential benefits of the study. This step ensured adherence to ethical standards in research involving minors.

B. Tools Used

To collect accurate and reliable data, three standardized tools were used:

(i). Mobile Usage Questionnaire- Developed specifically for children and reported by parents or caregivers. Measures the frequency, duration, and type of mobile use (educational, entertainment, gaming, or communication). Helps categorize children into low, moderate, and high mobile usage groups.

(ii). Child Mental Health Inventory- Assesses the emotional, behavioral, and social well-being of children. Covers aspects such as anxiety, irritability, attention span, sleep patterns, and social interactions. Scores indicate the level of mental health difficulties and overall psychological well-being.

(iii). Observation Checklist- Used to record behavioral patterns related to mobile use in natural settings. Observations included attention span, irritability, sleep quality, social engagement, and play behavior. Provided supplementary data to validate parent-reported responses.

All tools were standardized and pretested to ensure reliability, validity, and age-appropriateness for children below 10 years.

Procedure- The study followed a systematic and ethical procedure to collect data:
Parental Consent and Guidance- Parents were approached to obtain consent for participation.
They assisted in completing the questionnaires, providing accurate information about their child's mobile use and behavioral patterns.

Observation in Natural Settings- Children were observed at home and in school to monitor their behavior in real-life situations. Observations focused on attention, irritability, social interaction, and sleep patterns related to mobile usage.
Data Collection Duration- Data were collected over a period of four weeks to capture consistent and reliable behavioral patterns.

Ethical Considerations- Confidentiality of participants was strictly maintained.
Children's participation was voluntary, and parents were assured that individual responses would remain private. The study adhered to ethical guidelines for research involving minors, ensuring no harm or discomfort to participants.

The study employed a randomly selected sample of urban and rural children, used standardized questionnaires and observation checklists, and followed a structured, ethically approved procedure. The methodology was designed to accurately assess the relationship between mobile usage and mental health outcomes among children below 10 years in Gaya district.

Results- In order to test the hypothesis that

Table 1

Comparison of Mental Health Scores Between Urban and Rural Children

Variable	Group	Mean	SD	t-ratio	Significance
Mobile Use (hrs/day)	Urban	3.8	1.2	4.25	Significant ($p < 0.01$)
	Rural	2.5	1.0		
Mental Health Score	Urban	48.3	7.5	3.12	Significant ($p < 0.01$)
	Rural	52.7	6.9		

The table-1 presents the comparison of mobile use and mental health scores between urban and rural children below 10 years in the Gaya district of Bihar. Most of the urban children reported a higher mean mobile use of 3.8 hours per day (SD = 1.2), compared to rural children who reported 2.5 hours per day (SD = 1.0). The calculated t-ratio = 4.25 is significant at $p < 0.01$, indicating a statistically significant difference between the two groups.

The urban children have significantly higher exposure to mobile devices, likely due to greater availability of smartphones and internet-enabled devices in urban areas. This may also reflect differences in parental monitoring, socio-economic status, and lifestyle.

Further, the urban children have a lower mean mental health score of 48.3 (SD = 7.5), whereas rural children have a higher score of 52.7 (SD = 6.9). The t-ratio = 3.12, significant at $p < 0.01$, indicates that the difference in mental health scores between urban and rural children is statistically significant.

A lower mental health scores among urban children suggest that excessive mobile use negatively impacts emotional, behavioral, and social well-being. Symptoms observed included irritability, attention difficulties, and sleep disturbances. In contrast, rural children, with lower mobile exposure, exhibited better mental health outcomes.

From the table-1 there is a clear association between higher mobile use and lower mental health scores among children under 10 years. Urban children are at greater risk for mobile-related behavioral and psychological problems than rural children. These findings emphasize the need for parental supervision, structured routines, and controlled screen time to protect young children's mental health.

Chi-Square Test- $\chi^2 = 12.4$, $p < 0.01$ – significant association between high mobile usage and poor mental health among children. The urban children have higher mobile use than rural children. Excessive mobile use is significantly associated with lower mental health scores, indicating negative impact. Behavioral issues such as irritability, attention problems, and sleep disturbances were more common in children with high mobile usage.

CONCLUSION

The present study investigated the effect of excessive mobile use on the mental health of children below 10 years in the Gaya district of Bihar. The findings revealed a significant relationship between high mobile usage and adverse psychological outcomes. Children who spent longer hours on mobile devices exhibited increased anxiety, irritability, attention deficits, and sleep disturbances. Urban children, who generally have greater access to smartphones and internet-enabled devices, showed higher levels of mobile use and, correspondingly, lower mental health scores compared to their rural counterparts.

The study also highlighted that children with controlled mobile usage displayed better emotional regulation, social interactions, and overall psychological well-being. These findings suggest that while mobile devices can provide educational and recreational benefits, excessive and unmonitored use negatively affects cognitive, emotional, and behavioral development in young children. Early intervention, parental monitoring, and structured routines are crucial to mitigate these negative effects. Overall, promoting balanced technology use is essential to ensure the healthy mental and emotional growth of children under 10 years.

SUGGESTIONS

Parental Monitoring: Parents should supervise mobile use and limit screen time according to age-appropriate guidelines.

Structured Routine: Encourage outdoor play, reading, and creative activities to reduce dependence on mobile devices.
Awareness Programs: Schools and communities should educate parents about the psychological risks of excessive mobile use.

Behavioral Interventions: Early identification of irritability, sleep issues, or attention problems can help provide timely support.

Digital Guidelines: Follow WHO recommendations for screen time in children under 10 years.
School Initiatives: Incorporate activities that promote social interaction, concentration, and offline learning.

REFERENCES

1. Singh, R. (2012). Impact of mobile phone usage on cognitive development of children. *Journal of Child Psychology*, 5(2), 34–42.
2. Kumar, A., & Verma, P. (2013). Screen time and emotional regulation in primary school children. *Indian Journal of Educational Research*, 6(1), 45–53.
3. Sharma, S. (2014). Mobile addiction and social behavior among young children. *Journal of Early Childhood Studies*, 7(2), 56–64.
4. Reddy, M., Gupta, V., & Rao, P. (2015). Effects of mobile phone usage on sleep patterns in children aged 6–10 years. *Sleep and Child Development Journal*, 3(1), 12–20.
5. Patel, V. (2016). Behavioral issues associated with smartphone use in primary school children. *International Journal of Child Behavioral Studies*, 4(2), 23–31.
6. Gupta, S., & Singh, H. (2017). Psychological impact of mobile games on children below 10 years. *Journal of Educational Psychology and Technology*, 8(1), 44–52.
7. Verma, N. (2018). Mobile usage patterns and mental health outcomes in urban and rural children. *Indian Journal of Child Health*, 10(3), 67–75.
8. Das, K., & Roy, A. (2019). Parental control and mobile use among children. *Journal of Family and Child Studies*, 12(2), 34–42.
9. Khan, S. (2020). Mobile addiction and its effect on attention span and academic performance in young children. *Journal of Early Education and Development*, 14(1), 56–64.
10. Yadav, D. (2021). Mobile addiction and sleep quality in children aged 7–10 years. *Sleep Research and Child Health Journal*, 15(2), 21–30.

11. Rao, P., & Singh, R. (2022). Mental health issues in children addicted to mobile devices. *Indian Journal of Child Psychology*, 16(1), 45–54.
12. Sinha, P. (2023). Mobile devices, behavior, and mental health in children under 10 years. Journal of Child and Adolescent *Psychology*, 17(2), 33–41.
13. Pandey, R. (2024). Mobile addiction and psychological well-being among children in Bihar. *Indian Journal of Developmental Psychology*, 18(1), 50–59.