International Journal of Contemporary Pediatrics
Sushma N et al. Int J Contemp Pediatr. 2026 Aug;13(8):1473-1480
https://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: https://dx.doi.org/10.18203/2349-3291.ijcp20262423

Original Research Article

The impact of social media and excessive screen time on the mental well-being and sleep patterns of school-aged children: a cross-sectional multi-stage cluster study

Sushma N.[1]*, Pankaja K. E.[2], Usha H. V.[3], Malathi P.[4], Nirmala S.[5], Sawant Sophia Raju[6]

[1]Department of Child Health Nursing SJB College of Nursing, Bangalore, Karnataka, India
[2]Department of Paediatric Nursing Padmashree Institute of Nursing, Bangalore, Karnataka, India
[3]Department of Paediatric Nursing Manasa College of Nursing, Kolar, Karnataka, India
[4]Department of OBG Nursing, SDS, TRC And RGICD College of Nursing, Bangalore, Karnataka, India
[5]Department of OBG Nursing, Manasa College of Nursing, Kolar, Karnataka, India
[6]Department of Psychiatric Nursing, Kerudi College of Nursing Bagalkot, Karnataka, India

Received: 17 June 2026
Accepted: 14 July 2026

***Correspondence:**
Dr. Sushma N.,
E-mail: sushmanagarajn@gmail.com

ABSTRACT

Background: The present study was conducted to estimate the prevalence of excessive screen time and social media use, and to evaluate their association with mental well-being and sleep patterns among school-aged children.
Methods: A cross-sectional study was conducted among 672 children aged 8–14 years, selected through multistage random sampling from government and private schools in South India over a four-month period (June to Sep 2024). A pre-tested, structured questionnaire was used to collect data and patterns of screen-based device use and social media use. Mental well-being was assessed using the Strengths and Difficulties Questionnaire (SDQ), and sleep patterns using the Children's Sleep Habits Questionnaire (CSHQ). Data were analysed using SPSS 26.0 version.
Results: The mean age of participants was 11.2±1.8 years (51.8% boys). High screen time (>4 h/day) was reported in 212 children (31.5%), and 486 (72.3%) were active social media users, YouTube (89.1%) and WhatsApp (62.3%). Mean SDQ was (9.8±4.2, 13.6±5.1, and 18.9±6.3 respectively; $p<0.001$), and the proportion with abnormal SDQ scores (≥20) increased from 6.3% to 38.7% ($p<0.001$). Sleep duration declined from 9.4±0.8 to 7.3±1.1 hours/night ($p<0.001$), while CSHQ total scores rose from 38.2±5.6 to 52.3±7.9 ($p<0.001$) across the same groups. Screen time correlated positively with SDQ score ($r=0.42$, $p<0.001$) and CSHQ score ($r=0.51$, $p<0.001$), and negatively with sleep duration ($r=-0.46$, $p<0.001$).
Conclusions: Excessive screen time and social media use are significantly and independently associated with poorer psychological well-being and disturbed sleep among school-aged children. Structured screen-time guidance, parental mediation, and school-based digital wellness programmes are warranted.

Keywords: Child, Cross-sectional studies, Mental health, Screen time, Sleep, Social media

INTRODUCTION

Over the past two decades, digital technology has become deeply embedded in the daily routines of children and adolescents. Smartphones, tablets, computers, and internet-enabled televisions are now nearly universal in households, and children are being introduced to screen-based media at progressively younger ages.[1,2] Parallel to this growth has been the explosive popularity of social media platforms such as YouTube, WhatsApp, Instagram, and TikTok, which have become integral to how children communicate, learn, and entertain themselves.[2,3] While digital media offers undeniable benefits for education, social connection, and recreation, mounting evidence

suggests that excessive or unsupervised use may carry significant costs for children's psychological health and sleep.

Several large population-based studies have reported associations between high screen time and adverse mental health outcomes, including increased symptoms of depression, anxiety, inattention, and conduct problems.[1,4,5] The "Goldilocks hypothesis" proposes that both very low and very high levels of digital engagement may be associated with lower well-being, with moderate use appearing relatively benign[4]. However, dose-response relationship in younger, school-aged populations particularly in low- and middle-income countries remains comparatively under-studied, with most evidence derived from adolescent or adult cohorts in high-income settings.

Sleep is another critical domain potentially affected by screen exposure. Systematic reviews have consistently found that screen time, particularly in the hours preceding bedtime, is associated with delayed sleep onset, shortened total sleep duration, and poorer subjective sleep quality in children and adolescents.[6,7] Proposed mechanisms include displacement of sleep time by media use, psychological/ physiological arousal from stimulating content, and suppression of melatonin secretion by blue light emitted from screens.[7,8] Given that adequate sleep is essential for cognitive development, emotional regulation, academic performance, and physical growth in this age group, disruptions in sleep architecture during childhood may have long-lasting consequences.[8,9]

Social media use specifically has been linked to additional psychosocial concerns, including exposure to cyberbullying, social comparison, fear of missing out (FOMO), and disrupted family interaction patterns, all of which may compound the effects of screen time on mental well-being.[3,5,10] The American Academy of Paediatrics and the World Health Organization have issued guidance recommending limits on recreational screen time for school-aged children, generally suggesting no more than one to two hours of high-quality screen media per day.[9,11] Despite these recommendations, actual screen use among children frequently exceeds these limits, and local epidemiological data to inform context-specific interventions remain scarce.[10,12]

Given the dual public health relevance of mental health and sleep in childhood, and the paucity of integrated data examining both outcomes in relation to screen time and social media use among school-aged children, the present cross-sectional study was undertaken with the following objectives: to determine the prevalence and pattern of screen time and social media use among school-aged children; to assess the level of mental well-being (using the Strengths and Difficulties Questionnaire) and sleep patterns (using the Children's Sleep Habits Questionnaire) in this population; and to evaluate the association between screen time/social media use and mental well-being and sleep parameters, after adjusting for relevant sociodemographic covariates.

METHODS

Study design, setting, and duration

This was a school-based, cross-sectional, analytical study conducted among children studying in selected government and private schools of Metropolitan city in South India over a period of six months (June-Sep 2024). The study was approved by the Institutional Ethics Committee prior to commencement, and was conducted in accordance with the Declaration of Helsinki.

Study population

The study population comprised school-going children aged 8 to 14 years, (Class 3 to Class 8) of either sex, enrolled in the participating schools at the time of data collection.

Inclusion criteria

The inclusion criteria were children aged 8-14 years; regular access to at least one screen-based device (television, smartphone, tablet, computer, or gaming console) at home; parent/guardian willing to provide written informed consent and the child willing to provide assent; and ability to complete or have a parent complete the study questionnaires in (local language/English).

Exclusion criteria

The inclusion criteria were children with a known diagnosis of autism spectrum disorder, intellectual disability, or other neurodevelopmental/psychiatric disorders; children with chronic medical conditions known to independently affect sleep (e.g., uncontrolled asthma, epilepsy); children currently on medications affecting sleep or behaviour (e.g., stimulants, sedatives); and incompletely filled questionnaires (>10% items missing).

Sample size estimation (power analysis)

The sample size was estimated using two complementary approaches, and the larger of the two estimates was adopted to ensure adequate power for both prevalence estimation and group comparisons.

Approach 1

Prevalence-based estimation

Based on a previous study reporting that approximately 40% of children with high recreational screen time exhibit clinically significant sleep problems, the sample size was calculated using the formula.[6,7]

$$n = \frac{Z^2 \times p(1-p)}{d^2}$$

where Z=1.96 (corresponding to a 95% confidence level), p=0.40 (anticipated prevalence of poor sleep quality), and d=0.05 (absolute precision of 5%). This yielded 369.

$$n = \frac{(1.96)^2 \times 0.40(0.60)}{(0.05)^2} \approx 369$$

Approach 2

Power-based estimation for group comparison

To ensure adequate power to detect a statistically significant difference in mean SDQ total difficulties scores between children with low versus high screen time, sample size was additionally computed using G*Power (version 3.1.9.7) for an independent-samples t-test, assuming a small-to-moderate effect size (Cohen's d=0.30) based on effect sizes reported in comparable literature, a two-tailed α of 0.05, and a power (1−β) of 0.80, with a 1:1 allocation ratio.[1,4]

This yielded a required sample of 176 children per group, i.e., 352 in total.

The larger of the two estimates (n=369) was taken forward. To account for the multistage cluster sampling design employed (design effect=1.5), the required sample size was inflated to 369×1.5 ≈ 554. After further adjusting for an anticipated non-response/incomplete-questionnaire rate of approximately 15%, the final minimum required sample size was 554/0.85 ≈ 651, rounded up to 700. A total of 700 children were approached, of whom 672 provided complete and valid data (response/completion rate 96.0%), constituting the final analytic sample.

Sampling technique

A multistage random sampling technique was employed. In the first stage, schools within Metropolitan city in South India, were stratified by management type (government and private), and a defined number of schools were selected from each stratum using simple random sampling (lottery method) from a complete list of schools obtained from the local education department. In the second stage, within each selected school, two sections/classes from each of class 3 to class 9 were randomly selected using a random number table.

In the third stage, students within the selected sections were enumerated using class attendance registers, and the required number of students per class was selected by simple random sampling, proportionate to class strength, until the calculated sample size was achieved.

Data collection tools

Structured proforma

A pre-tested, semi-structured questionnaire was used to collect sociodemographic information (age, sex, type of school, parental education and occupation, family type, and socioeconomic status as per the modified Kuppuswamy SES scale), as well as details of screen-based device ownership, average daily screen time on weekdays and weekends (television, smartphone, tablet, computer/laptop, and gaming consoles), use of devices within one hour of bedtime, presence of parental monitoring/rules regarding screen use, and patterns of social media platform use (type of platform, frequency, and average duration).

Strengths and difficulties questionnaire (SDQ)

Mental well-being was assessed using the parent-report version of the SDQ, a validated 25-item behavioural screening instrument comprising five subscales emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviour each scored from 0 to 10.[13] A Total Difficulties Score (sum of the first four subscales, range 0-40) was computed and categorised as 'normal' (0-13), 'borderline' (14-16), or 'abnormal' (≥17), with scores ≥20 representing the high-risk range used for the binary outcome in this study.

Children's sleep habits questionnaire (CSHQ)

Sleep patterns were assessed using the parent-report CSHQ, a validated 33-item instrument with eight subscales (bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakings, parasomnias, sleep-disordered breathing, and daytime sleepiness).[14] A total score was derived, with scores ≥41 indicating clinically significant sleep problems. Average night sleep duration (in hours) was recorded separately as a continuous variable.

Anthropometry

Height and weight were measured using standardised techniques by trained investigators, and body mass index (BMI, kg/m²) was calculated and used as a covariate in multivariable analyses.

Data collection procedure

Permissions were obtained from school authorities prior to data collection. Information sheets and consent forms were distributed to parents/guardians through the children, and only children whose parents provided written informed consent and who themselves provided verbal assent were enrolled. Questionnaires were administered in a classroom setting under the supervision of trained investigators; the sociodemographic and screen-time questionnaire was completed jointly by the child and an accompanying

parent/guardian during a scheduled parent-teacher meeting, while the SDQ and CSHQ were completed by the primary caregiver.

Anthropometric measurements were obtained on the same day by trained study personnel using calibrated equipment. All data collection instruments were pre-tested on a pilot sample of 30 children (not included in the final analysis) to assess clarity and feasibility, and minor modifications were made accordingly.

Statistical analysis

Data were entered into Microsoft Excel and analysed using SPSS software (version 26.0; IBM Corp., Armonk, NY, USA). Continuous variables were tested for normality using the Shapiro-Wilk test and are presented as mean±standard deviation (SD) or median (interquartile range), as appropriate; categorical variables are presented as frequencies and percentages. Comparisons of categorical variables across screen-time groups were performed using the chi-square test (or Fisher's exact test where expected cell counts were <5).

Differences in mean SDQ and CSHQ scores and sleep duration across the three screen-time categories (low, moderate, high) were assessed using one-way analysis of variance (ANOVA), with Tukey's Honestly Significant Difference (HSD) test used for pairwise post-hoc comparisons. The relationship between daily screen time (continuous, hours/day) and SDQ/CSHQ scores and sleep duration was examined using Pearson's correlation coefficient.

Multiple linear regression analyses were performed to identify independent predictors of (i) SDQ Total Difficulties Score and (ii) average nightly sleep duration, with adjustment for age, sex, BMI, socioeconomic status, screen time (hours/day), social media use (yes/no), and bedtime device use (yes/no). A two-tailed p value<0.05 was considered statistically significant for all analyses.

Ethical considerations

The study protocol was reviewed and approved by the Institutional Ethics Committee Written informed consent was obtained from parents/guardians, and assent was obtained from each child prior to participation. Participation was entirely voluntary, and participants were free to withdraw at any stage without any impact on their education or care.

Confidentiality of all data was maintained by anonymising questionnaires using unique study identification numbers, and data were stored in password-protected files accessible only to the research team.

RESULTS

A total of 700 children were approached, of whom 672 (96.0%) provided complete data and were included in the final analysis. The mean age of samples was 11.2±1.8 years, with 348 (51.8%) boys and 324 (48.2%) girls. The sociodemographic characteristics of the study population are summarised in Table 1.

Patterns of screen time and social media use are presented in Table 2. Overall, 212 children (31.5%) reported high screen time (>4 hours/day), 318 (47.3%) reported moderate screen time (2-4 hours/day), and 142 (21.1%) reported low screen time (<2 hours/day). The majority of children (486, 72.3%) were classified as social media users, the most frequently used platforms being YouTube (89.1%), WhatsApp (62.3%), Instagram (41.0%), and TikTok (28.9%). Habitual bedtime device use was reported in 356 children (53.0%).

Mean SDQ Total Difficulties scores and the proportion of children with abnormal SDQ scores (≥20) increased significantly with increasing screen-time category (Table 3). Post-hoc Tukey comparisons showed that all pairwise differences between the low, moderate, and high screen-time groups were statistically significant ($p<0.001$ for each comparison) for the SDQ Total Difficulties score. Among the SDQ subscales, the largest differences across groups were observed for emotional symptoms and hyperactivity/inattention scores.

Sleep parameters showed a consistent pattern of deterioration with increasing screen time (Table 4). Mean total sleep duration decreased progressively from 9.4±0.8 hours in the low screen-time group to 7.3±1.1 hours in the high screen-time group ($p<0.001$), while mean CSHQ total scores increased from 38.2±5.6 to 52.3±7.9 ($p<0.001$). The proportion of children with clinically significant sleep problems (CSHQ ≥41) rose from 22.5% in the low screen-time group to 78.8% in the high screen-time group ($p<0.001$).

Daily screen time (hours/day, continuous) showed a moderate positive correlation with SDQ Total Difficulties score (Pearson $r=0.42$, $p<0.001$) and with CSHQ Total Score ($r=0.51$, $p<0.001$), and a moderate negative correlation with average sleep duration ($r=-0.46$, $p<0.001$).

On multiple linear regression analysis (Table 5), after adjusting for age, sex, BMI, and socioeconomic status, daily screen time, bedtime device use, and social media use each emerged as independent, statistically significant predictors of higher SDQ Total Difficulties scores and shorter sleep duration. The overall model explained 34.0% of the variance in SDQ Total Difficulties score (adjusted $R^2=0.340$) and 29.0% of the variance in sleep duration (adjusted $R^2=0.290$).

Table 1: Sociodemographic characteristics of study participants (n=672).

Characteristics	N	%	Remarks
Age group (years)			
8-9	186	27.7	
10-12	298	44.3	Mean age 11.2±1.8 y
13-14	188	28.0	
Sex			
Male	348	51.8	
Female	324	48.2	
Type of school			
Government	362	53.9	
Private	310	46.1	
Family type			
Nuclear	428	63.7	
Joint/extended	244	36.3	
Socioeconomic status (modified Kuppuswamy)			
Upper/upper-middle	256	38.1	
Lower-middle	298	44.3	
Upper-lower/lower	118	17.6	
BMI category			
Underweight/normal	498	74.1	
Overweight/obese	174	25.9	

Table 2: Screen time and social media use patterns among participants (n=672).

Variables	N	%
Daily screen time category		
Low (<2 h/day)	142	21.1
Moderate (2-4 h/day)	318	47.3
High (>4 h/day)	212	31.5
Social media user		
Yes	486	72.3
No	186	27.7
Platform used (among users, n=486)*		
YouTube	433	89.1
WhatsApp	303	62.3
Instagram	199	41.0
TikTok/short-video apps	140	28.9
Facebook	84	17.3
Device used most often		
Smartphone	418	62.2
Television	162	24.1
Tablet/laptop/computer	92	13.7
Bedtime device use (within 1 h of sleep)		
Yes	356	53.0
No	316	47.0

Note: *-Percentages for platform use do not total 100 as multiple responses were permitted.

Table 3: Strengths and difficulties questionnaire (SDQ) scores by daily screen-time category (n=672).

SDQ domain (mean±SD)	Low (<2 h/day) (n=142)	Moderate (2-4 h/day) (n=318)	High (>4 h/day) (n=212)	P value*
Emotional symptoms (0-10)	2.1±1.3	3.0±1.6	4.4±1.9	<0.001
Conduct problems (0-10)	1.8±1.1	2.4±1.3	3.3±1.6	<0.001
Hyperactivity/inattention (0-10)	2.9±1.5	4.0±1.8	5.6±2.0	<0.001
Peer problems (0-10)	1.6±1.0	2.2±1.2	3.1±1.5	<0.001

Continued.

SDQ domain (mean±SD)	Low (<2 h/day) (n=142)	Moderate (2-4 h/day) (n=318)	High (>4 h/day) (n=212)	P value*
Prosocial behaviour (0-10)†	7.8±1.4	7.1±1.6	6.0±1.8	<0.001
Total Difficulties Score (0-40)	9.8±4.2	13.6±5.1	18.9±6.3	<0.001
Abnormal SDQ score (≥20), N (%)	9 (6.3)	59 (18.6)	82 (38.7)	<0.001

Note: *-One-way ANOVA across the three groups for continuous scores (post-hoc Tukey: all pairwise comparisons p<0.001); chi-square test for proportion with abnormal SDQ score. †Higher prosocial behaviour scores indicate better functioning; all other subscale scores indicate greater difficulty with higher values.

Table 4: Sleep parameters (CSHQ) by daily screen-time category.

Sleep parameters	Low (<2 h/day) (n=142)	Moderate (2-4 h/day) (n=318)	High (>4 h/day) (n=212)	P value*
Average sleep duration (h/night), mean±SD	9.4±0.8	8.6±0.9	7.3±1.1	<0.001*
Sleep onset latency (min), mean±SD	14.2±6.1	21.6±7.8	33.5±10.4	<0.001*
Bedtime resistance subscale	6.8±1.5	8.1±1.8	10.2±2.1	<0.001*
Daytime sleepiness subscale	9.5±2.0	11.7±2.4	14.8±2.9	<0.001*
CSHQ Total Score, mean±SD	38.2±5.6	44.7±6.8	52.3±7.9	<0.001*
Clinically significant sleep problems (CSHQ≥41), n (%)	32 (22.5)	164 (51.6)	167 (78.8)	<0.001*

Note:*-One-way ANOVA across the three groups for continuous variables (post-hoc Tukey: all pairwise comparisons p<0.001); chi-square test for the proportion with clinically significant sleep problems.

Table 5: Multiple linear regression for predictors of SDQ total difficulties score and average sleep duration.

Predictors	β (SDQ score)	P value	β (Sleep duration, h)	P value	Remarks
Screen time (h/day)	0.31	<0.001	−0.35	<0.001	**S
Bedtime device use (yes vs no)	0.22	<0.001	−0.27	<0.001	**S
Social media use (yes vs no)	0.18	0.002	−0.15	0.010	*S
Age (years)	0.09	0.03	−0.11	0.02	*S
Sex (female vs male)	−0.05	0.18	0.04	0.24	NS
BMI (kg/m²)	0.07	0.06	−0.06	0.09	NS
Socioeconomic status (lower vs upper)	0.06	0.11	−0.05	0.15	NS
Model summary	Adjusted R^2=0.340		Adjusted R^2=0.290		

Note: β=standardised regression coefficient. Both models adjusted for all listed variables simultaneously. (S - significant NS - non significant).

DISCUSSION

In this cross-sectional study of 672 school-aged children, nearly one-third (31.5%) exceeded recommended limits for daily recreational screen time, and almost three-quarters were active social media users. We observed a clear, statistically significant, dose-dependent relationship between increasing screen time and both poorer mental well-being (higher SDQ Total Difficulties scores) and disturbed sleep (shorter sleep duration and higher CSHQ scores). On multivariable analysis, screen time, bedtime device use, and social media use remained independent predictors of both outcomes after adjustment for age, sex, BMI, and socioeconomic status, suggesting that these associations are unlikely to be fully explained by the sociodemographic factors examined.

The prevalence of high screen time observed in our sample is broadly consistent with, though somewhat lower than, figures reported in several high-income country surveys, where more than half of school-aged children commonly exceed two hours of recreational screen time per day.[1,9,12] The dose-response gradient we observed between screen time and SDQ scores aligns with previous large-scale analyses demonstrating that adolescents with very high digital media use report lower psychological well-being than moderate users.[4,5] Our findings extend this evidence to a younger school-aged population and support the broader hypothesis that excessive, rather than moderate, engagement with screens is the primary concern for mental health outcomes.[4]

The strong association between screen time and sleep outcomes observed in this study—particularly the marked reduction in sleep duration and increase in sleep onset latency across screen-time categories—mirrors findings from systematic reviews and meta-analyses, which have consistently identified screen exposure, especially in the

evening, as a robust correlate of shortened and poorer-quality sleep in children and adolescents.[6,7] The independent contribution of bedtime device use in our regression models, over and above total daily screen time, is consistent with the proposed mechanism of pre-sleep arousal and melatonin suppression secondary to blue-light exposure from screens used close to bedtime.[7,8] This finding has direct practical relevance, as it suggests that interventions targeting the timing of device use- rather than total duration alone- may yield meaningful improvements in children's sleep.

Social media use emerged as a significant independent predictor of both poorer mental well-being and shorter sleep duration, even after accounting for overall screen time. This is consistent with literature suggesting that social media platforms carry unique risks beyond generic screen exposure, including exposure to social comparison, cyberbullying, and notification-driven interruptions to sleep and attention.[3,5,10] The relatively high prevalence of social media use observed even in this younger age group (8-14 years) is notable, given that most major platforms specify a minimum age of 13 years, and underscores the gap between platform policies and real-world usage patterns among children.[10]

Several public health implications arise from these findings. First, they reinforce the relevance of existing guidelines from the American Academy of Pediatrics and World Health Organization recommending limits on recreational screen time for school-aged children, and suggest that adherence to such guidelines may be associated with measurable benefits for both mental well-being and sleep.[9,11] Second, the independent effect of bedtime device use highlights a specific, modifiable target for parental and school-based interventions namely, establishing ‘screen-free’ periods before bedtime. Third, given the high prevalence of social media use among children below the minimum age specified by most platforms, there may be a role for enhanced parental mediation, digital literacy education, and school-based digital wellness curricula.[3,12]

This study has several strengths, including a relatively large sample size derived through a priori power calculation, the use of multistage random sampling to enhance representativeness, and the use of standardised, validated instruments (SDQ and CSHQ) for outcome assessment. However, several limitations must be acknowledged. First, the cross-sectional design precludes any causal inference; it is plausible that children with pre-existing emotional or sleep difficulties may be more likely to engage in higher screen use (reverse causation), and longitudinal studies are needed to clarify directionality. Second, screen time and social media use were assessed through self/parent-report, which may be subject to recall and social desirability bias; objective measurement using device-based application tracking would provide more precise exposure estimates in future studies. Third, the study was conducted in a single geographic region, which may limit generalisability to populations with different sociocultural patterns of media use. Finally, while we adjusted for several relevant covariates, residual confounding by unmeasured factors such as parental screen use, parental mental health, and physical activity levels cannot be excluded. Lifestyle modification interventions, including structured health education, have shown benefit in improving overall lifestyle behaviours and obesity-related outcomes among adolescents, and similar educational approaches may be relevant for addressing excessive screen time[25].

CONCLUSION

This cross-sectional study found that excessive screen time and active social media use are common among school-aged children and are significantly and independently associated with poorer mental well-being, as measured by the SDQ, and with shorter, more disturbed sleep, as measured by the CSHQ. A clear dose-response relationship was observed between increasing screen time and worsening outcomes in both domains, with bedtime device use and social media use contributing independently to these associations. These findings underscore the importance of promoting adherence to recommended screen-time limits, encouraging screen-free periods before bedtime, and fostering parental mediation and digital literacy, as part of a comprehensive approach to safeguarding the psychological health and sleep of school-aged children.

Recommendations

Healthcare providers, educators, and parents should be made aware of age-appropriate screen-time recommendations and encouraged to actively monitor and limit recreational screen use among school-aged children. Establishing screen-free periods of at least one hour before bedtime should be promoted as a specific, feasible target for families. School-based digital wellness and media literacy programmes should be considered to address risks associated with early social media adoption. Longitudinal studies using objective, device-based measures of screen time are recommended to clarify the temporal and causal relationships identified in this study.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the cooperation of the participating school administrations, teachers, parents, and children, without whom this study would not have been possible.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Twenge JM, Campbell WK. Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. Prev Med Rep. 2018;12:271-83.
2. Rideout V, Robb MB. The Common Sense census: media use by tweens and teens. San Francisco: Common Sense Media; 2019.
3. Sahu M, Gandhi S, Sharma MK. Mobile Phone Addiction Among Children and Adolescents: A Systematic Review. J Addict Nurs. 2019;30(4):261-8.
4. Przybylski AK, Weinstein N. A Large-Scale Test of the Goldilocks Hypothesis. Psychol Sci. 2017;28(2):204-15.
5. Boer M, Stevens G, Finkenauer C, van den Eijnden R. Attention Deficit Hyperactivity Disorder-Symptoms, Social Media Use Intensity, and Social Media Use Problems in Adolescents: Investigating Directionality. Child Dev. 2020;91(4):53-e865.
6. Hale L, Guerra RC. Screen time and sleep among school-aged children and adolescents: a systematic literature review. Sleep Med Rev. 2015;21:50-8.
7. Cain N, Gradisar M. Electronic media use and sleep in school-aged children and adolescents: a review. Sleep Med. 2010;11(8):735-42.
8. Hysing M, Pallesen S, Stormark KM, Jakobsen R, Lundervold AJ, Sivertsen B. Sleep and use of electronic devices in adolescence: results from a large population-based study. BMJ Open. 2015;5(1):e006748.
9. American Academy of Pediatrics Council on Communications and Media. Media use in school-aged children and adolescents. Pediatrics. 2016;138(5):e20162592.
10. Sampasa-Kanyinga H, Chaput JP, Hamilton HA. Use of social networking sites and perception and intentions regarding body weight among adolescents. Obes Sci Pract. 2015;1(1):31-8.
11. WHO. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva: World Health Organization; 2019.
12. Domingues-Montanari S. Clinical and psychological effects of excessive screen time on children. J Paediatr Child Health. 2017;53(4):333-8.
13. Goodman R. The Strengths and Difficulties Questionnaire: a research note. J Child Psychol Psychiatry. 1997;38(5):581-6.
14. Owens JA, Spirito A, McGuinn M. The Children's Sleep Habits Questionnaire (CSHQ): psychometric properties of a survey instrument for school-aged children. Sleep. 2000;23(8):1043-51.
15. Stiglic N, Viner RM. Effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews. BMJ Open. 2019;9(1):e023191.
16. Lissak G. Adverse physiological and psychological effects of screen time on children and adolescents: literature review and case study. Environ Res. 2018;164:149-57.
17. Twenge JM, Martin GN, Campbell WK. Decreases in psychological well-being among American adolescents after 2012 and links to screen time during the rise of smartphone technology. Emotion. 2018;18(6):765-80.
18. Chassiakos YR, Radesky J, Christakis D, Moreno MA, Cross C, AAP Council on Communications and Media. Children and adolescents and digital media. Pediatrics. 2016;138(5):e20162593.
19. Paulich KN, Ross JM, Lessem JM, Hewitt JK. Screen time and early adolescent mental health, academic, and social outcomes in 9- and 10- year old children: Utilizing the Adolescent Brain Cognitive Development ℠ (ABCD) Study. PLoS One. 2021;16(9):e0256591.
20. LeBlanc AG, Gunnell KE, Prince SA, Saunders TJ, Barnes JD, Chaput JP. The ubiquity of the screen: an overview of the risks and benefits of screen time in our modern world. Transl J Am Coll Sports Med. 2017;2(17):104-13.
21. Carter B, Rees P, Hale L, Bhattacharjee D, Paradkar MS. Association between portable screen-based media device access or use and sleep outcomes: a systematic review and meta-analysis. JAMA Pediatr. 2016;170(12):1202-8.
22. Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario. Screen time and young children: Promoting health and development in a digital world. Paediatr Child Health. 2017;22(8):461-77.
23. Sahu KK, Vyas S, Meena RK, Suthar P, Khan A. Screen time and its association with mental health among school children: a cross-sectional study from India. Indian J Pediatr. 2022;89(7):678-84.
24. Kuppuswamy B. Manual of Socio-Economic Status Scale (Urban). Delhi: Manasayan; 1981.
25. Geethanjali N, Lobo C, Deepa BM, Appireddygari S, Latha US, Lilly KC, et al. The impact of health teaching on lifestyle leading to obesity among adolescent girls in a selected school in Karnataka. International Journal of Advance Research in Community Health Nursing. 2025;7(1):47-50.

Cite this article as: Sushma N, Pankaja KE, Usha HV, Malathi P, Nirmala S, Raju SS. The impact of social media and excessive screen time on the mental well-being and sleep patterns of school-aged children: a cross-sectional multi-stage cluster study. Int J Contemp Pediatr 2026;13:1473-80.