

Doomscrolling and Sleep Quality of School-Age Children in Malang, Indonesia

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ABSTRACT

Excessive doomscrolling may adversely affect children's sleep quality. This study seeks to ascertain the correlation between the duration of doomscrolling and the quality of sleep in school-aged children. This research employed a quantitative approach with a cross-sectional design. A sample of 87 students was obtained by a simple random sampling method at SDIT Permata Malang, located in the Lowokwaru District of Malang City. The tools employed were the doomscrolling scale questionnaire and the Pittsburgh Sleep Quality Index (PSQI). The analysis employed the Spearman's rho test. The findings indicated an association between doomscrolling and sleep quality in school-age children ($p\text{-value} = 0.028 (<0.05)$) with a correlation coefficient (r) of 0.236. A majority of sixth-grade students at SDIT Insan Permata Malang exhibited low doomscrolling length (52.9%) and good sleep quality (64.4%). Subsequent research may evaluate doomscrolling behavior, sleep efficiency, and parental monitoring, utilizing longitudinal and experimental studies.

Keywords: *Children, doomscrolling, school-age, sleep, quality.*

INTRODUCTION

Recently, an increase of smartphones, tablets, and other digital gadgets has markedly augmented children's daily screen time, frequently compromising the quantity and quality of their sleep. Research indicates that increased screen time in school-aged children is associated with diminished sleep duration, delayed sleep onset, irregular sleep patterns, and exacerbated symptoms of sleep

disturbances, reflecting significant alterations in circadian rhythms and sleep hygiene (Silva et al., 2026). Childhood sleep disruptions are clinically significant and associated with negative cognitive, emotional, and behavioral consequences, including reduced attention, unsatisfactory academic performance, increased daytime sleepiness, and an elevated risk of mood and anxiety disorders (Iglesias-Vázquez et al., 2025).

In young children, prolonged screen time displaces sleep duration and induces physiological arousal, delaying melatonin production due to exposure to blue light, hence complicating the initiation and maintenance of sleep (Fitriana et al., 2023). Moreover, patterns of digital interaction, such as constantly scrolling through negative online content as a behaviour commonly referred to as doomscrolling, have been found to increase psychological stress and arousal levels, potentially exacerbating sleep issues (Satici et al., 2022).

Prior research on doomscrolling among college students has associated it with elevated anxiety, emotional exhaustion, and psychological discomfort, all of which are known to adversely affect sleep quality and sleep start delay in youth populations (Muhtar et al., 2025). Although most of the research on doomscrolling has been done on teens and adults, early data suggests that a similar pattern may be seen in younger digital natives, such as frequent nighttime scrolling through emotionally charged or negative content, which is linked to disrupted sleep schedules and increased daytime fatigue (Sa'idah & Aryani, 2025). Mandatory exposure to distressing content prior to sleep engages cognitive and emotional mechanisms that disrupt relaxation and sleep readiness, consistent with theoretical frameworks in the literature that link pre-sleep alertness to compromised sleep health, particularly in relation to fear of missing out (FoMO), fear of being without one's mobile device (nomophobia), and social media addiction, namely psychological factors that can heighten pre-sleep arousal and disrupt sleep patterns in children and adolescents (Camadan & Uzunoğlu, 2025).

Although there is strong evidence tying overall screen usage to sleep problems, there aren't many studies that specifically look at the link between doomscrolling and sleep patterns in children (Silva et al., 2026). It is important to understand the interplay between doomscrolling and sleep behavior in children, as early sleep disturbances have consequential impacts on neurodevelopment, mental health, and long-term health trajectories (Iglesias-Vázquez et al., 2025). The current study seeks to address this deficiency by investigating the correlation between doomscrolling and sleep quality across childhood, providing new understanding of how particular digital engagement behaviors, beyond total screen time, influence sleep health in school-aged children.

METHOD

This study used the cross-sectional approach to measure the correlation between doomscrolling and sleep quality among school-age children. Overall, 87 respondents are randomly selected by simple random sampling from 5th-6th grade of SDIT Insan Permata, Lowokwaru, Malang District, in September-December 2025. The doomscrolling is measured by *the doomscrolling scale* and *the Pittsburgh Sleep Quality Index (PSQI)* used to measure the sleep quality. The questionnaires filled out are self-reported by the respondent and assisted by the researcher only if they didn't understand how to technically fill out the questions. All respondents fill out the agreements form before the research begins

After data are collected, all data are checked one by one to measure if there is any question missing. The Spearman rho analysis by SPSS 21 was used to measure the correlation between doomscrolling and sleep quality. This research had been approved by the Indonesian Health Research Ethics Committee of University Muhammadiyah Lamongan No.: 330/EC/KEPK-S1/11/2025

RESULTS AND DISCUSSIONS

The study outlines the demographic characteristics and digital media usage patterns of participating children (Table.1), focusing on variables such as age, gender, daily cellphone use, ownership status, social media platform usage, and engagement purposes (entertainment, news, communication, and gaming). Health variables include recent illness history, sleeping environment comfort, and anxiety levels.

Table 1. Respondent Characteristic (n=87)

Characteristics		n	(%)
Age	10	1	(1.1)
	11	49	(56.3)
	12	37	(42.5)
Gender	Boy	44	(50.6)
	Girl	43	(49.4)
Length of Use of Cellphone/days	< 1 Hour	9	(10.3)
	1-<2 Hours	54	(62.1)
	>2 Hours	24	(27.6)
Cellphone Ownership	Parents	35	(40.2)
	Ownship	52	(59.8)
Having Social media Account	1 platform	13	(14.9)
	> 2 platform	74	(85.1)
Scrolling social media for entertainment	Yes	84	(96.6)
	No	3	(3.4)
Scrolling social media to search for news	Yes	73	(83.9)
	No	14	(16.1)
Scrolling social media for communication	Yes	69	(79.3)
	No	18	(20.7)
Scrolling social media for gaming	Yes	65	(74.7)
	No	22	(25.3)
Have been sick in the last month	Yes	34	(39.1)
	No	53	(60.9)
Comfortable sleeping environment	Yes	86	(98.9)
	No	1	(1.1)
Feelings of anxiety	Yes	28	(32.2)
	No	59	(67.8)

The study revealed that most participants were 11 years old (56.3%) and had a nearly even gender distribution. The majority reported using cell phones for 1 to 2 hours daily (62.1%), with 59.8% owning their device. Engaging with social media, 85.1% used more than two platforms primarily for entertainment (96.6%) and news (83.9%). Additionally, 32.2% experienced anxiety, despite a majority feeling they had a comfortable sleeping environment (Table 1).

Table 2. Doomscrolling and Sleep Quality Distribution (n=87)

Variables	Category	n	(%)
Doomscrolling	Low	46	(52.9)
	Moderate	40	(46.0)
	High	1	(1.1)
Sleep Quality	Good	56	(64.4)
	Poor	31	(35.6)

Most participants exhibited low doomscrolling behavior (52.9%), followed by moderate levels (46.0%), with only 1.1% categorized as high. Regarding sleep quality, 64.4% of children reported good quality, while 35.6% experienced poor quality (Table 2).

The minimal time of doomscrolling is represented by the indication with the lowest value, namely the doomscrolling addiction indicator. The questionnaire results reveal that almost all students avoid awakening at night to browse social media news, indicating a minimal period of doomscrolling among children. This condition shows children in this age range don't often engage with adverse online information at night, which means they have positive digital behaviour. Additionally, show the lack of problematic nighttime media involvement, frequently regarded as an indicator of behavioral addiction and sleep disturbance (Amirthalingam & Khera, 2024). Previous studies have demonstrated that using social media at night, especially checking it compulsively, is highly linked to poor sleep quality, insomnia symptoms, and more cognitive alertness before sleep starts (Almeida et al., 2023). The minimal doomscrolling addiction pattern observed may reflect parental monitoring (Marsh et al., 2024) or structured bedtime routines that limit problematic media exposure.

Of all the indicators of sleep quality, the sleep efficiency indicator has the lowest value, revealing that nearly all sixth-grade students average 8 to 9 hours of sleep nightly. Children need to sleep for nine to twelve hours each night, although this might change depending on what they do during the day (Phillips et al., 2020). Sleep efficiency, defined as the ratio between total sleep time and time spent in bed (Ohayon et al., 2017). Although most students in this study reported an average sleep duration of 8–9 hours per night, A low sleep efficiency score may indicate nocturnal awakenings or fragmented sleep, thereby diminishing the restorative function of sleep and affecting perceived fatigue (Benkirane et al., 2022). Recent evidence emphasizes that sufficient sleep length alone does not ensure optimal sleep health, since multidimensional sleep components, including efficiency, latency, and waking after sleep start, exhibit a stronger correlation with cognitive and behavioural outcomes in children (Liu et al., 2022; Meltzer et al., 2021).

Poor sleep efficiency in middle childhood has been linked to reduced executive functioning, emotional dysregulation, and decreased academic performance, even when total sleep duration meets recommended guidelines (Félix & Candeias, 2025). Actigraphy-based research further illustrates that diminished sleep efficiency forecasts elevated daytime sleepiness and internalizing symptoms in school-aged children, underscoring the clinical significance of sleep continuity (Merín et al., 2024). Moreover, longitudinal findings indicate that disrupted sleep patterns during late childhood may interfere with neurodevelopmental processes, especially those associated with memory consolidation and emotional regulation (El Halal & Nunes, 2026).

Table 3. Statistical Result of Doomscrolling and Sleep Quality (n=87)

Variables	Sleep Quality				Amount		<i>P-value</i>	<i>r</i>
	Good		Poor					
Doomscrolling Duration	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
Low	34	39.1	12	13.8	46	52.9	0.028	0.236
Moderate	22	25.3	18	20.7	40	46.6		
High	0	0.0	1	1.1	1	1.1		
Amount	56	64.4	31	35.6	87	100		

Table 3 shows a statistically significant association between doomscrolling duration and sleep quality ($p = 0.028$). This condition is in line with the previous research indicating that increased exposure to prolonged negative scrolling behavior is related to poorer sleep outcomes in children (G et al., 2024).

Children with low doomscrolling duration predominantly reported good sleep quality (39.1%), whereas poorer sleep quality was more frequently observed among those with moderate and high doomscrolling duration. The correlation analysis indicated a weak positive relationship between doomscrolling duration and poor sleep quality ($r = 0.236$), suggesting that higher doomscrolling duration is associated with worsening sleep quality.

Although the strength of the relationship is modest, longer doomscrolling duration tends to coincide with worsening sleep quality, which is consistent with findings that problematic social media engagement contributes to sleep disturbances (Tandon et al., 2020). Doomscrolling involves repeatedly seeing emotionally charged or negative information, which can trigger cognitive and physiological hyperarousal mechanisms that make it hard to go asleep and stay asleep (Camadan & Uzunoğlu, 2025). Furthermore, excessive digital media consumption correlates with heightened insomnia symptoms and nocturnal awakenings in school-aged children and adolescents (Fatima et al., 2026), supporting the observed association in this study. Although the correlation coefficient in the present study was categorized as weak, small effect sizes remain clinically meaningful in pediatric sleep research because sleep health is multifactorial and influenced by behavioral, environmental, and psychosocial determinants. Therefore, the significant association identified in this study suggests that doomscrolling duration may function as a modifiable behavioral risk factor for poor sleep quality in children, warranting early preventive strategies targeting bedtime digital habits.

CONCLUSION

This study demonstrated a statistically significant association between doomscrolling duration and sleep quality among children, with a weak yet meaningful positive correlation indicating that longer doomscrolling behaviour tends to be associated with poorer sleep quality. Considering these findings, the promotion of good digital behaviours is highly advised. Parents and caregivers ought to implement organized nighttime practices and restrict screen exposure before sleep to diminish physiological and cognitive arousal. Educational institutions can enhance student programs by integrating digital literacy and sleep health instruction to promote knowledge of responsible media consumption. Healthcare professionals, especially paediatric nurses, should incorporate the assessment of digital media usage into standard sleep examinations. Moreover, additional research is required to investigate causative

pathways and possible mediating factors, including anxiety, sleep efficiency, and parental monitoring, utilizing longitudinal and experimental study methods.

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INTEREST CONFLICT

There is no conflict of interest in this study.

REFERENCES

- Almeida, F., Marques, D. R., & Gomes, A. A. (2023). A preliminary study on the association between social media at night and sleep quality: The relevance of FOMO, cognitive pre-sleep arousal, and maladaptive cognitive emotion regulation. *Scandinavian Journal of Psychology*, 64(2), 123–132. <https://doi.org/10.1111/sjop.12880>
- Amirthalingam, J., & Khera, A. (2024). Understanding Social Media Addiction: A Deep Dive. *Cureus*, 16(10), e72499. <https://doi.org/10.7759/cureus.72499>
- Benkirane, O., Delwiche, B., Mairesse, O., & Peigneux, P. (2022). Impact of Sleep Fragmentation on Cognition and Fatigue. *International Journal of Environmental Research and Public Health*, 19(23), 15485. <https://doi.org/10.3390/ijerph192315485>
- Camadan, F., & Uzunoglu, Ö. (2025). The role of FoMO and nomophobia in explaining the relationship between doomscrolling and poor sleep quality. *BMC Psychology* 2025 14:1, 14(1), 115-. <https://doi.org/10.1186/s40359-025-03865-9>
- El Halal, C. dos S., & Nunes, M. L. (2026). Sleep disorder assessment in children and adolescents with neurodevelopmental disorders. *Jornal de Pediatria*, 102(2), 101441. <https://doi.org/10.1016/j.jped.2025.101441>
- Fatima, G., Shukla, V., Magomedova, A., Magomedov, R., Fatima, G., Shukla, V., Magomedova, A., & Magomedov, R. (2026). Mobile Phone Addiction and Sleep Quality Among Children and Adolescents: Unraveling the Health Consequences. *Cureus*, 18(1). <https://doi.org/10.7759/cureus.102460>
- Félix, A., & Candeias, A. (2025). Sleep as a Developmental Process: A Systematic Review of Cognitive, Emotional, and Behavioral Outcomes in Children Aged 6–12 Years. *Clocks and Sleep*, 7(4), 66. <https://doi.org/10.3390/clockssleep7040066>
- Fitriana, Nurhaeni, N., & Adawiyah, R. (2023). Effects of Screen Time on Sleep Patterns in Toddlers: Systematic Review. *Jurnal Ipteks Terapan*, 17(4), 2023. <https://doi.org/10.22216/jit.v17i4>
- G, C. S., V, H., Tumati, K. R., & Ramisetty, U. M. (2024). The Impact of Screen Time on Sleep Patterns in School-Aged Children: A Cross-Sectional Analysis. *Cureus*, 16(2), e55229. <https://doi.org/10.7759/cureus.55229>
- Iglesias-Vázquez, L., Garcidueñas-Fimbres, T. E., Gómez-Martínez, C., Castro-Collado, C., Leis, R., Fernández de la Puente, M., Moreno, L. A., Navas-Carretero, S., Corella, D., Moreira Echeverria, A., Jurado-Castro, J. M., Picáns-Leis, R., Ni, J., Miguel-Berges, M. L., Martínez, J. A., Benedicto-Toboso, M. I., Llorente-Cantarero, F., Vázquez-Cobela, R., Feliu, A., ... Babio, N. (2025). Sleep duration moderates association between screen time and emotional and behavioural problems in young children. *World Journal of Pediatrics* 2025 21:11, 21(11), 1140–1151. <https://doi.org/10.1007/s12519-025-00963-x>
- Liu, J., Ji, X., Pitt, S., Wang, G., Rovit, E., Lipman, T., & Jiang, F. (2022). Childhood sleep: physical, cognitive, and behavioral consequences and implications. *World Journal of Pediatrics*, 20(2), 1. <https://doi.org/10.1007/s12519-022-00647-w>

- Marsh, S., Chu, J. T. W., & Calder, A. J. (2024). 'I tried to take my phone off my daughter, and i got hit in the face': a qualitative study of parents' challenges with adolescents' screen use and a toolbox of their tips. *BMC Public Health*, 24(1), 217. <https://doi.org/10.1186/s12889-024-17690-z>
- Meltzer, L. J., Williamson, A. A., & Mindell, J. A. (2021). Pediatric sleep health: It matters, and so does how we define it. *Sleep Medicine Reviews*, 57, 101425. <https://doi.org/10.1016/j.smr.2021.101425>
- Merín, L., Nieto, M., Sánchez-Arias, L., Ros, L., & Latorre, J. M. (2024). Actigraphy-assessed sleep duration and quality and executive function in a sample of typically developing preschoolers. *European Child & Adolescent Psychiatry*, 34(4), 1379. <https://doi.org/10.1007/s00787-024-02558-9>
- Muhtar, A. A. A., Yosep, I., Hernawaty, T., & Suryani, S. (2025). Factors Influencing Doomscrolling Behavior in Generation Z College Students Social Media Users: Scoping Review. *Eduvest - Journal of Universal Studies*, 5(11), 14090–14107. <https://doi.org/10.59188/eduvest.v5i11.52423>
- Ohayon, M., Wickwire, E. M., Hirshkowitz, M., Albert, S. M., Avidan, A., Daly, F. J., Dauvilliers, Y., Ferri, R., Fung, C., Gozal, D., Hazen, N., Krystal, A., Lichstein, K., Mallampalli, M., Plazzi, G., Rawding, R., Scheer, F. A., Somers, V., & Vitiello, M. V. (2017). National Sleep Foundation's sleep quality recommendations: first report. *Sleep Health*, 3(1), 6–19. <https://doi.org/10.1016/j.sleh.2016.11.006>
- Phillips, S. R., Johnson, A. H., Shirey, M. R., & Rice, M. (2020). Sleep Quality in School-Aged Children: A Concept Analysis. *Journal of Pediatric Nursing*, 52, 54. <https://doi.org/10.1016/j.pedn.2020.02.043>
- Sa'idah, I., & Aryani, A. (2025). Doomscrolling Behavior among Indonesian Adolescents: Psychological Correlates and Digital Media Usage Patterns. *Journal of Counseling & Psychotherapy Research*, 1(1). <https://doi.org/10.111322/PF7TDB83>
- Satici, S. A., Gocet Tekin, E., Deniz, M. E., & Satici, B. (2022). Doomscrolling Scale: its Association with Personality Traits, Psychological Distress, Social Media Use, and Wellbeing. *Applied Research in Quality of Life*, 18(2), 833. <https://doi.org/10.1007/s11482-022-10110-7>
- Silva, R. L., Gonçalves, B. P. C., Ferreira, M. H. L., & Junior, N. C. (2026). Consequences of Screen Time on Sleep Quality in Children and Adolescents: A Scoping Review. *Journal of Pediatric Health Care*, 40(1), 79–97. <https://doi.org/10.1016/j.pedhc.2025.08.005>
- Tandon, A., Kaur, P., Dhir, A., & Mäntymäki, M. (2020). Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Computers in Human Behavior*, 113(1), 106487. <https://doi.org/10.1016/j.chb.2020.106487>