

Nighttime Doomscrolling and Sleep Disturbance in Young Adults

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Abstract

There is an increase of nighttime doomscrolling, which is defined as the heavy engagement with negative social media usage at bedtime, which causes a threat to sleep among young adults. Building on the cognitive model of insomnia by Harvey et al., Gross's emotion regulation theory, and arousal continuity theory, the current research explored the relationship between nighttime doomscrolling and sleep disturbance among young adults. 200 young adults (18-35 years; $M = 26.12$, $SD = 5.29$; 63.5% females) participated in this cross-sectional study. Data is collected online. Nighttime doomscrolling was measured using Doomscrolling Questionnaire IV (DQ-IV), and sleep disturbance was measured through Pittsburgh Sleep Quality Index (PSQI) disturbance subscale. Correlation analysis and simple linear regression analysis were performed via SPSS. Results show a significant and positive correlation between nighttime doomscrolling and sleep disturbance $r(198) = .46$, $p < .001$.

Keywords: Doomscrolling, Sleep disturbance, Smartphone use, DQ-IV, PSQI

Introduction

Both the smartphones and social media have made it possible for individuals to consume information through these innovations. The issue with the development of this technology is that it is causing a major issue which is called "doomscrolling". Doomscrolling is defined as reading worrying news from all the sources available online. This trend was developed in the period of the coronavirus pandemic. It was the most engaging activity during the years of 2020-2021, but it continues even now due to other reasons. The trend has persisted through geopolitical tensions, climate change rhetoric, political polarization, and the use of algorithms in content selection. The current situation has favored emotionally charged content as opposed to more balanced content (Camadan and Uzunoglu, 2026). While phones can increase learning experiences for students, their use causes a serious drawback which includes problems related to emotional stability, sleep disturbances, and academic achievement. Past studies have documented how the increase in smartphone usage can impact the quality of sleep, increased levels of anxiety and general feelings of discomfort among learners (Rathakrishnan et al., 2021; Islam et al., 2021; Khosravi, 2021). Furthermore, Davis et al. (2025) have done studies on the impact of prolonged exposure to negative information on social media channels such as Twitter. They discovered a strong correlation between doomscrolling and sleep disturbance. Sleep is an activity that is essential for the well-being of many living things (Alamir et al., 2022). Sleep quality is a condition where a person experiences the feeling of having rested well after sleep, and it feels like all the body organs are well prepared for a new day and having relaxed (Atun Ütük et al., 2025). There is another definition according to which, sleep quality is a state that is subjectively related with the deepness of sleep experienced by a person, the feeling after he wakes up, and satisfaction with the sleep (Buysse, 2014). It involves both quantifiable elements, including sleep latency, duration, and frequency of arousals during sleep and subjective elements such as deepness of sleep and its restorative nature (Buysse, 2014). A good night's sleep has a positive impact on

an individual's performance at work and their quality of life (Çelik et al., 2018). On the other hand, bad sleep quality can cause drowsiness, irritability, impaired performance in day-to-day tasks, slow reaction time, and higher caffeine or alcohol consumption (D'Souza & Negahban, 2019). One of the key elements which influence the quality of sleep is the use of technology. The research in this field has discovered that the existence of a positive association between bad sleep quality and addiction to digital games (Demir & Sümer, 2019), addiction to smartphones (Gunaydin, 2014), increase in screen time (K.B. Riyas Basheer et al., 2024), and using social media late at night (Kumar et al., 2025). Another study discovered that the artificial light coming from smartphones, tablets, and computers can decrease the production of the melatonin hormone, leading to poor quality of sleep (Mustafaoglu et al., 2021). Furthermore, it is revealed that having a television set in the bedroom and using electronic devices at night can cause sleep disturbances such as difficulty falling asleep, having nightmares, experiencing frequent wakeups during the night, and problem getting out of bed in the morning (Nelson et al., 2021). According to Hjetland et al. (2024) if an individual spent one hour watching screens after bedtime caused 24 min less sleep time. The increase in the screen usage has been linked with an increased risk of suffering from sleep disorders (Pilcher et al., 1997) and causing daytime fatigue (Shamsaei et al., 2020). Young adults are more prone to it because of the increase in the usage of social media and undeveloped prefrontal regulation, which makes them very vulnerable to developing such behavior patterns. Studies have revealed that 75 percent of psychiatric diseases originate in adolescence. In addition, sleep disorders have repeatedly proven to cause distress and mental problems as well (Chai et al., 2024).

Literature Review

There is evidence that doomscrolling influences people's ability to sleep based on cognitive, emotional, and physiological theories. One of those is Harvey's cognitive model of insomnia. According to this theory, cognitive arousal, followed by emotional distress, and, therefore, physiological arousal, negatively influence the process of falling asleep. According to this theory, when people have more intense negative thoughts and feelings of being threatened, their autonomic nervous system becomes active, resulting in internal arousal that becomes a hurdle for them from falling asleep (Camadan & Uzunoglu, 2026). Doomscrolling, which means, scrolling through negative information on social media and the news, can cause just such cognitive and emotional arousal that can cause sleep disturbance. According to Gross's emotion regulation model, failure to employ emotion regulation techniques in a proper way can have a detrimental effect on an individual's physiological activation process. Media as a strategy for avoiding stress or insecurity through persistent surveillance of damaging information can result in the adoption of inappropriate emotion regulation tactics by individuals. In particular, the inappropriate use of emotion regulation, such as emotional suppression, can have physiological repercussions, including poor sleep quality (Camadan & Uzunoglu, 2026). Thirdly, the Arousal Continuity Theory states another theoretical perspective. Nighttime doomscrolling puts the person in a persistent state of mental and physiological arousal, forming a dangerous circle in which night time awakening can cause continued online activity which in results causes prolonged wakefulness and even more fragmented sleep (Camadan & Uzunoglu, 2026). All three theories provide a detailed explanation for not only the inability of a person to fall asleep after nighttime doomscrolling but also the frequent awakening during the night a dependent variable of interest in the present study. Apart from the psychological factors explained above, screen time before bed can influence sleep using the established physiological route as well. Studies have explained that exposure to screens lit by LEDs in the evenings decreases the amount of melatonin released into the body, a chemical hormone whose function is to regulate the process of falling asleep and waking up (Cajochen et al., 2011). In particular, the circadian photoreceptors are sensitive to blue wavelengths of the electromagnetic spectrum between

460-480 nanometers, which is the wavelength emitted by smartphones and tablets screens (Cajochen et al., 2011). Upon activation, these photoreceptors inform the suprachiasmatic nucleus to suppress melatonin production by the pineal gland thus ensuring alertness despite the fact that one should be falling asleep. In relation to doomscrolling, specifically this disruption is highly important due to the fact that doomscrolling happens late at night when an individual is involved in using a screen for long periods of time without any kind interruption. While watching TV might be considered a less dangerous alternative because it takes place further away from the light source than smartphone browsing does, the process of doomscrolling exposes one to screens up close with high light intensity. As such, blue light exposure when it is combined with the arousing nature of negative content makes doomscrolling more disruptive to sleep for multiple reasons. Based on the evidence from different research, there is adequate support for the relationship between nighttime doomscrolling and poor sleep quality. Past studies have explored that doomscrolling has a negative impact on people by increasing their feelings of anxiety and negative emotions. This, in turn, leads to poor sleeping habits (Erten et al., 2022; Gül, 2020; Jahrami et al., 2022, as cited in Camadan & Uzunoglu, 2026). Moreover, Darydzaky et al. (2023) explored that increased exposure to negative information caused insomnia, which was linked to further impairment of cognition and academic performance (Ahmed et al., 2020, as cited in Mediating Role Study, Research Square, 2025). Regarding students in Bangladesh, Sultana et al. (2022) discovered that those who reported engaging heavily in digital activities had faced disturbance in sleep that negatively affected their academic performance (Research Square, 2025). As for diverse population considerations, there are studies showing the relationship between high levels of social media engagement and sleep disturbances, as well as a reverse correlation where poor sleepers are more prone to relying on electronics for help falling asleep another fact that contributes to reinforcing the problem of interest in this study (Chai et al., 2024). As many as 17 cross sectional studies found a positive correlation between social media engagement and sleep quality in young people, providing massive evidence for the topic of interest based on empirical findings (Chai et al., 2024). According to the past researches, students who use more media also experience more problems with sleeping and struggle with maintaining their sleep hygiene (Banna et al., 2023, as cited in Research Square, 2025), and cumulative negative effects of chronic sleep deprivation in terms of its impact on cognition, mood regulation, and emotional well-being further confirm the importance of sleep for students' health (Salles et al., 2023).

Research Questions

1. Is there any association between nighttime doomscrolling and sleep disturbance?
2. Does the increase in the nighttime doomscrolling can also increase sleep disturbance?

Objectives

1. To examine the relationship between doomscrolling and sleep disturbance
2. To explore how much does doomscrolling can impact the sleep in young adults

Hypothesis

Nighttime Doomscrolling is associated with more frequent awakenings during sleep.

Methods

A total of 200 young adults aged 18-25 years participated in this cross-sectional study. Participants were recruited through online platforms including social media advertisements and university email lists between January 2025 and April 2025. Eligibility criteria included (1) active use of smartphones, (2) active engagement with online content before sleep (3) no diagnosed sleep disorders and (4) no current use of prescription or over the counter sleep medication. Individuals meeting these criteria were directed to an online survey. Prior to

completing any measures participants provided electronic informed consent. The whole study and procedures were conducted in accordance with the ethical principles. Two questionnaire were used (1) doom scrolling Questionnaire IV (DQ-IV) an 11 item self-report scale that measures the compulsive engagement with online content, (2) Pittsburgh Sleep Quality Index (PSQI) Disturbance Subscale containing 8 items for assessing the frequency of sleep disruptions during past month, including waking up during night, needing to use the bathroom, difficulty in breathing, feeling too cold or too hot, pain, bad dreams and other reason of disturbance.

Results

The final sample consists of 200 young adults. The mean age was 26.12 years (SD = 5.29, range = 18-35). Most of the participants were female (n = 131, 63.5%) and remaining were males (n = 69, 36.5%). As per the education 83 participants were currently enrolled in or had completed an undergraduate degree, the participants who had completed their graduate degree were 45 and 72 had completed postgraduation education. In Table1 the demographic characteristics of participants are shown.

Table 1 Sociodemographic characteristics of Participants (N = 200)

Characteristics	Category	n	% or M(SD)
Age		200	26.12 (5.29)
Gender			
	Female	126	63.00%
	Male	74	37.00%
Education			
	High School	40	20
	Undergraduate	83	41.5
	Graduate	45	22.5
	Postgraduate	32	16

Table 2 Correlation between Doomscrolling and Sleep disturbance (N = 200)

Variables	1	2	3
Age	-		
Doom scrolling (DQ-IV)	0.02	-	
Sleep Disturbance (PSQI)	0.08	.046***	-

Note. DQ-IV = Doomscrolling Questionnaire IV; PSQI = Pittsburgh Sleep Quality Index; ***p < .001

Table 2 presents the means, standard deviation, internal consistency reliabilities and Pearson correlation for the study variables. Mean score on the DQ-IV was 32.60 (SD = 12.30, range = 11-55) and the mean of PSQI disturbance was 11.20 (SD = 5.61, range = 0-24). Nighttime doom scrolling was significantly and positively correlated with sleep disturbance $r(198) = .46$, $p < .001$.

Table 3 Simple linear regression predicting Sleep disturbance from Nighttime Doomscrolling (N = 200)

Variables	B	SE	β	t	P	95%CI
Constant	5.189	1.131	-	4.59	<.001**	[2.958, 7.420]
Doom scrolling (DQ-IV)	0.189	0.033	0.375	5.7	<.001**	[0.123, 0.254]

Note. $R^2 = .141$, $F(1, 198) = 32.49$, $p < .001$. **p < .01. B = Unstandardized Coefficient, SE = Standard Error, β = Standardized Coefficient, p = p-value, CI = Confidence Interval

Table 3 represents simple linear regression that predicts sleep disturbance from nighttime doom scrolling. The regression model was significant, $F(1, 198) = 32.49$, $p < .001$, $R^2 = .141$ which indicates that nighttime doom scrolling is significantly predicting sleep disturbance. As shown in Table 3 doom scrolling is significant positive predictor of sleep disturbance ($B = 0.189$, $SE = 0.033$, $\beta = .375$, $t(198) = 5.70$, $p < .001$, 95%CI [0.123, 0.254]). For every one unit increase in doom scrolling score, there is an increase of 0.189 units in sleep disturbance.

Discussion

In this study we gather evidence about the relationship between nighttime doom scrolling and sleep disturbance in young adults. The results showed that nighttime doom scrolling was significantly and positively correlated with sleep disturbance $r(198) = 0.46$, $p < 0.001$. This moderate positive correlation shows that the more an individual engages himself in nighttime doom scrolling as measured by the DQ-IV the more he has sleep disturbance. These findings are consistent with Harvey's cognitive model of insomnia, which states that being engaged in threatening or the information that causes distress can activate the autonomic nervous system and it can lead to physiological arousal that causes sleep disturbance (Camadan & Uzunolgu, 2026). The physiological pathway through blue light suppression of melatonin increases this disruption because when we expose ourselves with a close range of phone light it decreases the melatonin secretion and can delay the circadian phase, which makes it harder to maintain the sleep continuity. Moreover the findings of this study are consistent with the previous research. Camadan and Uzunolgu (2026) stated that there is a significant positive relation between doom scrolling and sleep disturbance in a Turkish adult sample. American Academy of Sleep Medicine (2025) found that at the population level 38% percent of adults reported that they face disturbance in sleep more likely when they engage themselves in bedtime news consumption that further rises to 46% in adults aged 18-24 that closely resemble the age of our current sample. In a study of 830 adults by Chin et al. (2024) they further found that the emotional investment in the content of social media strongly predicts poor sleep than total screen time, suggesting that the doom scrolling dimension of social media usage is most likely to cause sleep disturbance. The students and the predominantly female (63.5%) of the current sample needs attention. Research has shown that the females are more prone to the emotional impact of negative content consumption (Chai et al., 2024), and our current sample of the study has also depicted this pattern. Furthermore the IJFMR (2025) has explained this dangerous cycle according to which sleep disturbance can make the emotional distress worse which increases the maladaptive coping strategy that is doom scrolling. The limitations that this study has is that the cross-sectional design prevents the casual conclusions and the self-report measures can cause possibility of recall and social desirability bias. Furthermore the sample was recruited online and most of them are women and educated which makes it difficult to generalize the study. Future research should have the longitudinal designs, objective sleep measures such as actigraphy and demographically more diverse samples so that it can be replicated easily across populations.

Conclusion

The current study explored the relationship between nighttime doom scrolling and sleep disturbance in a sample of 200 young adults ranging between 18-35. doom scrolling Questionnaire IV and the PSQI Sleep Disturbance subscale are used and the results revealed that there is a significant and positive correlation between nighttime doom scrolling and sleep disturbance, $r(198) = .46$, $p < .001$. Moreover these findings make a huge contribution to the growing literature on sleep health and digital behavior. The prior studies only examined general screen time or overall social media usage but in this current study we explored that specifically how nighttime doom scrolling has association with the sleep disturbance and it is important because we are testing that the compulsive, negatively valenced nature of doom

scrolling carries particular risk for sleep continuity in young adults. The findings align with Harvey's cognitive model of insomnia, which states that being engaged in threatening or the information that causes distress can activate the autonomic nervous system and it can lead to physiological arousal that causes sleep disturbance (Camadan & Uzunolgu, 2026). The physiological pathway through blue light suppression of melatonin increases this disruption because when we expose ourselves with a close range of phone light it decreases the melatonin secretion and can delay the circadian phase, which makes it harder to maintain the sleep continuity. If we see it through the practical standpoint these results support that there is a need for behavioral interventions that is not just any general advice to reduce the screen time. Mental health practitioners, Universities wellness programs and public health campaigns should specifically address nighttime doom scrolling as a modifiable risk behavior for sleep disturbance in young adults. Recommendations include the establishment of screen free time during nighttime awakenings, creating awareness of the emotionally activating properties of the negative news content and developing a sleep routine that doesn't involve social media usage. Future research should employ longitudinal and experimental designs whose main objective is to establish causality and test the effectiveness of the behavioral interventions.

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