

## BEYOND THE SCREEN: EVALUATING THE CAUSES AND CONSEQUENCES OF DIGITAL OVERUSE IN STUDENT LIFE

\*D.Eswar Tony, S.Chamanthi, N.Vennela, G. Santosh Kumar, P.Divya, Rama Rao Nadendla

Department of Pharmacology, Chalapathi Institute of Pharmaceutical Sciences (A), Chalapathi Nagar, Lam, Guntur, Andhra Pradesh, India

Article History: Received 26<sup>th</sup> December 2025; Accepted 15<sup>th</sup> February 2026; Published 1<sup>st</sup> March 2026

### ABSTRACT

The increasing integration of digital technologies into daily life has significantly altered student behavior, giving rise to concerns about screen time addiction. This review article presents findings from a survey conducted among 1,200 students to assess patterns, causes, and consequences of excessive screen use. Results show that 70.8% of students primarily use digital devices for social media, followed by 25% for entertainment, 2.5% for academic purposes, and 0.8% each for gaming and online shopping. Device preference patterns revealed that 52% regularly use smartphones, 20.3% laptops, 15.5% TV or gaming consoles, and 12.3% smartwatches. Daily screen time was reported as 4–6 hours by 56.3% of students, 6–8 hours by 19.4%, 2–4 hours by 16.2%, over 8 hours by 4.2%, and less than 2 hours by only 4%. Notably, 70.4% of respondents often felt anxious or restless without digital access, while 17.7% experienced it sometimes, 7.7% always, and 3.5% never. Despite awareness of the problem, 61.8% had unsuccessfully tried to reduce screen time. Alarming, 80.7% admitted to staying up late daily due to device use. Additionally, 65% of students reported difficulty concentrating without checking their phones, 84.5% used screens during meals or social settings, and 73.3% experienced sleep disturbances. Other reported health issues included eye strain (8.6%), neck/back pain (3.5%), and anxiety or irritability (3.3%). Most students (63.6%) slept for 4–6 hours, 32.3% for 6–8 hours, 2.2% for over 8 hours, and 2% for 4 hours or less. Alarming, 85.5% were unaware of the term "screen time addiction," and 96.9% did not consider it a serious issue. These findings highlight a significant behavioral health challenge in student communities, emphasizing the need for awareness campaigns, digital hygiene education, and institutional interventions to promote healthier screen habits.

**Keywords:** Screen time addition, Digital Device Usage, Student lifestyle, Social media dependence, Sleep disturbance.

### INTRODUCTION

In the digital age, screens have become an inseparable part of everyday life, especially among students. From smartphones and laptops to smart TVs and tablets, digital devices are now central to communication, education, entertainment, and social interaction (Lin YH, *et al.*, 2014). While technology has enhanced learning and accessibility, it has also introduced a new and pressing issue called as screen time addiction (Twenge JM, *et al.*, 2018). Students, in particular, are vulnerable to excessive screen usage due to their constant exposure to online platforms and reliance on devices for both academic and non-academic purposes. In today's hyperconnected world, digital devices such as smartphones, laptops, tablets, and televisions have become deeply integrated into the daily routines of students (Cain

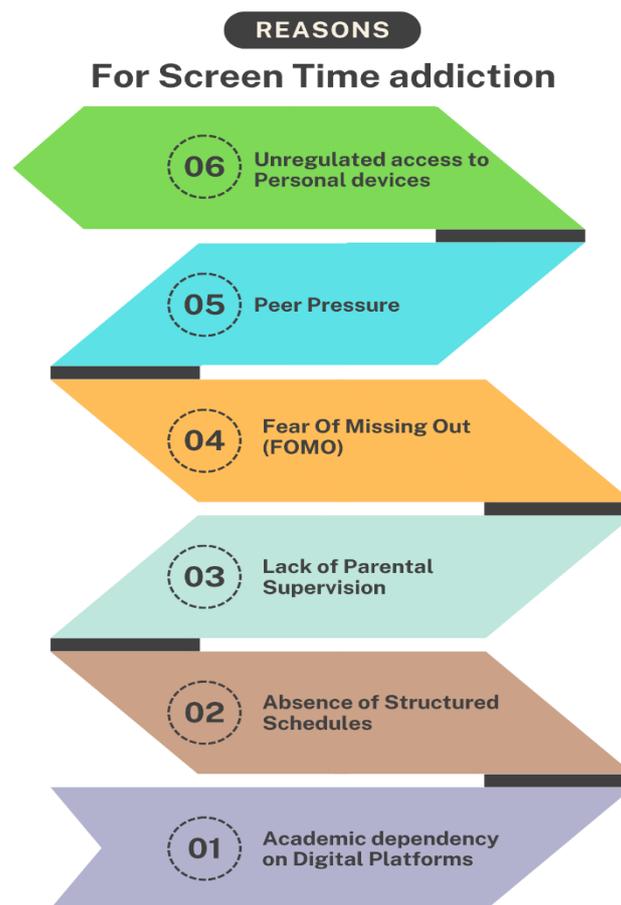
N, *et al.*, 2010). These tools have undoubtedly enhanced access to information (Przybylski AK, *et al.* 2017), learning flexibility, and communication. However, the increasing reliance on screens has raised critical concerns about screen time overuse and its impact on the physical, emotional, and academic well-being of students (Kuss DJ, *et al.*, 2011). Amid growing awareness about digital health, screen time addiction is emerging as a silent epidemic one that often goes unnoticed until it significantly affects academic performance (Rosen LD *et al.*, 2011), sleep quality, mental health, and interpersonal relationships.

One of the major pathways to screen addiction among students is the extensive use of social media (Thomee S, *et al.*, 2011) platforms such as Instagram, Snapchat, WhatsApp, and YouTube. These platforms are designed to

be engaging, often triggering the brain's reward system (Boer M, *et al.*, 2021) through likes, comments, and notifications. Over time, students may develop a compulsive habit of checking their devices frequently, leading to distraction, loss of time, and emotional dependence on digital validation (Volkmer S, *et al.*, 2019). Similarly, binge-watching web series or videos on platforms like Netflix and YouTube is another common way students slip into prolonged screen exposure (Lam LT, *et al.*, 2014). Apart from social media and entertainment, academic pressure and digital learning environments also contribute to increased screen time (Hale L, *et al.*, 2011). With the rise of online classes, e-books, educational videos, and digital assignments, students are compelled to spend extended hours on screens (Montag C, *et al.*, 2016) for academic purposes. However, the boundary between academic and non-academic screen usage often blurs,

resulting in students switching between study content (Alhassan AA, *et al.*, 2018) and recreational browsing. This multitasking behavior not only reduces productivity but also fosters dependency on digital engagement for relief from academic stress.

The parameters contributing to screen time addiction among students include peer pressure (Griffiths MD, *et al.*, 2016), the fear of missing out (FOMO), lack of parental supervision, and the absence of structured schedules (Elhai JD, *et al.*, 2016). Many students emulate the digital habits of their peers to feel socially accepted, while others turn to screens for emotional comfort (Domoff SE, *et al.*, 2020) or to escape boredom and anxiety. Additionally, the lack of awareness about healthy screen habits (Dresp-Langley B, *et al.*, 2020) and limited engagement in outdoor or physical activities further worsen the situation.



Recognizing these behavioral patterns and underlying triggers is essential in addressing screen time addiction. Schools, parents, and students themselves must take proactive steps to understand the risks associated with excessive screen exposure (Vannucci A, *et al.*, 2017). Educational institutions can play a key role by promoting digital wellness (Liu QQ, *et al.*, 2017), incorporating tech-free activities, and guiding students toward mindful technology use. By understanding the causes and consequences, we can create healthier learning

environments that balance the benefits of digital tools with the importance of mental and physical well-being. Understanding the extent and nature of screen usage among students requires systematic inquiry through well-designed surveys. These surveys play a vital role in capturing real-time behavioral data (King DL, *et al.*, 2010) and revealing patterns that are often hidden beneath routine academic engagement. They provide quantifiable insights into how students allocate time to different digital activities for educational purposes (Chen B, *et al.*, 2017), social

networking, entertainment, or gaming. By identifying the predominant causes of excessive screen use, such as academic demands, peer influence (Christensen MA, *et al.*, 2016), or emotional coping mechanisms, surveys help in diagnosing the root of screen-related issues.

Furthermore, surveys help gauge students' awareness of digital health risks (Sampasa-Kanyinga H, *et al.*, 2018) and their ability to self-regulate screen habits. This information becomes foundational in framing appropriate interventions such as awareness campaigns, mental health counselling (Lemola S, *et al.*, 2015), and digital detox strategies that can be tailored to the needs of specific age groups or academic levels. Without this empirical understanding, any attempt to address screen time overuse risks (Tan Y, *et al.*, 2021) being ineffective or misdirected. Therefore, conducting surveys on screen time among students is not merely an academic exercise but also a critical diagnostic tool for educators (Samaha M, *et al.*, 2016), parents, healthcare professionals, and policymakers. It helps to track emerging behavioral trends (Roberts JA, *et al.*, 2014), evaluate health outcomes, and ensure that technology is being used as a tool for empowerment rather than a source of dependency (Neophytou E, *et al.*, 2021). In light of these factors, the current survey aims to shed light on students' screen usage patterns and the psychological and physiological effects of digital overexposure.

## MATERIALS AND METHODS

### Survey methodology

To investigate the extent and impact of screen time addiction among students, a structured cross-sectional survey was conducted among a sample population of 1,200 students pursuing undergraduate (UG) and postgraduate (PG) programs in reputed academic institutions. The survey aimed to evaluate digital device usage patterns, screen exposure duration, associated behavioral symptoms, sleep quality, emotional well-being, and awareness regarding screen time addiction.

### Study Design and Participants

The study followed a descriptive, observational design. A total of 1,200 students were selected using a purposive sampling technique, ensuring adequate representation from various academic disciplines and age groups. The participants included both UG and PG students from well-established institutions, ensuring diversity in educational backgrounds and digital engagement levels.

### Survey Instrument

A pre-validated, semi-structured questionnaire was developed and administered electronically via ZOHO Forms. The questionnaire was designed to be user-friendly and was divided into multiple sections covering: Demographics (age, academic level). Type and frequency of device usage (smartphone, laptop, smart TV, smartwatch, etc.). Average screen time per day. Primary

purpose of device use (social media, academic, entertainment, gaming, etc.). Behavioral symptoms (restlessness, anxiety, sleep disturbances). Lifestyle habits (screen use during meals or late-night usage). Awareness and perception about screen time addiction. The form included both multiple-choice and Likert scale questions to ensure detailed responses and ease of analysis.

### Data Collection Procedure

The survey was disseminated digitally through institutional mailing lists, student WhatsApp groups, and learning management systems to ensure maximum participation. Participants were informed about the purpose of the study, and confidentiality of their responses was assured. Only students who voluntarily consented were allowed to participate. The survey remained open for responses over a span of two weeks.

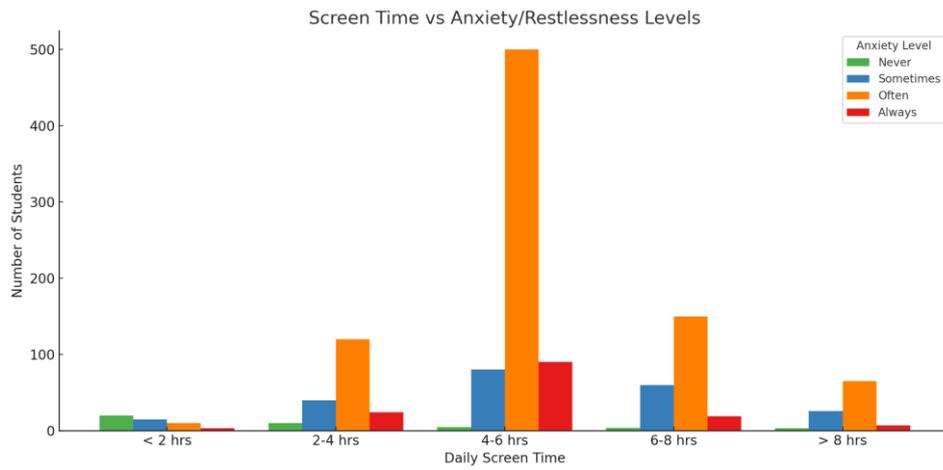
### Ethical Considerations

The survey was conducted following ethical standards. Participation was voluntary, anonymous, and non-invasive. No personal identifiers were collected, and all responses were used solely for academic and analytical purposes.

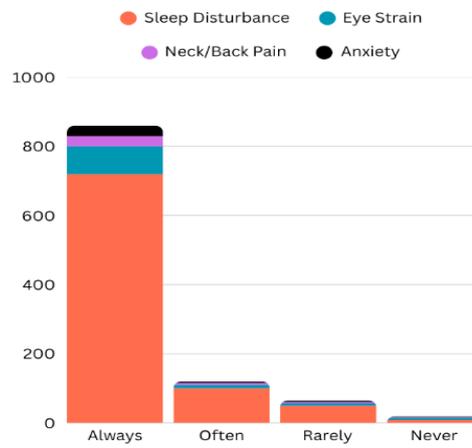
## RESULTS AND DISCUSSION

Collected data were exported to Microsoft Excel and analyzed to calculate frequencies, percentages, and visual representation in the form of pie charts and histograms. Key parameters such as device preference, screen usage duration, symptoms of overuse, and awareness levels were quantitatively analyzed to determine trends and patterns. The visual trend (in Figure 1) clearly demonstrates a positive association between screen time and psychological distress. Among students who use screens for less than 2 hours per day, a majority reported low anxiety levels, with 20 students never experiencing anxiety and only 3 reporting always feeling anxious. This trend shifts dramatically in the 4–6 hours and 6–8 hours groups, where a significant portion of students 500 and 150 respectively reported that they often feel anxious or restless. Notably, in the >8 hours group, although the sample size is smaller, the number of students experiencing 'often' and 'always' levels of anxiety is relatively high, suggesting heightened psychological discomfort with prolonged exposure.

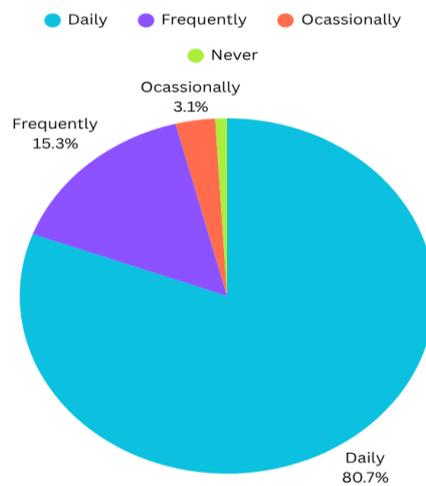
The depiction (in Figure 2) shows a clear trend linking frequent digital screen use during meals and social interactions with a higher incidence of health-related issues. Among the 1014 students who reported "Always" using screens during meals, a majority also experienced sleep disturbances, eye strain, and anxiety. Comparatively, students in the "Rarely" and "Never" categories reported significantly fewer health complaints. This reinforces concerns that frequent, unconscious screen exposure during essential offline activities (Lepp A, *et al.*, 2015) like eating or socializing can contribute to digital fatigue and interfere with circadian rhythm and cognitive rest. The data suggests a need for greater awareness and behavioral modification to reduce digital intrusion during everyday offline routines.



**Figure 1.** Assessment of anxiety levels in number of students.



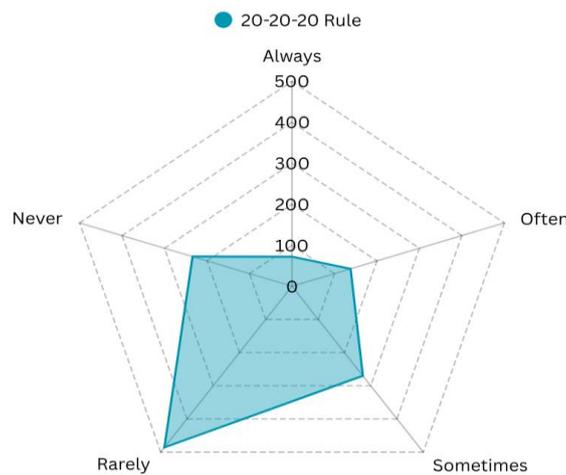
**Figure 2.** Assessment of various health issues due to screen time.



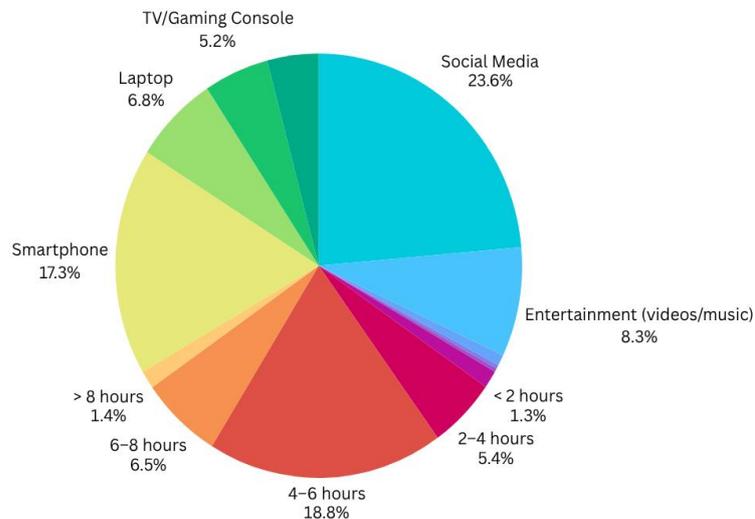
**Figure 3.** Data of students who stay up late at night.

The survey revealed a concerning pattern of late-night screen use among students (Figure 3), with a significant 80.7% (968 out of 1200) admitting that they stay up daily due to digital screen exposure. An additional 15.3% (184 students) reported frequent night-time use, while 3.1% (37 students) and 0.9% (11 students) indicated occasional and no usage respectively. This trend highlights how deeply ingrained screen dependency has become, particularly during nighttime hours that are crucial for rest and recovery. The prevalence of late-night screen use is alarming given its well-documented impact on circadian rhythm disruption (Weinstein A, *et al.*, 2015), reduced melatonin production, and subsequent sleep deprivation. Prolonged exposure to blue light emitted from smartphones, laptops, and televisions can delay sleep onset,

diminish sleep quality, and impair cognitive functioning the next day. This behavioral pattern may also foster a cycle of fatigue and increased daytime screen use, exacerbating digital fatigue. The 20-20-20 rule is a practical guideline to reduce digital eye strain during prolonged screen use. It recommends that for every 20 minutes spent looking at a screen (Thomee S, 2018), one should look at something 20 feet away for at least 20 seconds. This simple habit helps relax the eye muscles, prevent dryness, reduce fatigue, and promote healthy blinking. Especially for students engaged in extended screen activities like online classes or entertainment (Andreassen CS, *et al.*, 2014), following the 20-20-20 rule can significantly improve eye comfort and protect long-term visual health.



**Figure 4.** Analysis of Students following 20-20-20 rule.



**Figure 5.** The complete outline of analysis of screen time.

A deeper look into students' screen habits shows an interesting paradox: although only 2.3% of students consider screen time addiction a serious issue, a fair number report practicing screen breaks to some extent. Specifically, about 40% of students (combining those who 'sometimes', 'often', or 'always' take breaks) engage in screen-off intervals like the 20-20-20 rule (Figure 4). However, the majority (60%) rarely or never follow this guideline, suggesting that healthy screen habits are neither systematic nor driven by awareness. This disconnect highlights that while students may adopt some beneficial behaviors passively, there is a lack of structured understanding regarding their purpose or necessity. Educational programs need to bridge this gap by not only encouraging preventive practices but also explaining why they matter in reducing screen fatigue and improving well-being.

The findings from this survey provide a comprehensive insight into the screen time behavior of 1200 undergraduate and postgraduate students. The data reveals that a significant majority (70.8%) of students primarily use digital screens for social media engagement, indicating the strong influence of platforms like Instagram, WhatsApp, and YouTube in student life. A considerable portion (25%) use screens for entertainment, such as streaming content and listening to music, while only 2.5% reported using digital devices mainly for academic purposes. This contrast suggests a potential imbalance between productive and non-productive screen use among students. When analyzing the total daily screen time, over 56.3% of respondents reported spending 4 to 6 hours daily, while another 19.4% admitted to 6–8 hours of screen exposure. These extended hours are concerning, especially in light of the relatively small percentage (4%) spending less than 2 hours per day. The prolonged exposure to screens is a notable risk factor for eye strain, poor sleep, and reduced physical activity, all of which can adversely affect students' overall well-being and academic performance. Regarding devices, smartphones are the most widely used (52%), followed by laptops (20.3%), indicating their dominant role in both academic and recreational activities. Interestingly, TV/gaming consoles (15.5%) and smartwatches (12.2%) are also significantly present, reflecting the expanding landscape of digital engagement beyond traditional computing devices. The high smartphone usage is particularly critical, given its portability and potential to promote continuous engagement throughout the day and even into the night.

## CONCLUSION

The increasing reliance on digital devices has undoubtedly reshaped the lifestyle and learning habits of students, but this convenience has come at a cost. The survey findings clearly illustrate that a vast majority of students are spending excessive time on screens, primarily for non-academic purposes such as social media and entertainment. This prolonged and often unregulated screen exposure is linked to adverse outcomes including sleep disturbances, reduced attention span, physical discomfort, and emotional

imbalances such as anxiety and restlessness. Despite these negative consequences, a substantial number of students remain unaware of screen time addiction or do not perceive it as a serious concern. This highlights an urgent need for targeted awareness campaigns and institutional strategies that promote digital wellness. By educating students on the risks of digital overuse and equipping them with practical tools like the 20-20-20 rule, screen time trackers, and mindful usage techniques, institutions can foster a healthier, more balanced approach to technology. Ultimately, addressing screen time addiction is not about restricting digital access but about cultivating responsible digital habits. Encouraging breaks, promoting offline activities, and integrating wellness education into academic environments will be essential steps in supporting students' mental, physical, and academic well-being in an increasingly digital world.

## ACKNOWLEDGMENT

The authors express sincere thanks to the head of the Department of Pharmacology, Chalapathi Institute of Pharmaceutical Sciences (A), Chalapathi Nagar, Lam, Guntur, Andhra Pradesh for the facilities provided to carry out this research work.

## CONFLICT OF INTERESTS

The authors declare no conflict of interest

## ETHICS APPROVAL

Not applicable

## FUNDING

This study received no specific funding from public, commercial, or not-for-profit funding agencies.

## AI TOOL DECLARATION

The authors declares that no AI and related tools are used to write the scientific content of this manuscript.

## DATA AVAILABILITY

Data will be available on request

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