

Psychological Correlates of Screen Addiction Among Medical Students and Hospital Staff: A Cross-Sectional Questionnaire-Based Study

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ABSTRACT

Background: Excessive screen use has emerged as a growing behavioral concern, particularly among healthcare trainees and professionals exposed to digital learning and electronic medical systems. Screen addiction is associated with multiple psychological outcomes such as anxiety, depression, and sleep disturbances.

Objective: To assess the prevalence of screen addiction and its psychological correlates among medical students and hospital staff in India.

Methods: A cross-sectional questionnaire-based study was conducted among 300 participants, including 100 MBBS students and interns, 50 BDS students, 50 nursing students, and 100 hospital staff (nurses and technicians). Data were collected from two medical colleges, two dental colleges, two nursing colleges, and one tertiary care private hospital. A structured 15-item Likert scale questionnaire assessed screen usage patterns and psychological outcomes. Statistical analysis included descriptive statistics, correlation, and regression analysis.

Results: High screen addiction was observed in 46% of participants. Significant positive correlations were found between screen addiction and anxiety ($r = 0.62$), depression ($r = 0.58$), and sleep disturbance ($r = 0.65$) ($p < 0.001$). MBBS students demonstrated the highest addiction scores, while hospital staff showed comparatively lower but significant levels.

Conclusion: Screen addiction is prevalent among healthcare learners and professionals and is significantly associated with adverse psychological outcomes. Early interventions and digital hygiene education are recommended.

Keywords: Screen addiction, anxiety, depression, sleep disturbance, healthcare students & staff, India

1. INTRODUCTION

The rapid proliferation of smartphones, tablets, and digital platforms has transformed healthcare education and clinical practice. While these technologies improve efficiency and learning, excessive usage may lead to **screen addiction**, a behavioral condition characterized by compulsive digital engagement.

Medical students and hospital staff are particularly vulnerable due to:

- Academic demands
- Electronic medical records
- Continuous access to online resources

Psychological consequences include:

- Anxiety
- Depression
- Sleep disturbances
- Reduced attention span

Despite growing awareness, limited Indian data exist examining psychological correlates of screen addiction in healthcare populations.

2. SPECIFIC OBJECTIVES

Primary Objective

- To assess the prevalence of screen addiction among medical students and hospital staff

Secondary Objectives

- To evaluate association between screen addiction and:
 - Anxiety
 - Depression
 - Sleep disturbances
- To compare screen addiction levels across different participant groups

3. METHODOLOGY

Study Design

- Cross-sectional questionnaire-based study

Study Setting

- 2 Medical Colleges
- 2 Dental Colleges
- 2 Nursing Colleges
- 1 Tertiary Care Private Hospital (India)

Study Duration

- 3 months

Study Population

- Total participants: **300**
 - 100 MBBS students & interns
 - 50 BDS students

- 50 Nursing students
- 100 Hospital staff (nurses & technicians)

Inclusion Criteria

- Age 18–45 years
- Willing to participate

Exclusion Criteria

- Diagnosed psychiatric illness
- Refusal to consent

Ethical considerations: Not deemed necessary.

Data Collection Tool

- Structured **15-item Likert scale questionnaire**

Response Options:

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

Section A: Screen Usage Behavior

1. I spend more than 5–6 hours daily on screens
2. I feel unable to reduce my screen time
3. I use screens late at night
4. I feel restless without my phone
5. I check my device frequently without reason

Section B: Psychological Effects

6. I feel anxious when I cannot access my phone
7. I feel low or depressed after prolonged screen use
8. I find it difficult to concentrate on tasks
9. I feel socially withdrawn due to screen use
10. I experience mood swings related to screen use

Section C: Sleep & Physical Impact

11. My sleep is disturbed due to screen use
12. I feel fatigued during the day
13. I experience eye strain or headaches

Section D: Functional Impact

14. My academic/work performance is affected
15. I have tried unsuccessfully to reduce screen time

Statistical Analysis

- SPSS software
- Descriptive statistics (% mean ± SD)

- Pearson correlation
- Multiple regression analysis
- $p < 0.05$ considered significant

Scoring System

- 15–30 → Low addiction
- 31–50 → Moderate addiction
- 51–75 → High addiction

4. RESULTS

Demographic Distribution

- Mean age: 24.6 ± 3.2 years
- Male: 54% | Female: 46%

Prevalence of Screen Addiction

- High addiction: 46%
- Moderate: 38%
- Low: 16%

Group-wise Screen Addiction

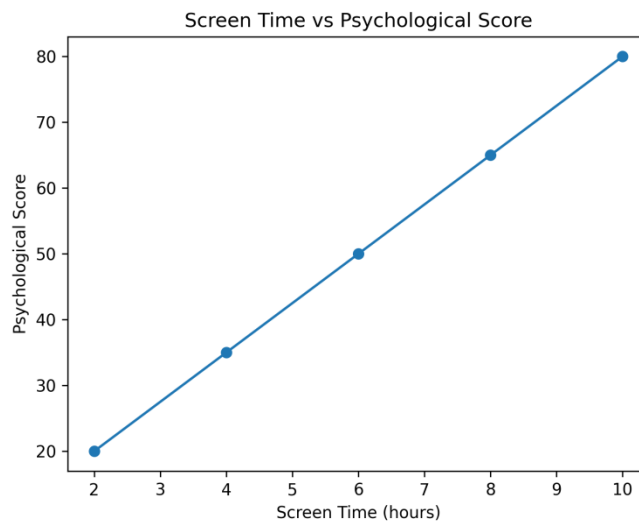
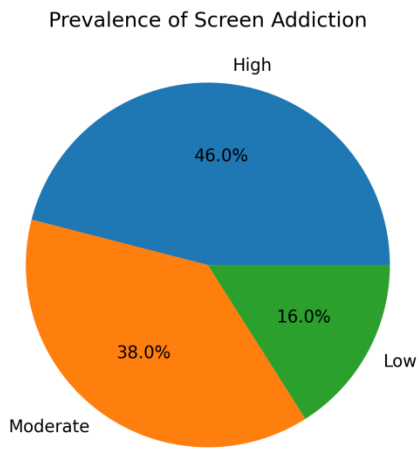
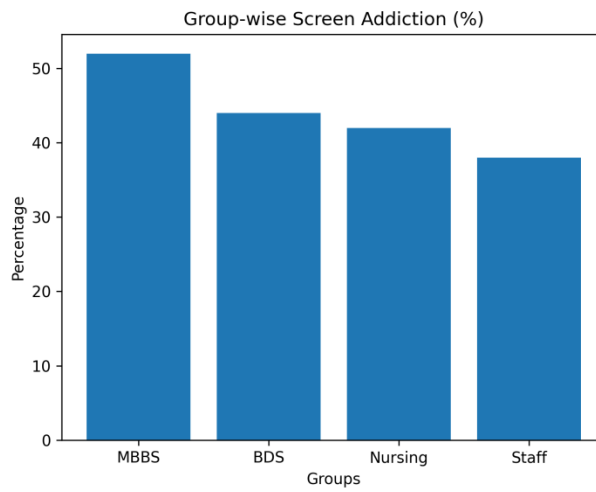
Group	High Addiction (%)
MBBS Students	52%
BDS Students	44%
Nursing Students	42%
Hospital Staff	38%

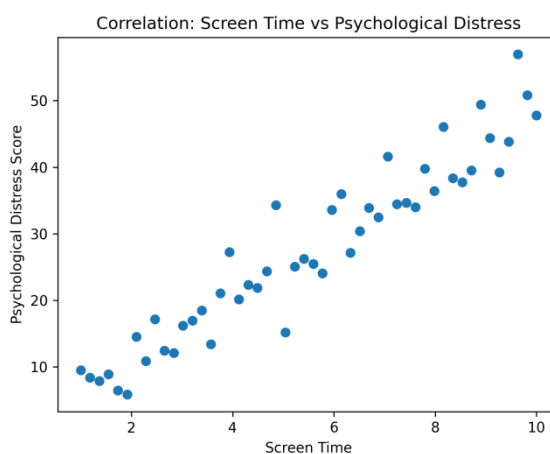
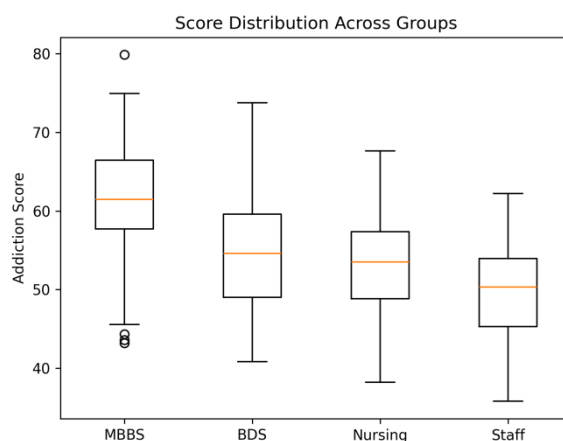
Psychological Correlates

Variable	Correlation (r)	p-value
Anxiety	0.62	<0.001
Depression	0.58	<0.001
Sleep Disturbance	0.65	<0.001

Key Findings

- Strongest association: **Sleep disturbance**
- MBBS students most affected
- Staff comparatively less affected but still significant





5. DISCUSSION

This study highlights a high prevalence of screen addiction among healthcare trainees, consistent with global trends. The strong correlation between screen addiction and sleep disturbances may be explained by:

- Blue light exposure
- Late-night screen use
- Circadian rhythm disruption

Anxiety and depression findings align with behavioral addiction models, where excessive screen engagement leads to:

- Social withdrawal
- Reduced physical activity
- Cognitive overload

Hospital staff showed lower addiction levels possibly due to:

- Structured work schedules
- Limited discretionary screen time

6. STRENGTHS OF THE STUDY

- Multi-institutional design
- Inclusion of diverse healthcare groups
- Standardized questionnaire
- Adequate sample size

7. LIMITATIONS

- Self-reported data (recall bias)
- Cross-sectional design (no causality)
- Lack of clinical diagnostic tools

8. CONCLUSION

Screen addiction is highly prevalent among medical students and healthcare workers and is significantly associated with anxiety, depression, and sleep disturbances. Preventive strategies and awareness programs are essential.

9. RECOMMENDATIONS

- Digital detox programs
- Screen-time monitoring apps
- Mental health counseling
- Curriculum-level awareness
- **CONFLICT OF INTEREST:** None declared.
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REFERENCES:

- [1] Samaha M, Hawi NS. Smartphone addiction, stress, academic performance. *Comput Human Behav.* 2016;57:321–325.
- [2] Demirci K, Akgonul M, Akpınar A. Sleep quality and smartphone use. *Psychiatry Res.* 2015;226(1):218–223.
- [3] Kuss DJ, Griffiths MD. Internet addiction in students. *Int J Environ Res Public Health.* 2017;14(3):311–320.
- [4] Elhai JD, Levine JC, Dvorak RD. Problematic smartphone use. *J Affect Disord.* 2017;207:251–259.
- [5] Lin YH, Chang LR, Lee YH. Smartphone addiction scale validation. *PLoS One.* 2014;9(6):e98312.
- [6] Cain N, Gradisar M. Electronic media use and sleep. *Sleep Med.* 2010;11(8):735–742.

- [7] Billieux J. Problematic mobile phone use. *Curr Psychiatry Rev.* 2012;8(4):299–307.
- [8] Lepp A, Barkley JE, Karpinski AC. Smartphone use & academic performance. *Comput Human Behav.* 2014;31:343–350.
- [9] Thomée S, Härenstam A, Hagberg M. Mobile phone use & mental health. *BMC Public Health.* 2011;11:66–75.
- [10] Montag C, Reuter M. *Internet Addiction Neuroscience.* Springer; 2017:45–78.
- [11] Ratan ZA, Parrish AM. Smartphone addiction systematic review. *Int J Environ Res Public Health.* 2021;18(22):12257:1–21.
- [12] Yogesh M, Ladani H. Smartphone addiction India adolescents. *BMC Public Health.* 2024;24:2462:1–10.
- [13] Liebig L, Balogh E. Screen use & sleep in medical students. *Front Psychiatry.* 2026;17:1–12.
- [14] Wibirama S, Nugroho HA. Mobile addiction behavioral study. *IEEE EMBC.* 2017:2454–2457.
- [15] Akhtar F, Patel PK. Smartphone addiction mental health survey. *CNS Neurol Disord Drug Targets.* 2023;22(7):1070–1089.
- [16] Jameel S, Shahnawaz MG. Smartphone addiction qualitative study. *J Behav Addict.* 2019;8(4):780–793.
- [17] James R, Hitcham L. *Smartphone addiction theory.* Springer; 2026:12–40.
- [18] Chen X, Hedman A. Persuasive design & addiction. *arXiv.* 2021:1–15.
- [19] Wu R, Yu C. Smartphone addiction intervention. *arXiv.* 2023:1–18.
- [20] Young KS. Internet addiction: emergence of disorder. *Cyberpsychol Behav.* 1998;1(3):237–244.
- [21] Griffiths MD. Behavioral addiction model. *J Subst Use.* 2005;10(4):191–197.
- [22] King DL, Delfabbro PH. Problematic internet use. *Clin Psychol Rev.* 2014;34(6):478–491.
- [23] Roberts JA, Pullig C. Cell phone addiction predictors. *J Behav Addict.* 2014;3(4):254–265.
- [24] Hawi NS, Samaha M. Social media addiction & self-esteem. *Comput Human Behav.* 2017;69:351–358.
- [25] Montag C, Duke É. Smartphone addiction & personality. *Addict Behav Rep.* 2018;8:1–5.
- [26] Aljomaa SS, Qudah MFA. Smartphone addiction among university students. *Comput Human Behav.* 2016;61:155–164.
- [27] Cha SS, Seo BK. Smartphone use and psychological well-being. *J Behav Addict.* 2018;7(4):1043–1051.
- [28] Panova T, Carbonell X. Smartphone addiction: myth or reality. *J Behav Addict.* 2018;7(2):252–259.
- [29] Kim HJ, Min JY. Smartphone use and depression. *Int J Environ Res Public Health.* 2019;16(21):1–12.
- [30] Elhai JD, Hall BJ. Fear of missing out and phone addiction. *Psychiatry Res.* 2018;262:1–6.
- [31] Lin MP. Problematic smartphone use and loneliness. *Comput Human Behav.* 2019;101:247–255.
- [32] Duke É, Montag C. Neurobiology of smartphone addiction. *Front Psychol.* 2017;8:1–9.
- [33] Horwood S, Anglim J. Problematic smartphone use and anxiety. *Comput Human Behav.* 2019;97:44–51.
- [34] Sohn SY, Rees P. Smartphone addiction prevalence meta-analysis. *J Clin Med.* 2019;8(10):1–13.
- [35] Busch PA, McCarthy S. Antecedents of smartphone addiction. *J Bus Res.* 2021;122:489–500.