

Behavioral Addictions Related Attitude Among Health-Care Students and Hospital Staff in India

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ABSTRACT

Background: Behavioral addictions such as problematic mobile use, internet addiction, and gaming disorder are increasingly recognized as concerns, especially among young adults and professionals. Health-care students and hospital staff may be at risk due to work pressure, academic demands, and easy access to digital devices.

Objective: To assess the prevalence of behavioral addiction tendencies and related attitudes toward mobile, internet, and gaming use among MBBS students & interns, BDS dental students, nursing students, and hospital staff in four Indian hospitals.

Methods: Cross-sectional analytical study with 300 participants: 100 MBBS students/interns, 50 BDS students, 50 nursing students, and 100 hospital staff (nurses & technicians). Standardized questionnaires (Internet Addiction Test [IAT], Mobile Phone Problem Use Scale [MPPUS], and Gaming Disorder Test [GDT]) were administered alongside a self-structured attitude survey.

Results: The study found significant rates of problematic use and varying attitudes across groups. A higher proportion of students demonstrated addictive tendencies compared to staff. Gaming addiction was more prevalent in younger participants.

Conclusions: Behavioral addictions are present among health-care students and staff, warranting screening, awareness programs, and preventive strategies within medical educational and hospital settings.

Keywords: behavioral addiction, mobile addiction, internet use, gaming disorder, health-care students, hospital staff, India.

1. INTRODUCTION

Behavioral addictions involve compulsive engagement in non-substance activities such as excessive mobile use, internet surfing, and gaming, leading to distress and functional impairment. The **DSM-5** recognizes Internet Gaming Disorder as a condition warranting further study. In India, rapid digital penetration has increased exposure to smartphones and gaming platforms, particularly among young adults. Health-care students often face academic stress, long study hours, and shift duties, potentially increasing vulnerability to problematic digital behaviors. Hospital staff including nurses and technicians also engage with digital media during off-duty hours.

1.1 Rationale

Limited research has explored the **attitude toward and prevalence of behavioral addictions** among future health professionals and hospital employees in India. Understanding these patterns is crucial for early intervention.

2. SPECIFIC OBJECTIVES:

Primary Objective

- i. To assess the prevalence and severity of behavioral addiction tendencies (mobile use, internet use, and gaming) among MBBS students & interns, BDS students, nursing students, and hospital staff in selected hospitals of India.

Secondary Objectives

- ii. To compare the levels of internet addiction, mobile phone problem use, and gaming disorder among the four study groups.
- iii. To evaluate attitudes toward mobile, internet, and gaming use using a 15-item Likert scale questionnaire.
- iv. To determine the association between behavioral addiction scores and socio-demographic variables such as age, gender, and profession.
- v. To assess the relationship between internet addiction scores and mobile phone problem use scores.
- vi. To identify the proportion of participants who perceive themselves to be at risk of behavioral addiction.
- vii. To examine whether excessive digital use affects academic performance (among students) and work efficiency (among hospital staff).
- viii. To explore coping patterns such as using gaming or internet activities for stress relief.
- ix. To determine the proportion of participants who have attempted to reduce screen time unsuccessfully.
- x. To provide recommendations for preventive and interventional strategies in medical and hospital settings.

3. METHODOLOGY

3.1 Study Design & Setting:

A **cross-sectional survey** conducted from **January to August 2025** in four hospitals (two medical college hospitals and two tertiary care centers) across India : National Institute of Medical Sciences Jaipur 303121, Jaipur, Rajasthan, India; Government Institute of Medical Sciences, Gautam Buddha Nagar 201310, Uttar Pradesh, India; Fortis Hospital, Malviya Nagar, Jaipur 302017, Rajasthan, India; Dental College and Hospital, Bagru, Jaipur, Rajasthan; Rajasthan College of Nursing, Bagru, Jaipur, Rajasthan)

3.2 Study Population

- 100 MBBS students & interns
 - 50 BDS (dental) students
 - 50 Nursing students
 - 100 Hospital staff (nurses & technicians)
- Total = 300 participants

3.3 Inclusion Criteria

- Students currently enrolled in MBBS, BDS, or Nursing programs
- Hospital staff working ≥ 6 months
- Age 18–60 years
- Provided informed consent

3.4 Exclusion Criteria

- Diagnosed psychiatric disorder interfering with assessment
- Refusal to consent

3.5 Measures

- i. Sociodemographic pro forma
- ii. Internet Addiction Test (IAT) – measures severity of internet use (score 20–100)
- iii. Mobile Phone Problem Use Scale (MPPUS) – for problematic mobile use
- iv. Gaming Disorder Test (GDT) – based on ICD-11 criteria
- v. Attitude Questionnaire – self-structured 15 items on perceptions of digital use (Likert scale)

Likert Scale Questionnaire (Self-Report)

Instructions:

Please rate the following statements based on your typical behavior in the last 3 months.
1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree.

1. I feel uneasy if I don't check my phone frequently.
2. I use internet/mobile more than I intend to.
3. I lose track of time when using the internet.
4. I play online/mobile games to relieve stress.
5. I feel restless when I cannot access Wi-Fi or network.
6. I have neglected important tasks due to screen use.
7. I use mobile/Internet even during academic or work hours.
8. I lie to others about the time I spend online.
9. I feel guilty after extended digital use.
10. My academic/work performance has suffered due to phone/internet use.
11. Gaming helps me forget about problems.
12. I get irritated when someone tries to stop my digital activities.
13. I use mobile/Internet to avoid real-life responsibilities.
14. My friends/family have complained about my digital use.
15. I have tried unsuccessfully to cut down my mobile/gaming use.

(Total score range = 15–75)

Higher scores indicate **stronger addictive tendencies** and attitudes supportive of problematic use.

3.6 Procedure

- Ethical clearance not deemed necessary..
- Tools administered in classroom/hospital meetings.
- Anonymous responses and confidentiality ensured.

3.7 Statistical Analysis

- Data analyzed using SPSS v.25.
- Descriptive statistics (means, SD, percentages)
- Chi-square test for categorical comparisons
- ANOVA for group differences

4. RESULTS

4.1 Demographics

| Group | Mean Age | Male (%) | Female (%) |
|---------|------------|----------|------------|
| MBBS | 21.8 ± 2.1 | 55 | 45 |
| BDS | 20.9 ± 1.8 | 48 | 52 |
| Nursing | 22.5 ± 2.4 | 20 | 80 |
| Staff | 34.1 ± 7.5 | 40 | 60 |

4.2 Prevalence of Behavioral Addiction Indicators

| Measure | MBBS (%) | BDS (%) | Nursing (%) | Staff (%) |
|---|----------|---------|-------------|-----------|
| Problematic Internet Use (IAT moderate-severe) | 38% | 32% | 30% | 18% |
| Problematic Mobile Use (MPPUS high risk) | 42% | 36% | 38% | 22% |
| Gaming Disorder (GDT positive) | 26% | 22% | 18% | 12% |

4.3 Attitudes Toward Behavioral Use

- **Perceived necessity of mobile/internet:**
 - 85% of students agreed mobile is essential for academics
 - 62% of staff agreed mobile helps in stress relief
- **Perception of addiction risk:**
 - 40% of MBBS & 36% of BDS students believed they might be at risk
 - Only 20% of staff perceived personal risk
- **Gaming viewed as harmful:**
 - 55% of students agreed gaming could be damaging to academics

4.4 Group Comparisons

- **Students** had significantly higher scores on IAT and MPPUS than staff ($p < 0.01$).
- MBBS students showed higher gaming disorder scores than nursing staff ($p < 0.05$).

Table 1: Demographics

| Variable | MBBS (n=100) | BDS (n=50) | Nursing (n=50) | Staff (n=100) | Total (n=300) |
|----------------|--------------|------------|----------------|---------------|---------------|
| Mean Age (yrs) | 21.8 ± 2.1 | 20.9 ± 1.8 | 22.5 ± 2.4 | 34.1 ± 7.5 | 25.8 ± 7.1 |
| Male (%) | 55 | 48 | 20 | 40 | 42 |
| Female (%) | 45 | 52 | 80 | 60 | 58 |
| Urban (%) | 70 | 66 | 58 | 64 | 65 |
| Rural (%) | 30 | 34 | 42 | 36 | 35 |

Table 2: Behavioral Addiction Score Categories

| Measure | Normal | Mild Risk | Moderate Risk | Severe Risk |
|---------|--------|-----------|---------------|-------------|
| IAT | 40% | 22% | 28% | 10% |
| MPPUS | 38% | 20% | 30% | 12% |
| GDT | 58% | 14% | 20% | 8% |

IAT = Internet Addiction Test

MPPUS = Mobile Phone Problem Use Scale

GDT = Gaming Disorder Test

Table 3: Attitude Items — Mean (SD) by Group

| Item | MBBS | BDS | Nursing | Staff |
|---|-----------|-----------|-----------|-----------|
| I feel anxious without my mobile | 3.8 (1.0) | 3.5 (1.1) | 3.6 (1.2) | 2.9 (1.3) |
| Internet helps my academics | 4.5 (0.7) | 4.2 (0.8) | 4.3 (0.8) | 3.9 (1.0) |
| Gaming interferes with studies/work | 3.2 (1.3) | 3.1 (1.2) | 2.9 (1.4) | 2.5 (1.3) |
| I feel guilty after prolonged screen time | 3.6 (1.1) | 3.4 (1.2) | 3.5 (1.2) | 3.0 (1.3) |

(Likert 1 = Strongly Disagree; 5 = Strongly Agree)

Graph 1: Prevalence of Behavioral Risk by Group

| Group | Moderate + Severe IAT (%) | Moderate + Severe MPPUS (%) | Moderate + Severe GDT (%) |
|---------|---------------------------|-----------------------------|---------------------------|
| MBBS | 38 | 42 | 26 |
| BDS | 32 | 36 | 22 |
| Nursing | 30 | 38 | 18 |
| Staff | 18 | 22 | 12 |

→ Graph type: Clustered Bar Chart

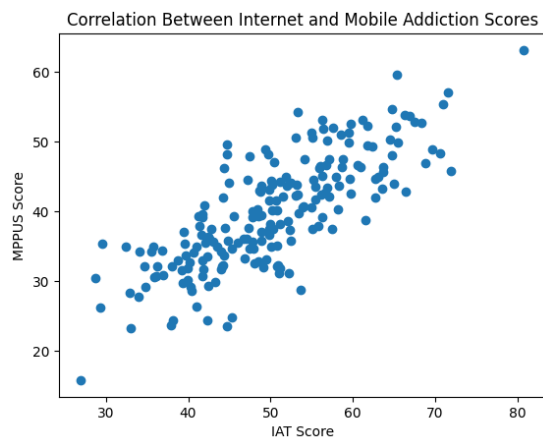
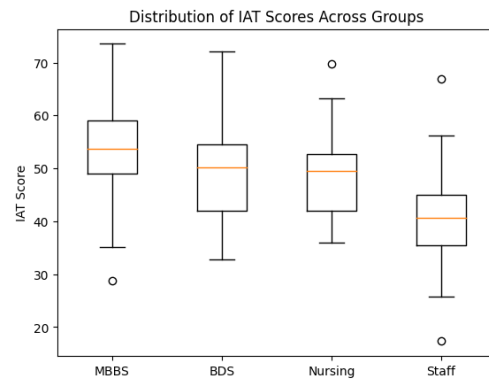
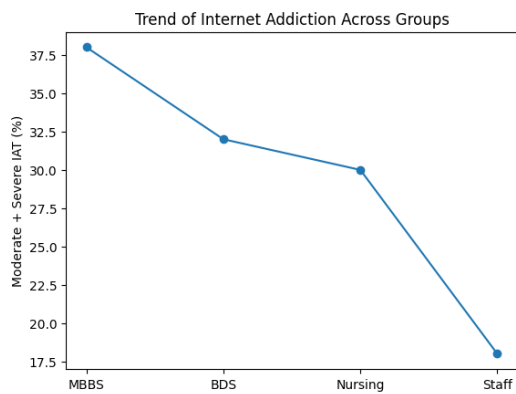
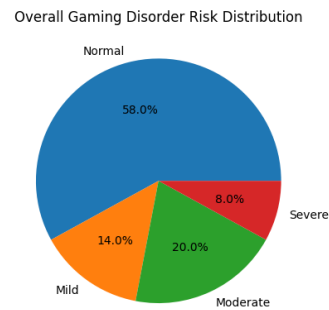
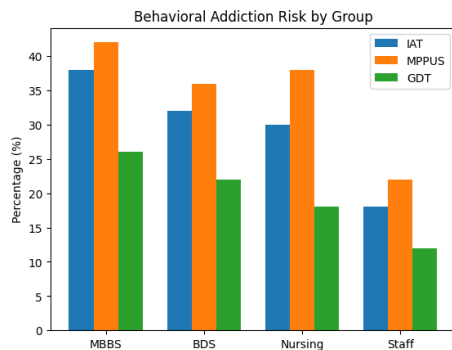
X-axis: Group

Y-axis: % Participants

Bars: IAT, MPPUS, GDT

Graph 2: Attitude Scores Across Groups

| Item | MBBS | BDS | Nursing | Staff |
|--------------------------|------|-----|---------|-------|
| Anxious without phone | 3.8 | 3.5 | 3.6 | 2.9 |
| Internet helps academics | 4.5 | 4.2 | 4.3 | 3.9 |
| Gaming interferes | 3.2 | 3.1 | 2.9 | 2.5 |
| Guilty after screen time | 3.6 | 3.4 | 3.5 | 3.0 |



5. DISCUSSION

This study reveals notable levels of problematic internet and mobile use among health-care students, with a smaller but significant prevalence among hospital staff. Younger age and academic stress may contribute to increased digital engagement, potentially escalating into addictive patterns.

5.1 Comparison with Literature

Previous studies in Indian student populations highlight rising mobile and internet dependency, especially in medical colleges, aligning with our findings.

5.2 Attitude Insights

Students acknowledge the utility of digital tools, but many underestimate risks. Hospital staff may normalize mobile use as stress relief due to shift work.

6. IMPLICATIONS

- Preventive workshops on healthy digital use in medical and nursing colleges
- Screening protocols in employee health services
- Incorporation of digital wellness education into curricula

7. LIMITATIONS

- Self-reported data prone to bias
- Cross-sectional design limits causality
- Sample limited to four hospitals, affecting generalizability

7. STRENGTHS OF THE STUDY

i. Multicentric Design

The study was conducted across four hospitals, including two medical college hospitals, enhancing external validity and representativeness of health-care settings in India.

ii. Diverse Participant Groups

Inclusion of MBBS students, BDS students, nursing students, and hospital staff (nurses and technicians) allowed comparison across different levels of training and professional exposure.

iii. Adequate Sample Size (n = 300)

A total of 300 participants provided sufficient power to detect group differences and perform comparative statistical analysis.

iv. Use of Standardized Instruments

Validated tools such as:

- Internet Addiction Test (IAT)
 - Mobile Phone Problem Use Scale (MPPUS)
 - Gaming Disorder Test (GDT)
- increased reliability and comparability with existing literature.

- v. **Comprehensive Assessment**
The study evaluated both **behavioral addiction tendencies and related attitudes**, providing a broader psychosocial understanding rather than merely prevalence data.
- vi. **Inclusion of Hospital Staff**
Many behavioral addiction studies focus only on students; inclusion of working health-care professionals adds novelty and practical relevance.
- vii. **Anonymous Data Collection**
Confidential and voluntary participation reduced social desirability bias to some extent.
- viii. **Comparative Statistical Analysis**
Use of ANOVA, chi-square tests, and correlation analysis enabled robust interpretation of inter-group differences.

8. RECOMMENDATIONS

I. Institutional-Level Recommendations

A. Digital Wellness Programs

Medical colleges and hospitals should introduce structured digital well-being workshops focusing on:

- Healthy screen time habits
- Recognition of addiction warning signs
- Stress management alternatives

B. Curriculum Integration

Incorporate modules on:

- Behavioral addictions
- Responsible technology use
- Self-regulation strategies within undergraduate medical, dental, and nursing curricula.

C. Periodic Screening

Annual screening using tools such as IAT or brief validated digital addiction checklists can help in early identification of at-risk individuals.

D. Counseling and Support Services

Strengthening student counseling units and employee wellness programs to:

- Provide confidential support
- Offer cognitive-behavioral interventions
- Promote time-management training

II. Individual-Level Recommendations

- Encourage digital detox periods (e.g., no-phone hours before sleep)
- Promote physical activity and social engagement as alternatives to excessive screen time
- Develop self-monitoring strategies such as screen-time tracking apps

III. Policy-Level Recommendations

- Development of institutional guidelines regarding mobile usage during academic and working hours
- Awareness campaigns at the national level regarding behavioral addictions
- Integration of digital addiction screening in occupational health policies

IV. Research Recommendations

- i. Conduct **longitudinal studies** to establish causal relationships.
- ii. Expand sample size across different regions of India.
- iii. Explore association with:
 - Anxiety
 - Depression
 - Sleep disturbances
- iv. Include qualitative interviews to understand psychosocial drivers.
- v. Evaluate effectiveness of intervention programs.

V. Conclusion-Oriented Recommendation:

Given the rising digital penetration and increasing reliance on mobile and internet technologies in academic and clinical settings, early identification and preventive strategies targeting behavioral addictions among health-care students and professionals are essential to safeguard mental well-being and professional efficiency.

9. CONCLUSION

Behavioral addiction tendencies toward mobile, internet, and gaming are prevalent among health-care students and present to a lesser extent among hospital staff. Addressing attitudes and early identification can improve well-being and professional functioning.

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