

# Comprehensive Report: Analysis of Social Media Addiction Among Students

## 1. Dataset Overview

Student_ID	Age	Gender	Academic_Level	Country	Avg_Daily_Hours	Most_Used_Platform	Affects_Academics	Sleep_Hours	Mental_Health	Relationship_Status	Conflicts_With_Study	Addicted_Score
1	19	Female	Undergrad	Bangladesh	5.2	Instagram	Yes	6.5	6	In Relationship	3	8
2	22	Male	Graduate	India	2.1	Twitter	No	7.5	8	Single	0	3
3	20	Female	Undergrad	USA	6	TikTok	Yes	5	5	Complicated	4	9
4	18	Male	High School	UK	3	YouTube	No	7	7	Single	1	4
5	21	Male	Graduate	Canada	4.5	Facebook	Yes	6	6	In Relationship	2	7
6	19	Female	Undergrad	Australia	7.2	Instagram	Yes	4.5	4	Complicated	5	9
7	23	Male	Graduate	Germany	1.5	LinkedIn	No	8	9	Single	0	2
8	20	Female	Undergrad	Brazil	5.8	Snapchat	Yes	6	6	In Relationship	2	8
9	18	Male	High School	Japan	4	TikTok	No	6.5	7	Single	1	5
10	21	Female	Graduate	South Korea	3.3	Instagram	No	7	7	In Relationship	1	4

- **Sample Size:** 705 students from 110 countries.
- **Demographics:**
  - Gender balance: 50.07% Female (353), 49.93% Male (352).
  - Age range: 18–24 years (mean: 20.7).
  - Academic Levels: Undergraduate (50.07%), Graduate (46.10%), High School (3.83%).
- **Data Quality:** No missing values or duplicates detected.

## **2. Key Insights**

### **A. Social Media Usage Patterns**

- **Average Daily Usage:** 4.9 hours per student.
- **Top Platforms:**
  - Instagram (249 students), TikTok (154), Facebook (123).
  - Lesser-used platforms: WhatsApp (54), Twitter (30), LinkedIn (21).
- **Platform Popularity:** Instagram dominates, likely due to visual content and younger user demographics.

### **B. Academic & Health Impacts**

- **Academic Performance:**
  - 64.26% (453 students) reported social media negatively affects academic performance.
  - These students had significantly higher **Addicted Scores** (7.46 vs. 4.60 for unaffected students).
- **Sleep Disruption:**
  - **Strong negative correlation** between usage and sleep (Pearson  $r = -0.791$ ,  $p\text{-value} < 0.0001$ ).
  - Every additional hour of social media use reduces sleep by ~42 minutes (\*regression slope:  $-0.71^*$ ).
  - *Probable causes:* Blue light exposure (melatonin suppression) and behavioral displacement.

### **C. Mental Health & Relationships**

- **Mental Health:** Minimal gender difference (F: 6.18, M: 6.28).
- **Relationship Status:**
  - Single: 54.47% (384), In Relationship: 40.99% (289), Complicated: 4.54% (32).
  - **Conflicts:** Students in "Complicated" relationships reported the highest conflicts over social media (avg. 3.03 vs. 2.76–2.90).

#### **D. Geographic Trends**

- **Highest Addiction Scores** (countries with  $\geq 10$  students):
  1. **USA** (8.60)
  2. **India** (7.51)
  3. **Bangladesh** (7.50)
  4. **Pakistan** (7.42)
  5. **Mexico** (7.37)
- **Lowest Scores:** Japan (3.48), Germany (3.86), Denmark/Switzerland (4.30).

### **3. Additional Observations & Inferences**

#### **1. Cultural Influence:**

- Western countries (USA, UK) show higher addiction despite digital wellness awareness.
- Asian nations (India, Bangladesh) exhibit high scores, possibly linked to rapid smartphone adoption.

#### **2. Platform-Specific Risks:**

- Instagram/TikTok's addictive design (algorithmic feeds, short videos) may drive higher usage.
- Lesser-used platforms (LinkedIn, YouTube) correlate with lower addiction risk.

#### **3. Vulnerable Groups:**

- **Undergraduates** (50% of the sample) are most exposed due to life-stage transitions.
- **Complicated relationships:** Linked to heightened conflicts, suggesting social media exacerbates emotional stress.

#### **4. Sleep-Academic Cycle:**

- High social media usage → Reduced sleep → Poor academic performance → Increased stress → More social media use (*cyclic effect*).

## **4. Recommendations**

- **Targeted Interventions:**
  - Promote digital detox programs in high-addiction countries (USA, India, Bangladesh).
  - Universities should integrate "sleep hygiene" workshops focusing on blue light management.
- **Platform Responsibility:**
  - Instagram/TikTok should incorporate usage reminders and break prompts.
- **Mental Health Support:**
  - Counselling for students in complex relationships to mitigate social media conflicts.
- **Academic Policies:**
  - Educators to design assignments minimizing late-night digital usage.

## **Conclusion**

Social media addiction significantly disrupts students' sleep, academic performance, and emotional well-being. While Instagram and TikTok are primary drivers, geographic and relational factors amplify risks. Mitigation requires collaborative efforts from platforms, educators, and mental health professionals. Future research should explore longitudinal effects and platform-specific behavioural interventions.