

Project Report On Students Social Media Addiction

Resource: Students Social Media Addiction.csv

Tools Used: PySpark,Pandas

1.Dataset Description:

- Total Records: ~1,000 student responses collected through surveys on social media usage and behavioral patterns.
- Scope: Covers students across different academic levels (high school, undergraduate, postgraduate) and countries, providing demographic, behavioral, and psychological insights.

Columns:

- Student_ID
- Age
- Gender
- Academic_Level
- Country
- Avg_Daily_Usage_Hours
- Most_Used_Platform
- Affects_Academic_Performance
- Sleep_Hours_Per_Night
- Mental_Health_Score
- Relationship_Status
- Conflicts_Over_Social_Media
- Addicted_Score

Data Quality Controls:

Validation: Mandatory fields and range checks (e.g., usage hours between 0–24).

De-duplication: Removal of duplicate entries via unique Student_ID checks.

Anonymization: No personally identifiable information collected.

2.Operations Performed

Data Cleaning & Exploration:

- Verified dataset integrity — checked for missing or null values and ensured data consistency across all attributes.
- Ensured correct data types for each column (numeric for scores/hours and categorical for demographic fields).
- Checked for duplicate Student_ID entries and removed if any were found.

- Validated that numerical columns such as Avg_Daily_Usage_Hours, Sleep_Hours_Per_Night, Mental_Health_Score, and Addicted_Score contained valid non-negative values within expected ranges.
- Summarized numerical columns using statistical measures — mean, median, mode, standard deviation, and interquartile range (IQR) to understand central tendencies and spread.
- Analyzed unique values in categorical columns such as Gender, Academic_Level, Country, and Most_Used_Platform to understand dataset composition.
- Generated frequency counts and visual distributions for demographic variables.

Descriptive Analytics

- Calculated and visualized average daily usage hours across different academic levels and genders using bar charts.
- Analyzed the most used social media platforms among students through bar and pie charts.
- Examined how social media usage affects academic performance using grouped bar charts and percentages.
- Studied the distribution of addiction scores among students using histograms and boxplots.
- Compared average sleep hours and mental health scores across usage intensity categories.
- Created country-wise comparisons of average addiction levels using bar charts.
- Visualized correlation between usage hours, sleep, and addiction score using scatter plots and heatmaps.

Relationship Analysis

- Explored the relationship between average daily social media usage and mental health score to identify potential stress or anxiety patterns.
- Analyzed how sleep duration impacts the addiction and mental health scores.
- Compared addiction levels among students based on academic level, gender, and relationship status.
- Studied the association between conflicts over social media and academic performance.
- Identified top platforms associated with higher addiction scores.
- Highlighted correlations and visual relationships between behavioural, academic, and psychological attributes using trend, distribution, and correlation plots.

3.Key Insights:

Usage Patterns

- The average daily social media usage among students ranges between 2 to 8 hours, with a significant portion spending over 4 hours daily, indicating potential overuse.
- Instagram and YouTube emerged as the most used platforms, followed by WhatsApp and Snapchat.
- Undergraduate students reported the highest average usage hours, while postgraduates showed relatively balanced usage habits.

Academic & Behavioral Impact

- A clear negative trend was observed between average daily usage hours and academic performance perception — students spending more than 5 hours daily were more likely to report academic decline.
- Students with higher addiction scores tended to report more frequent conflicts over social media and reduced academic focus.
- Participants reporting adequate sleep (7–8 hours/night) had lower addiction scores and better mental health ratings than those with less than 5 hours of sleep.

Mental Health & Lifestyle Correlation

- There exists a moderate negative correlation between average daily usage and mental health score, implying that excessive social media use is associated with increased stress and anxiety levels.
- Students in a relationship showed slightly higher addiction levels, potentially linked to social comparison or emotional dependency online.
- Gender-based analysis indicated that female students reported slightly higher average usage, but male students showed greater variance in addiction scores.

Country-wise Observations

- Students from urbanized or digitally active countries displayed higher average screen time and addiction scores compared to those from less-connected regions.
- However, sleep hours and mental health awareness were comparatively higher in developed regions, indicating a more balanced digital lifestyle.

4.Recommendations:

For Students

- Set daily social media time limits (≤ 2 hours) and use digital wellness tools to monitor screen time.
- Prioritize offline hobbies and physical activities to reduce dependence on social media for emotional satisfaction.
- Practice digital detox — dedicate at least one day per week with minimal online interaction.

For Educational Institutions

- Integrate awareness programs about digital addiction, time management, and mental health care into the curriculum.
- Encourage academic communities and student clubs to promote healthy social interactions offline.
- Use analytics-based approaches to identify students at risk of digital addiction and provide early counselling interventions.

For Parents & Guardians

- Monitor and guide students' screen time constructively, without imposing strict bans that may trigger resistance.

- Promote open conversations about the impact of online activities on sleep, concentration, and mood.
- Create family tech rules (e.g., no screens during meals or before bedtime).

For Policymakers & Developers

- Encourage tech companies to integrate mental health-friendly features — such as break reminders, screen time insights, and reduced engagement-driven algorithms.
- Support initiatives and campaigns that raise awareness about digital addiction and responsible media use among youth populations.

Conclusion:

In conclusion, while social media offers vast opportunities for learning, connection, and entertainment, excessive and unregulated use can harm students' academic growth and overall health. Hence, students must develop digital discipline, educators should encourage healthy screen habits, and awareness programs should be implemented to promote responsible social media usage.



