Social Media Usage & Impact Analysis on Student’s Life

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✨ Introduction

Social media has become deeply integrated into student life, influencing academic performance, sleep, mental health, and personal relationships.
This project analyzes student data across 110 countries, examining patterns in usage hours, addiction levels, platform preferences, and well-being.
The outcome is a comprehensive Power BI dashboard and this detailed insights report, designed to help educators, policymakers, and mental health advocates understand and act on these findings.

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🎯 Project Objectives

- Identify which age groups and academic levels are most addicted to social media.
- Analyze which platforms contribute most to academic decline and conflicts.
- Explore the relationship between daily usage, sleep hours, and mental health.
- Compare patterns across gender, relationship status, and country.
- Provide recommendations for awareness, support, and well-being initiatives.

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📊 Dataset Overview

Total Records: Students across 110 countries
Features Included:

- Demographics: Age, Gender, Academic Level, Country
- Behavior: Avg. Daily Usage, Most Used Platform, Addiction Score
- Well-being: Sleep Hours, Mental Health Score, Conflicts, Academic Impact
- Relationship Status

✅ No missing values were detected
✅ Dataset captures both global and regional platform preferences

🔑 Key Findings

👥 Age
- Ages 18–21 show the highest addiction scores and daily usage.
- Younger students report more conflicts over social media.

📲 Platforms
- Most Addictive Platforms: WhatsApp (7.46), Snapchat (7.46), TikTok (7.42).
- Affects Studies the Most: TikTok (93%), Snapchat (92%), Instagram (69%).
- Highest Average Daily Usage: WhatsApp users spend 6.5 hrs/day.
- Lowest Impact: LinkedIn and LINE users report minimal addiction or conflicts.

🎓 Academic Levels
- High School students are the most addicted group (8.03 avg. score).
- Students reporting academic impact have addiction scores of 7.46 vs 4.59 (unaffected).

😴 Sleep & Health
- Higher social media usage = lower sleep hours (–0.79 correlation).
- Strong negative correlation between addiction and mental health (–0.94).
- Students with <5 hours sleep show extremely high addiction scores.

❤️ Gender & Relationships
- Females show slightly higher addiction (6.51 vs 6.35 for males).
- Students in complicated relationships report the highest conflicts and addiction.
- Singles and those “in a relationship” show similar daily usage (~4.9 hrs).

🌍 Countries
- Highest addiction scores (~9): Liechtenstein, Czech Republic, Armenia, Lebanon, Ecuador.
- Longest sleep hours: Switzerland, Denmark, Netherlands (8+ hrs).
- Regional platform preferences: LINE in Japan, WeChat in China, Instagram globally.

🔎 Segmentation (KMeans Clustering)
- Balanced Users (Cluster 0): Low addiction, good sleep, high mental health.
- Heavy Addicts (Cluster 1): Highest addiction, longest usage (6.5 hrs), poor sleep & low mental health.
- Moderate Users (Cluster 2): Medium addiction, average sleep, fair mental health.

📌 Insights

- Students with >6 hrs daily usage are at the highest risk of academic and health decline.
- Platform choice matters: TikTok & Snapchat users are most academically impacted.
- Sleep deprivation is a clear warning sign of higher addiction and poorer mental health.
- Relationship stress directly correlates with higher conflicts.
- Country-level data shows unique risk profiles requiring localized interventions.

✅ Recommendations

📢 Awareness Programs
- Focus campaigns on high-risk platforms (TikTok, Snapchat, WhatsApp).
- Promote digital balance & healthy sleep routines.

🏫 Educational Institutions
- Monitor students with >5 hrs/day usage as early warning signs.
- Organize workshops on time management & digital detox.

💡 Mental Health Support
- Provide counseling & wellness programs for high-addiction groups.
- Encourage offline activities, sports, and group study sessions.

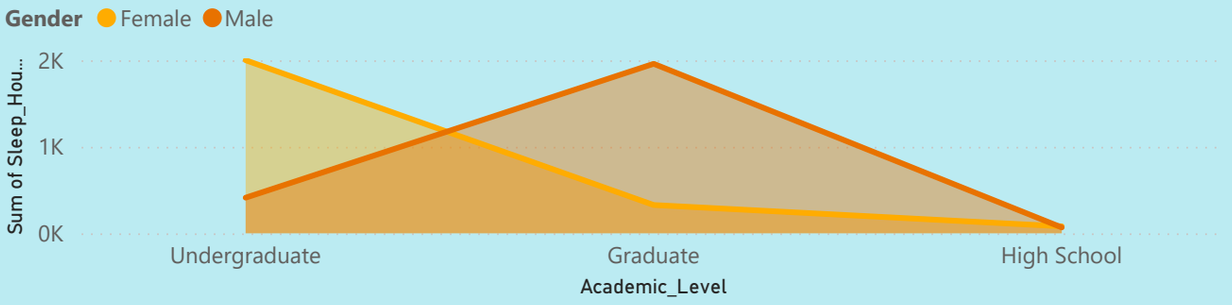
👨‍👩‍👧 Parents & Policy Makers
- Guide younger students (18–21) about responsible digital habits.
- Reduce late-night social media use to improve focus and sleep.

🔬 Further Research
- Explore country-specific platform impacts for tailored interventions.
- Expand clustering analysis to build personalized awareness strategies.

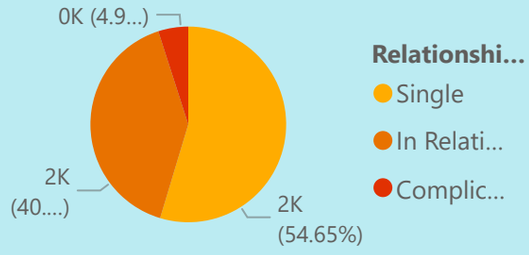
Student's Social Media Addiction

3.80	6.44	4.92	18	24	6.23
Min of Sleep_Hours_Per_Night	Average of Addicted_Score	Average of Avg_Daily_Usage_Hours	Min of Age	Max of Age	Average of Mental_Health_Score

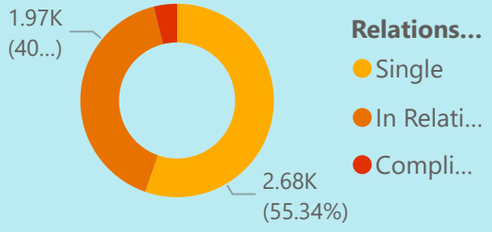
Sum of Sleep_Hours_Per_Night by Academic_Level and Gender



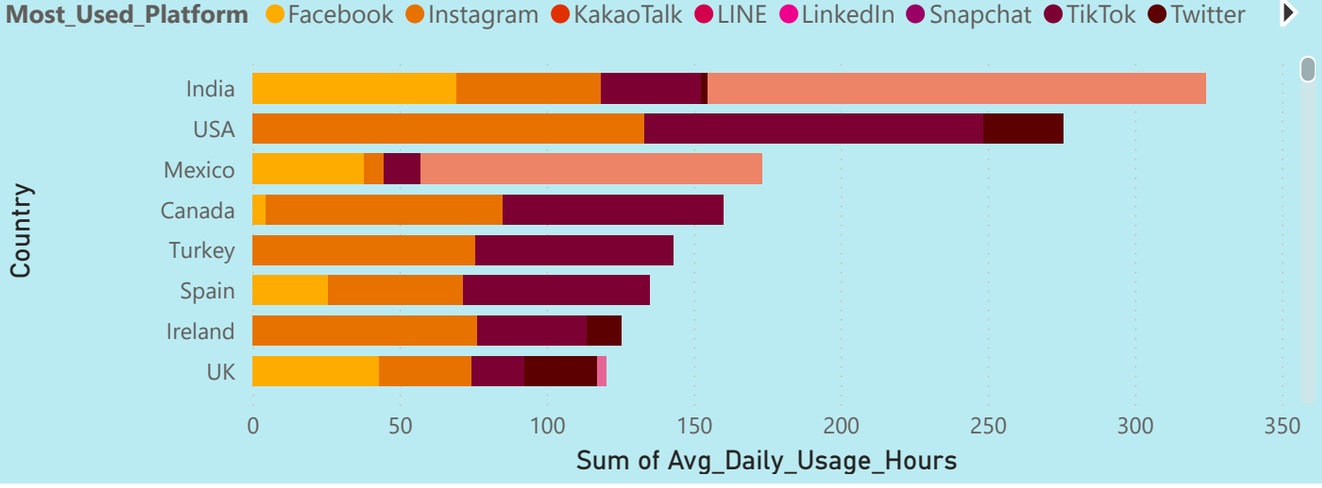
Sum of Addicted_Score by Relationship_Status



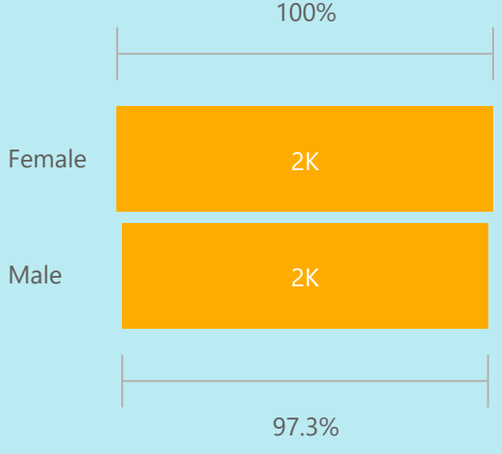
Sum of Sleep_Hours_Per_Night by Relationship_Status



Sum of Avg_Daily_Usage_Hours by Country and Most_Used_Platform

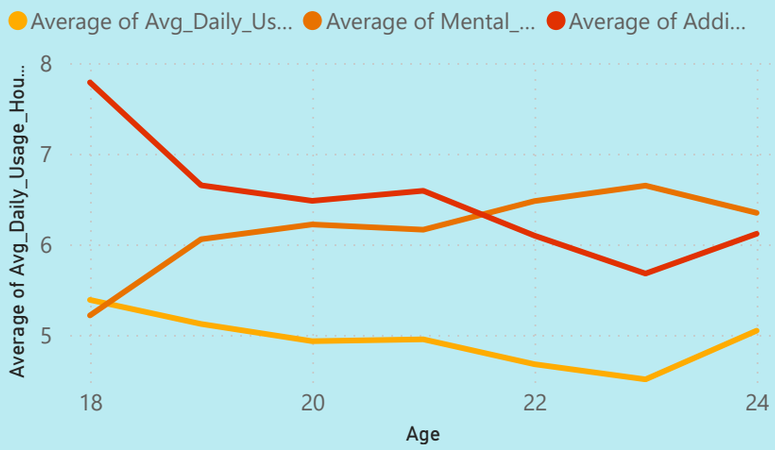


Sum of Addicted_Score by Gender

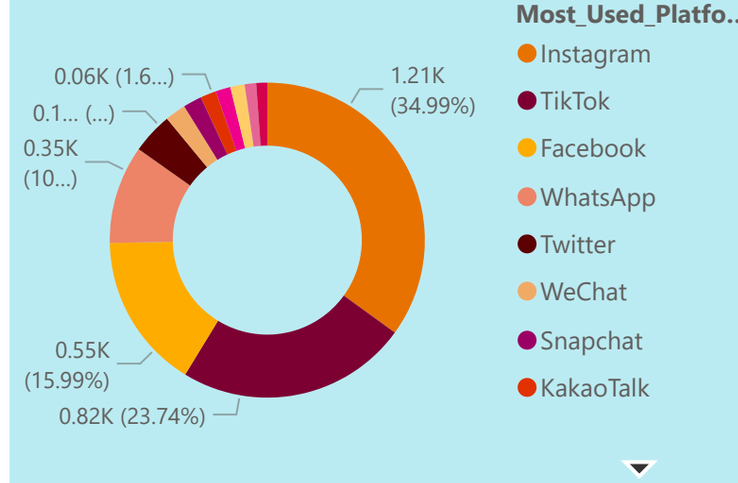


Most_Used_Platform
Facebook
Instagram
KakaoTalk
LINE
LinkedIn
Snapchat
TikTok
Twitter
VKontakte
WeChat
WhatsApp
YouTube

Average of Avg_Daily_Usage_Hours, Average of Mental_Health_Score and Average of Addicted_Score by Age

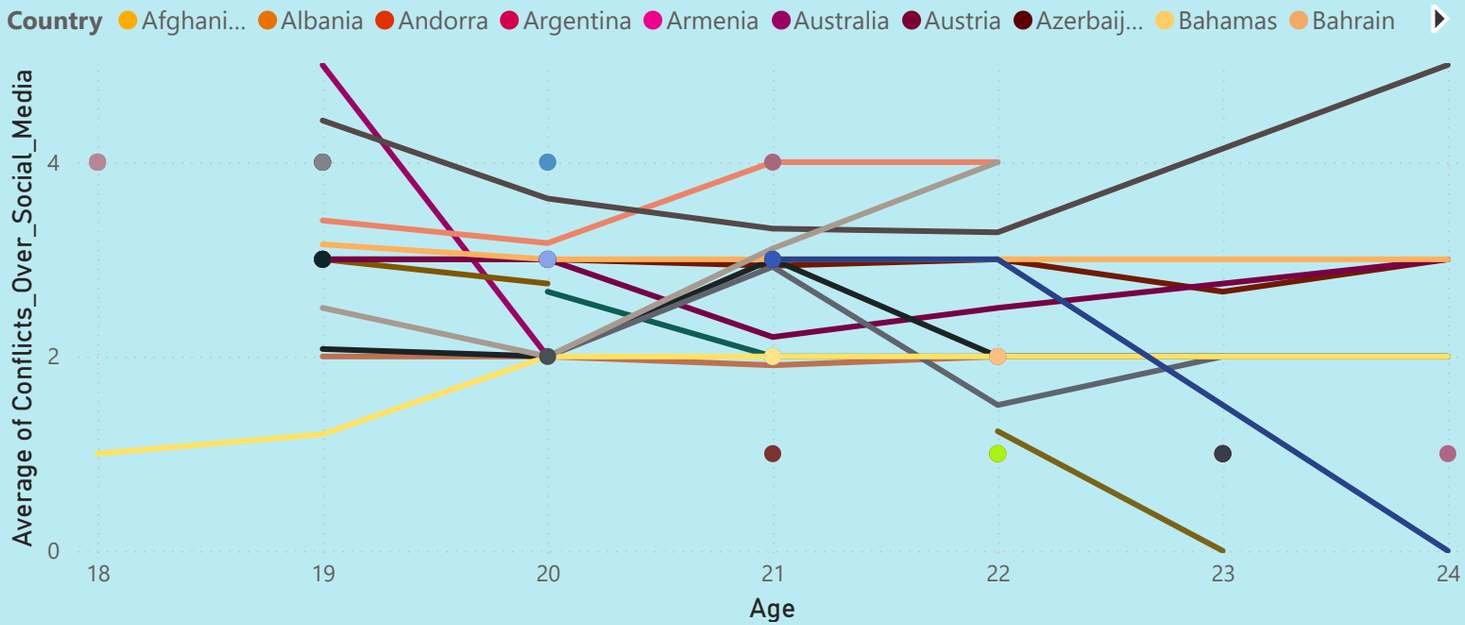


Sum of Avg_Daily_Usage_Hours by Most_Used_Platform

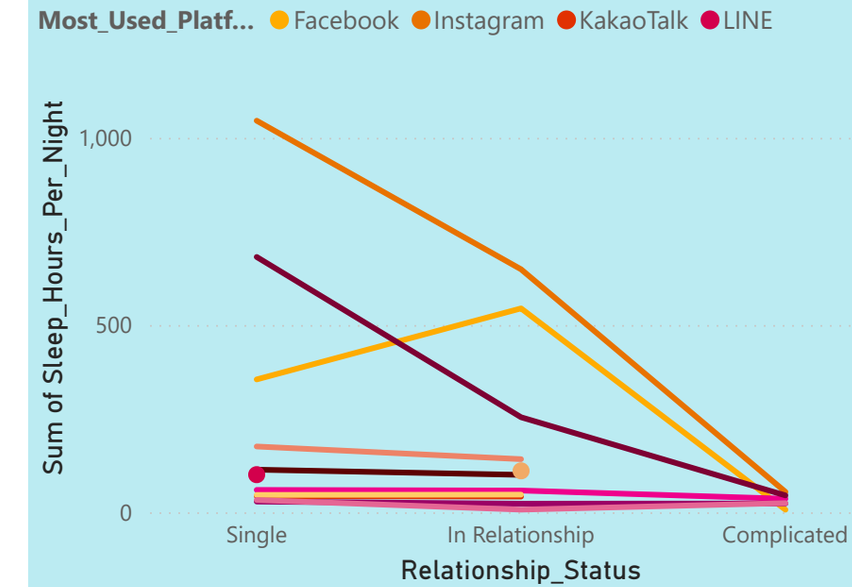


Most_Used_Platform	Affects_Academic_Performance
Facebook	No
Facebook	Yes
Instagram	No
Instagram	Yes
KakaoTalk	Yes
LINE	No
LinkedIn	No
Snapchat	No
Snapchat	Yes
TikTok	No
TikTok	Yes
Twitter	No
Twitter	Yes

Average of Conflicts_Over_Social_Media by Age and Country

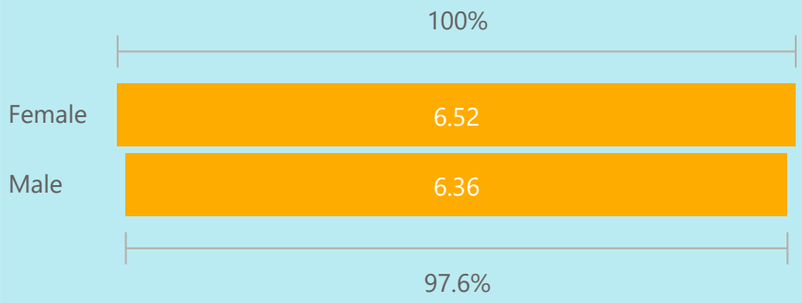


Sum of Sleep_Hours_Per_Night by Relationship_Status and Most_Used_Platform

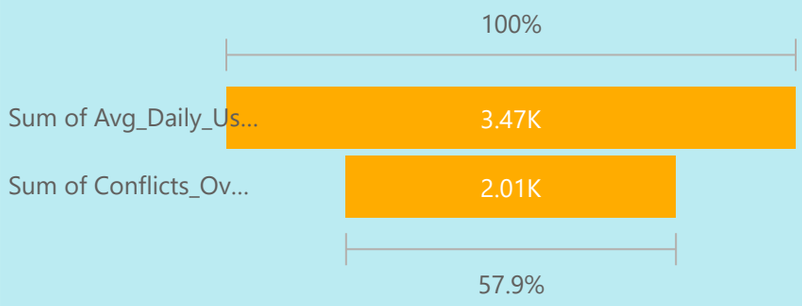


Age	Average of Sleep_Hours_Per_Night	Average of Avg_Daily_Us
22	7.13	
23	6.94	
21	6.87	
20	6.86	
24	6.85	
19	6.74	
18	5.54	
Total	**6.87**	

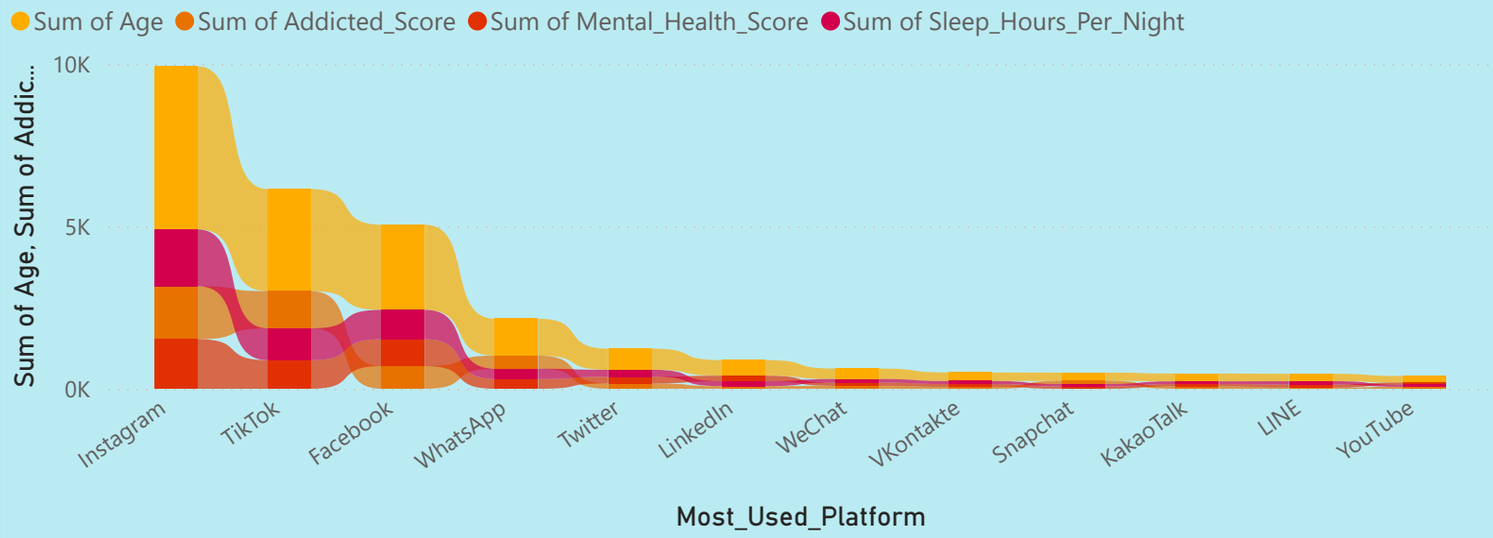
Average of Addicted_Score by Gender



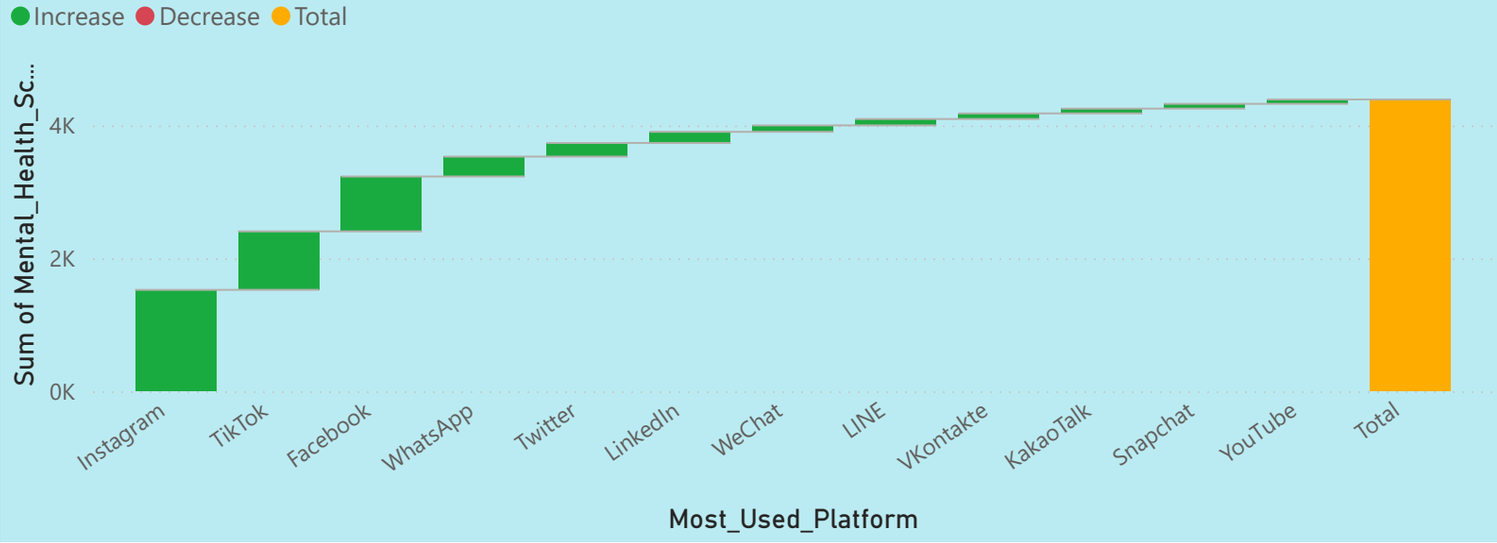
Sum of Avg_Daily_Usage_Hours and Sum of Conflicts_Over_Social_Media



Sum of Age, Sum of Addicted_Score, Sum of Mental_Health_Score and Sum of Sleep_Hours_Per_Night by Most_Used_Platform



Sum of Mental_Health_Score, Sum of Addicted_Score and Sum of Avg_Daily_Usage_Hours by Most_Used_Platform



📊 Power BI Dashboard
The interactive dashboard includes:

- Age & Gender trends (usage, addiction, sleep)
- Platform impact on academics, mental health, conflicts
- Country-level addiction & platform maps
- Relationship status & platform analysis
- Risk segmentation (Low, Medium, High)

🏁 Conclusion

This analysis shows that social media addiction significantly affects students' academics, sleep, and mental health.
Balanced use and awareness are critical to improving well-being.
📊 The Power BI dashboard + 📄 this document together provide actionable insights for students, educators, and policymakers to address social media addiction effectively.

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