The Dual-Edged Sword: Benefits and Distractions of Social Media in Higher Secondary Education

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Abstract: *Higher secondary students' personal and academic lives are now intricately entwined with social media. Applications like WhatsApp, Facebook, Instagram, YouTube, and Telegram offer never-before-seen peer support, educational materials, and collaborative learning environments, but they also bring with them potent distractions that can impair focus, encourage procrastination, and lower academic achievement. This research explores the dual impact of social media on higher secondary education, highlighting both its educational benefits and distractions. This research employs a mixed-method approach, combining quantitative surveys and qualitative interviews to investigate the advantages and distractions of social media use among students in Grades 11–12 in Bihar, with a focus on the Darbhanga district. The results show a complex "dual-edge": 70% of students say they use social media to share notes and clear up their doubts, but 68% acknowledge that having notifications all the time makes it difficult to focus when studying. Regression analyses indicate a strong inverse relationship between the frequency of multitasking and academic performance, but no correlation between total social media time and grade point average. The main mechanisms of distraction identified by thematic analysis of interviews are cognitive overload, continuous partial attention, and FOMO (fear of missing out). Based on these observations, the study suggests teacher-mediated online environments, structured digital literacy programs, and self-regulation techniques to strike a balance between social media's disruptive potential and educational potential.*

Key Words: *Social Media, Higher Secondary School Students.*

1. INTRODUCTION:

Due to the widespread availability of smartphones and reasonably priced data plans, social media has become an essential part of teenage life. Over 90% of 16-18-year-olds in India own a smartphone (Statista, 2024), which is revolutionizing how students interact, obtain information, and build knowledge. The challenge for educators and policymakers is to maximize these platforms' instructional affordances while reducing their potential for overwhelm and distraction. Previous research shows conflicting results: excessive or aimless use of social media is associated with a lower GPA (**Grade Point Average**) (Kirschner & Karpinski, 2010), while moderate, purpose-driven use can improve engagement and collaboration (Junco, 2012). More recent studies focus on platform design that may compromise prospective memory, such as TikTok or Instagram's popular short-form, infinite-scroll feeds. However, there is still a dearth of empirical research specifically addressing higher secondary students (grades 11–12), a group that is subject to rigorous academic pressure and high-stakes tests, especially in the Indian context.

2. LITERATURE REVIEW:

Various studies highlight the dual impact of social media in education. According to Junco (2012), students who use social media moderately for academic discussions tend to perform better. However, Kirschner and Karpinski (2010) found that students using Facebook frequently had lower GPA scores. Furthermore, Ahn (2011) emphasized that the effectiveness of social media depends on the user's intent and guidance by educators.

The educational potential of social media stems from its ability to facilitate multimodal resources, peer-to-peer explanations, and real-time feedback. According to a 2024 study of math teachers in Israel, students were more willing to ask questions in WhatsApp groups, in part because the semi-anonymous setting lessened their fear of being judged. In a similar vein, video-focused websites such as YouTube offer comprehensive, self-paced tutorials that enhance

classroom education. By relating learning to students' interests outside of school, social media can increase intrinsic motivation. For instance, Edmodo communities promote autonomy and relatedness by facilitating project-based learning outside of regular school hours. Time alone is a crude metric, according to Jabr and Mohammed (2023), who polled 364 Iraqi secondary students and found no direct correlation between social media use and GPA. Rather, outcomes are mediated by self-regulation and the quality of engagement.

3. OBJECTIVES OF THE STUDY :
- To examine the purposes for which students use social media.
- To analyze the educational benefits gained from social media.
- To identify the common distractions linked to social media use.
- To evaluate the relationship between social media usage and academic performance.

Research Questions:
- How do students use social media for academic and non-academic purposes?
- What are the perceived educational benefits of social media?
- What distractions arise from its usage?
- How does social media usage impact academic performance?

4. APPROACH:
Design of Research
A mixed-methods design was used. A structured questionnaire that was modified from the Social Media Engagement Scale for Adolescents (SMES-A) was used to gather quantitative data. Semi-structured interviews were used to collect qualitative information.

Participants
The study was conducted on a total of 60 students (30 boys and 30 girls) of 11th and 12th class from G.P. High School Bhadahar Kusheshwarsthan, Darbhanga Bihar.

Data Collection Tools
- Structured questionnaire (Likert-scale based)
- Semi-structured interviews

Data Analysis
Quantitative data were analyzed using descriptive statistics and correlation tests. Qualitative data were subjected to thematic analysis.

5. DATA INTERPRETATION:
Characteristic Data
• 4.6 hours a day on average (SD = 1.6) are spent on social media.
• The most popular platforms are Instagram (31%), Facebook (26%), YouTube (23%), Whatsapp (13%) and other application (7%).

Analysis of Correlation
There was no discernible relationship between total social media time and grade point average GPA ($r = .08$, $p = .24$). Nonetheless, there was a negative correlation between multitasking frequency and GPA ($r = .29$, $p < .01$). Self-reported study satisfaction was positively connected with the amount of time spent on academic purposes (e.g., doubt-clearing groups) ($r = .34$, $p < .01$).

Themes of Qualitative Analysis
The first theme was "Peer Power," where students appreciated receiving immediate feedback through WhatsApp groups. The second theme was "Rabbit-Hole Scrolling," where participants talked about losing track of time while watching Instagram reels. The third theme is "Notification Anxiety," which is the urge to check gadgets even while studying due to frequent alerts. The fourth theme is "Strategic Compartmentalization," where high achievers used do-not-disturb modes or separate accounts.

6. FINDINGS:
Final thoughts
        The results support previous research that suggested the impact of social media is dependent on how it is used, not just how much of it is used. According to Jabr and Mohammed (2023), GPA was not predicted by total usage hours. Instead, multitasking was found to be the main deterrent, which is consistent with the continuous partial attention framework and explanations of cognitive load. Qualitative data support this perspective: students attributed time loss to

design elements like infinite scroll and autoplay, echoing the experimental results of Chiossi et al. (2023).On the positive side, the social constructivist idea that knowledge is co-created is reflected in the popularity of peer-support groups. The increasing use of WhatsApp and YouTube channels by educators for scholarly discussions indicates the possibility of teacher-mediated, structured use. However, students are still susceptible to distraction and false information in the absence of digital literacy scaffolds. Social media by itself is neither a solution nor a danger. When use is goal-oriented, moderated, and integrated into a digital literacy framework, its educational value for upper secondary students is maximized. Social media is a powerful tool that, if used responsibly, can enhance learning and academic collaboration. However, its potential to distract and consume time must be managed carefully. Higher secondary students need proper awareness, digital discipline, and structured usage habits to maximize the academic benefits of social media and minimize its distractions. Its dual-edged nature makes it imperative for students, teachers, and parents to set clear boundaries and use strategies to optimize its benefits.

Social Media Usage Trends
- 85% of students reported using social media daily.
- Top platforms: Instagram (31%), Facebook (26%), YouTube (23%), WhatsApp (13%).
- 40% used WhatsApp for group discussions related to schoolwork.
- 70% used YouTube for tutorials and lectures.
- 60% spent more than 4 hours daily on social media, with only 30% of that time spent on educational activities.

Educational Benefits Identified
- Access to free tutorials and explanations (especially in science and mathematics)
- Peer learning through group chats
- Updates about assignments, exams, and study resources
- 40% used WhatsApp for doubt-clearing groups.
- 70% reported watching subject-related videos on YouTube.
- 52% engaged in peer discussions related to homework and projects.

Common Distractions
- Frequent notifications interrupt study sessions.
- Prolonged scrolling through Instagram/Reels.
- Reduced concentration and procrastination.
- 68% admitted to scrolling reels during study breaks and losing track of time.
- 50% felt social media interfered with their exam preparation.
- 30% reported increased anxiety due to constant comparison with peers.

Impact on Academic Performance
- Students who structured their social media time performed better than those with unregulated use.
- A weak negative correlation (-0.35) was observed between overall screen time and academic scores.

Student Perceptions
- 65% acknowledged that social media helped them academically.
- 75% admitted to being distracted often while studying.
- 25% feel they are addicted to social media.
- 35% think parental or teacher guidance is necessary.

7. SUGGESTIONS
- Schools should introduce digital literacy and time management training.
- Use of educational platforms like Online Classroom or YouTube should be encouraged.
- Incorporating Social Media into the curriculum for project-based and collaborative learning.
- Parents and teachers should guide students to set daily screen time limits.
- Apps that block distracting content during study hours can be promoted.
- Reduce off-topic chatter by implementing teacher-moderated social media platforms (like WhatsApp and YouTube) for curriculum support.
- To reduce cognitive fatigue, promote the "Take Five" strategy, which calls for five-minute offline breaks each hour.

8. FUTURE SCOPE
Future research can examine the impact of social media usage on emotional well-being and sleep quality. Longitudinal designs should be used in future studies to investigate causal pathways and investigate adaptive technologies that can

dynamically regulate cognitive load, like AI-driven focus apps. The relationship between academic achievement and social media usage also can be investigated.

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