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A Study on the Impact of Social Media Usage on Academic Performance among Higher School Students

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Abstract-- Social media has become an unavoidable part of daily life for students in India, particularly those enrolled in higher secondary and undergraduate programs. With platforms like Instagram, YouTube, WhatsApp, and Snapchat consuming several hours per day, questions about how this affects study habits, concentration, sleep quality, and ultimately academic results have become more relevant than ever. This study examines the relationship between social media usage and academic performance among higher school students, with a specific focus on the Indian educational context.

A structured survey was administered to 60 students (Classes XI–XII and first-year undergraduate) from Bhopal, Madhya Pradesh. Data was recorded regarding daily usage (time spent on social media), type of platforms used, study disruption patterns, sleep patterns and last scores. Results indicate a moderate negative correlation between excessive use of social media and academic performance, however, some exceptions (e.g. students who used the sites selectively for study purposes) appeared. Results suggest time management purpose of use and peaks of distraction are crucial factors. The study recommends targeted digital literacy interventions for students and institutional guidelines on responsible social media use.

Keywords-- Social Media, Academic Performance, Higher School Students, Digital Distraction, Study Habits, Sleep, India, Time Management.

I. INTRODUCTION

In a classroom in Satna, a teacher notices that at least half the students are yawning by 9 AM. Not because they slept late studying — but because they were scrolling Instagram until 1 in the morning. This is not an exaggeration; it is a reality visible in most higher secondary schools and colleges across India today. In India, there is a huge number of people accessing the internet, i.e. there are more than 600 million net users [1] and many of them are in the 15–25 age group. Social media is no longer just a communication tool — for today's students, it has become a default habit, an emotional escape, and often, an academic obstacle.

Smartphone penetration in smaller cities has increased dramatically since 2020, meaning students who could not previously afford data connections now have constant access to social media platforms.

WhatsApp groups for class updates, Instagram for peer validation, YouTube for entertainment (and sometimes learning), and Snapchat streaks dominating free time — this is the ecosystem in which Indian students are now trying to study and score well in competitive examinations.

The academic pressure on Indian students is substantial. Board examinations, entrance tests like JEE and NEET, and college admissions make Classes XI and XII particularly stressful. Yet paradoxically, social media usage often intensifies during this exact period — perhaps because the pressure itself drives students toward distraction as a coping mechanism [3]. Various researches across the world have implicated excessive use of social media sites as one of the ways in which academic performance is adversely affected. Excessive use of social media during study hours and nocturnal hours have been shown to influence performance adversely.[5], [7]. Nevertheless, the picture can, at least to some extent, be a balanced one; there is research showing that, in fact, using social media with an academic intention, e.g., following pages with an academic focus or joining online groups for studying, can promote achievement. [10], [12].

II. OBJECTIVES OF THE STUDY

- To analyze the impact of social media usage on the academic performance of higher school students in the Indian educational context.
- To compare high social media users (more than 4 hours/day) and low social media users (less than 2 hours/day) by academic scores, study habits, and concentration levels.
- To identify the primary platforms used and their perceived educational versus recreational purpose.
- To examine the relationship between late-night social media use, sleep quality, and academic performance.

III. RESEARCH QUESTIONS

- RQ1: Is there a significant relationship between daily social media usage hours and academic performance among higher school students?



- RQ2: How do high social media users differ from low users in study concentration, sleep quality, and overall academic results?
- RQ3: Which platforms are most used by students, and for what primary purpose — entertainment or education?

IV. LITERATURE REVIEW

The research consensus on social media and academic performance points consistently toward a negative relationship for heavy, recreational use — though the strength and direction depend considerably on how social media use is defined and who is studied. Junco [2] found that time spent on Facebook was negatively related to GPA and positively related to time spent preparing for class — suggesting not that social media use itself harms grades, but that it competes with study time. Kirschner and Karpinski [4] similarly found that Facebook users had significantly lower GPAs than non-users among a sample of undergraduate students.

For the Indian context specifically, board exam pressure appears to intensify social media-related distraction rather than suppress it — students report using platforms more during stressful exam periods as a coping mechanism [3]. The class WhatsApp group has emerged as a uniquely Indian academic stressor: students feel unable to mute or leave it without missing critical announcements, creating compulsive checking behavior even during study sessions [6]. A large international study across 12 countries including India found a moderate negative correlation ($r =$

-0.41) between social media use beyond 3 hours and self-reported academic performance, with effects stronger in high-pressure academic systems [11]. Sleep is a critical mediating variable. Cain and Gradisar [13] reviewed electronic media use and sleep across adolescent populations and established that evening screen use consistently delayed sleep onset and reduced total sleep duration. Woods and Scott [14] specifically linked social media use at night to poorer sleep quality and reduced concentration the following day among school students a cycle well-represented in this study's data. The literature also acknowledges a positive exception: when students use platforms with clear educational intent — academic YouTube channels, study-material Telegram groups — outcomes can be comparable to those of low users, provided good time management habits co-exist [9], [12].

V. PROPOSED METHODOLOGY

A. Research Design

This study used a descriptive and analytical cross-sectional design. Data collection was primarily quantitative, with qualitative observations recorded during survey administration. A cross-sectional approach was chosen as it allows reasonably large-scale data collection within a defined timeframe — appropriate for student-level research conducted over a semester period [15].

B. Population and Sample

The target population was higher school students enrolled in Classes XI–XII and first-year undergraduate programs in Satna, Madhya Pradesh. A purposive sample of 60 students was drawn from three institutions: a government higher secondary school, a private English-medium school, and a degree college. The sample included 34 male and 26 female students aged 15–19 years. A sample of 60 was considered adequate for exploratory analysis at this study scale.

C. Data Collection Tool

A structured questionnaire — the primary instrument covered three areas: (a) demographic information, (b) social media usage patterns, and (c) academic performance and study habits. Subjective items used a five-point Likert scale. Last examination scores were self-reported and verified where possible against grade cards. The questionnaire was administered in person and via Google Forms over three weeks in March 2026.

D. Data Analysis

Responses were analyzed using descriptive statistics frequency counts, percentage analysis, mean, and standard deviation. Students were classified as High Users (4+ hours/day) or Low Users (2 or fewer hours/day), and a comparative analysis was performed across academic and behavioral variables for these two groups.

VI. DATA ANALYSIS AND INTERPRETATION.

Demographic Profile of Respondents

Male students comprised 56.7% of the sample, broadly reflecting enrollment patterns. The 17–18 age group (46.7%) represents the critical board examination cohort, making these findings particularly relevant to the academic pressure discussion.



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Table 1: Demographic Profile of Respondents (N=60)

Category	Sub-Category	Number of Students	Percentage (%)
Gender	Male	34	56.7%
Gender	Female	26	43.3%
Class	Class XI	22	36.7%
Class	Class XII	21	35.0%
Class	1st Year UG	17	28.3%
School Type	Government School	20	33.3%
School Type	Private School	24	40.0%
School Type	Degree College	16	26.7%
Age Group	15–16 years	18	30.0%
Age Group	17–18 years	28	46.7%
Age Group	19 years	14	23.3%

Social Media Usage Patterns

As Figure 1 shows, 70% of respondents spend 2 or more hours daily on social media — only 30% qualify as low users. Several self-reported 'moderate users' acknowledged during survey administration that their actual usage was likely higher, since they did not count passive scrolling or WhatsApp as 'social media time.' Figure 4 presents platform distribution. WhatsApp was the most widely used (90%) — primarily driven by compulsory class groups that students feel unable to leave. Instagram (80%) was almost entirely recreational, with Reels cited as the dominant content type. YouTube (70%) was the only platform where a meaningful subset — roughly 16 students — reported predominantly educational use: NCERT explanations, crash courses, competitive exam preparation

Figure 1: Daily Social Media Usage Distribution (N=60)

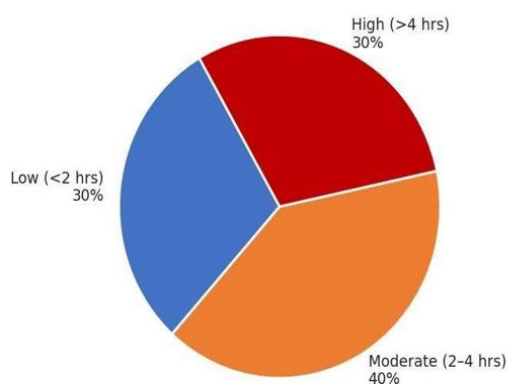


Fig. 1. Distribution of students by daily social media usage category (N=60). Source: Survey data, March 2026.

Figure 4: Most Time-Consuming Platform (N=60)

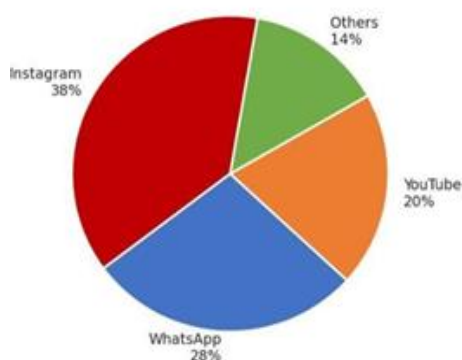


Fig. 4. Primary platform by time consumed (N=60). Instagram dominated recreational usage; WhatsApp usage largely class-group driven.

Late-Night Usage and Sleep Quality

Figure 6 illustrates the sleep impact gradient clearly. Among high users, 88.9% reported using social media after 11 PM and averaged only 5.4 hours of sleep — well below the 8–9 hours recommended for adolescents. Among low users, only 22.2% used platforms that late, and average sleep was 7.1 hours. The 72.2% rate of self-reported poor sleep quality among high users is concerning: sleep deprivation directly impairs memory consolidation, attention span, and next-day academic focus [13], [14].

Figure 6: Late-Night Usage, Sleep Hours & Poor Sleep Quality by Group

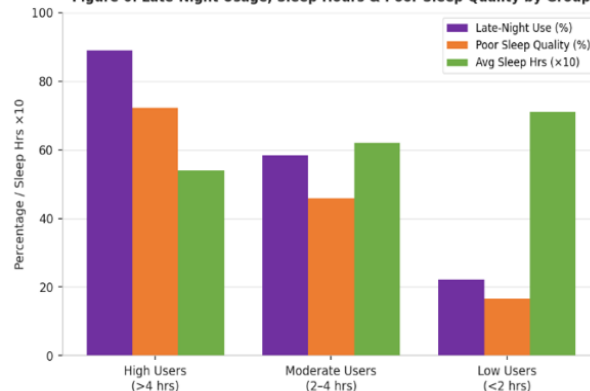


Fig. 6. Sleep impact by social media usage category. High users sleep ~5.4 hrs/night vs 7.1 hrs for low users

G. Academic Performance: High vs. Low Social Media Users

The 13.5 percentage point score gap between high and low users is academically significant — in many grading systems, that is the difference between a B and a C, or between clearing and missing an admission cutoff. The distribution matters more than the average: only 16.7% of high users scored above 75%, versus 61.1% of low users, and 27.8% of high users fell below 50%. Nearly all high users (94.4%) admitted using their phone during study sessions. This pattern reflects what cognitive researchers describe as 'attention residue' — the mind does not fully return to a study task after switching to a phone, even briefly [16]. Figure5visualises Full comparison.

Table 5: Comparative Academic Performance – High vs. Low Social Media Users

Parameter	High Users (>4 hrs/day) (n=18)	Low Users (<2 hrs/day) (n=18)
Mean Last Exam Score (%)	61.3%	74.8%
Students scoring above 75%	3 (16.7%)	11 (61.1%)
Students scoring below 50%	5 (27.8%)	1 (5.6%)
Self-reported concentration issues (often/always)	13 (72.2%)	4 (22.2%)
Average study hours per day	2.8 hrs	4.6 hrs
Students who missed assignment deadlines	9 (50.0%)	2 (11.1%)
Students using phone during study time	17 (94.4%)	5 (27.8%)

Figure 5: High vs Low Social Media Users – Key Parameter Comparison

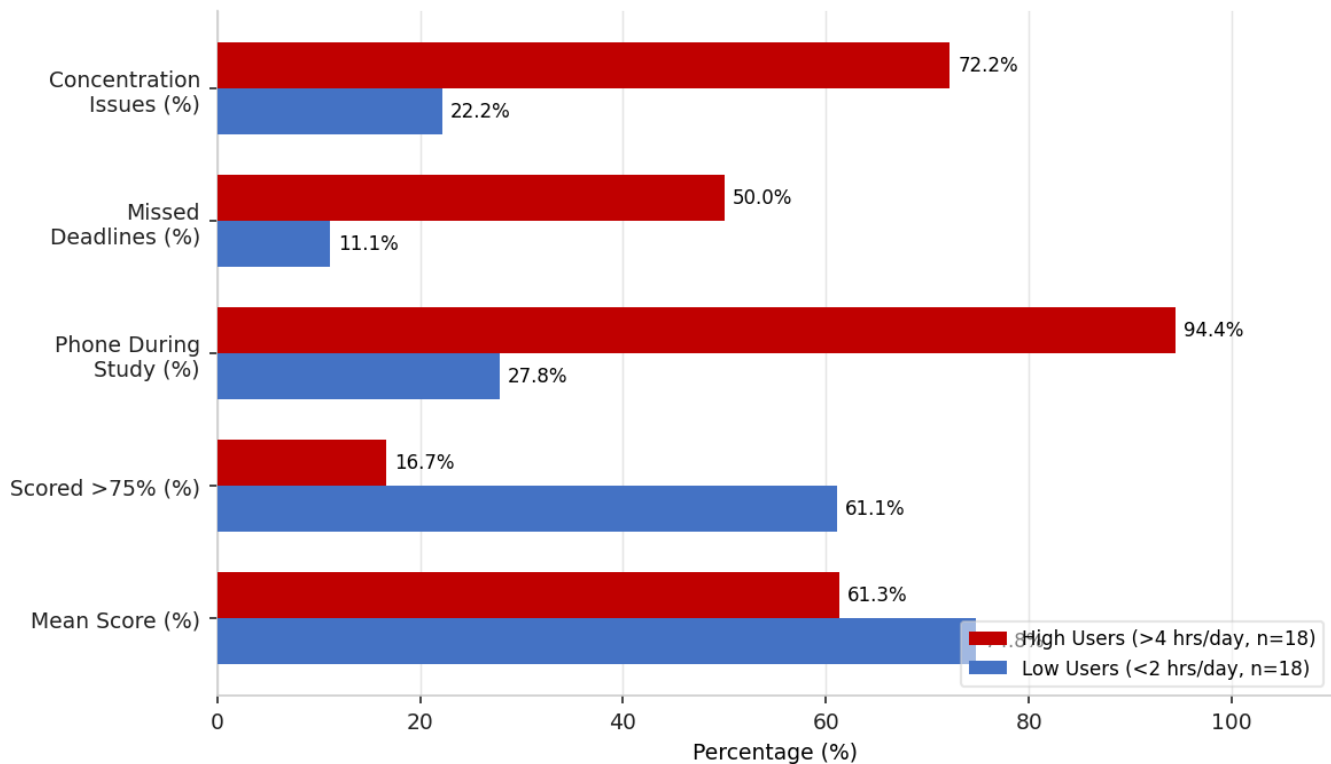


Fig. 5. Key academic and behavioral parameters compared across high and low user groups (n=18 each)

Purpose of Use and Academic Outcome

Figure 7 reveals an important nuance. The 8 students who used social media primarily for educational purposes — subject-specific YouTube channels, NCERT PDFs on Telegram, online study groups — averaged 76.2%, comparable to the low user group overall. Their concentration self-ratings were also notably higher (3.8/5 vs 2.3/5 for primarily recreational users). Social media, then, is not uniformly harmful. The issue lies in passive, recreational, undirected use and in students who lack structured habits around when and how they engage with platforms.

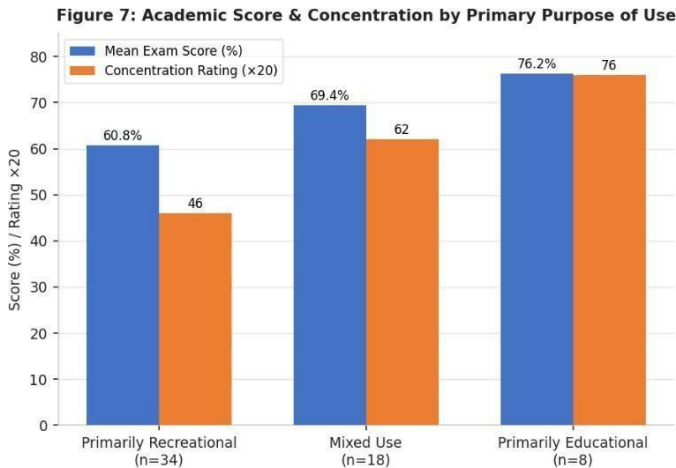


Fig. 7. Primarily educational users scored 76.2% vs 60.8% for recreational users. Concentration ratings followed the same gradient.

VII. RESULTS AND FINDINGS

The data supports H1. High social media usage is negatively associated with academic performance across multiple indicators — exam scores, study hours, sleep quality, concentration, and assignment completion rates. H0 is rejected on the basis of the observed differences, though causal direction cannot be confirmed without longitudinal data — it remains possible that struggling students turn to social media as a coping mechanism, rather than social media causing the underperformance. Figure 10 (radar summary) shows all six measured parameters simultaneously, illustrating consistent divergence between high and low user profiles.

Figure 10: Summary — High vs Low Users Across All Dimensions

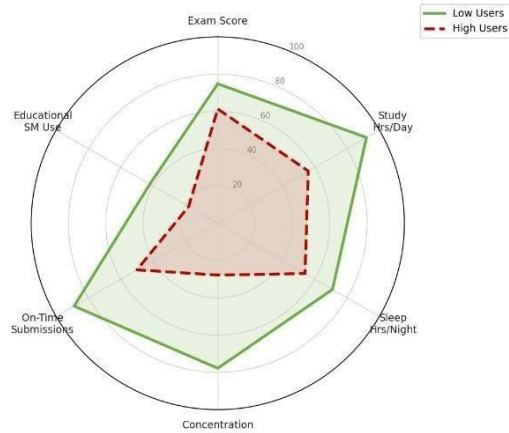


Fig. 10. Comparative radar chart: low users (teal) consistently outperform high users (red) on all six dimensions.

VIII. DISCUSSION

The WhatsApp paradox deserves specific attention. WhatsApp showed the highest penetration (90%), yet most of this usage was not voluntary socializing — it was driven by compulsory class groups. Students felt unable to mute or exit these groups without risking missed announcements or academic consequences. This creates a situation where even students who want to reduce screen time cannot do so fully. Institutions need to rethink how they communicate officially — a dedicated, notification-controlled channel for academic information could meaningfully reduce compulsive checking behavior during study hours.

The Instagram-Reels finding is less surprising but still striking. Reels consistently appeared in open-ended responses as the primary distraction. Short-form video is algorithmically designed to maximise engagement through dopamine-reward cycles students described opening Instagram 'for five minutes' and realizing an hour had passed. This time-distortion effect is well-documented in the digital behavior literature [17]. The sleep angle may be the most practically actionable finding of all: 88.9% of high users routinely use their phone after 11 PM, and they average 5.4 hours of sleep as a result. Charging phones outside the bedroom, enabling app timers, and school-based sleep hygiene awareness sessions are concrete, low-cost interventions.

The educational use finding should not be dismissed as a small-sample curiosity. Eight students showed that structured, purposeful engagement with social media — following academic channels, limiting recreational scrolling to specific windows, using Telegram for study material — produces outcomes comparable to abstaining from social media altogether. This suggests digital literacy education may be more sustainable than blanket restrictions. One informal observation from the survey process was also telling: multiple students who estimated their daily usage at 1–2 hours were surprised to find their phone's screen time data showed 4–5 hours. This 'usage blindness' is itself an intervention target simply asking students to check their screen time weekly may prompt self-regulation.

IX. LIMITATIONS OF THE STUDY

- The sample of 60 students from Satna, Madhya Pradesh is sufficient for exploratory analysis but cannot be generalized to the broader Indian student population. Larger, geographically diverse studies are needed.
- Both examination scores and social media usage hours were self-reported. Students tend to underestimate actual usage — meaning the real relationship between usage and performance may be stronger than observed.
- The cross-sectional design captures a snapshot rather than a causal sequence. Whether high social media use causes lower performance or whether lower-performing students gravitate toward social media as stress relief cannot be determined from this data alone.
- Confounding variables — parental monitoring practices, prior academic ability, household digital rules — were not controlled for and may partly explain observed differences.

X. CONCLUSION

Based on data from 60 students surveyed in March 2026, this study found a consistent negative relationship between high social media usage and academic outcomes. High users scored an average of 13.5 percentage points lower than low users, studied fewer hours daily, reported significantly more concentration difficulties, slept less, and missed assignment deadlines at nearly five times the rate of low users. These differences held across multiple behavioral and academic indicators, lending confidence to the overall pattern.

The study also confirms an important nuance: social media use is not inherently academically harmful. Students who engaged with platforms intentionally — for subject-specific learning rather than passive entertainment — performed as well as low users overall. The problem is not the platform; it is the pattern of use. Going forward, both students and institutions have concrete actions available: screen time awareness, bedtime phone discipline, purposeful platform engagement, and better-designed official communication channels. This study makes a small but grounded contribution to the evidence informing these interventions.

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