

SOCIAL MEDIA CONSUMPTION AND COGNITIVE ATTENTION AMONG COLLEGE STUDENTS

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Abstract: This study investigates the relationship between social media use and attention span among college students, with particular focus on digital distraction and classroom performance. In recent years, social media platforms have become a major part of students' daily routines, offering communication, entertainment, and academic support. However, excessive and uncontrolled use may reduce concentration, increase multitasking habits, and negatively affect learning outcomes. The study examined patterns of social media usage, levels of classroom distraction, attention span, and academic performance among college students. The findings indicate that students who reported higher daily social media use showed lower attention scores and reduced classroom engagement compared with students who used social media moderately. Frequent checking of notifications, short-video consumption, and multitasking during lectures were identified as major sources of distraction. The results further suggest that reduced attention span is associated with weaker classroom performance, lower participation, and difficulty retaining lecture content. Students with better self-control and limited in-class phone use demonstrated stronger attention and improved academic outcomes. Overall, the study highlights that while social media can support communication and learning, excessive use may create serious challenges for student focus and classroom achievement. The findings emphasize the need for digital awareness, responsible technology use, and classroom strategies that help students manage distraction effectively.

Keywords: Social Media Use; Attention Span; Digital Distraction; College Students; Classroom Performance

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INTRODUCTION

The use of social media has become a lifeline for students, as the ability to access information and communicate with others has become an integral part of their everyday lives (Aitken et al., 2025; Nugraha & DHOWI, 2026). However, in the educational world there are some significant barriers to the adoption of this integration, because digital content is often delivered quickly and in a “discontinuous” form, creating disruptive situations in the classroom with frequent notifications. The process of “media multitasking” where students carry out academic activities in the use of social networking sites has also become an important part of today's college life, however, it is not without its negative effects on students' educational performance as studies have indicated (May & Elder, 2018; Singh, 2026). When students try to switch their attention from the lecture material to non-essential digital material they incur a “switching cost” that results in fewer mental resources available to maintain a focused attention and to effectively process the information, a feat that students find difficult to execute correctly (May & Elder, 2018; Pedro et al., 2018). The content on these platforms further contributes to this digital distraction as they predominantly focus on short video content that is fast-paced and stimulating, which can overload neural pathways and hinder more in-depth cognitive processing, and students may often be in a partial state of attention, lacking the capacity for analytical thinking (Mahmoudi et al., 2024; Poles, 2025). Based on the empirical evidence, it can be concluded that there is a systematic negative correlation between non-academic use of social media before the real-time lesson and during the real-time lesson and grade performance; reading comprehension and note-taking efficiency (Demirbilek & Talan, 2017; May & Elder, 2018; Wammes et al., 2018). Besides that, the “after-effects” that occurred after using

these media have also been found, namely the cognitive after-effects of media use in the form of a negative impact on attention during learning, which will make cognitive preparation easier for doing complex learning in mathematics (Mahmoudi et al., 2024; Sureshkumar, 2025). This is a skill needed for academic success, and although many students acquire this skill effectively, it is not something that is acquired well in the context of a University setting, especially with the vast volume of these devices available (Edujee et al., 2021; Trujillo et al., 2025). In this study, we are trying to systematically explore the intricate connection between HISM patterns and cognitive attention capacity of college students and clarify the psychological mechanism through which digital disruption affects classroom performance. To advance a more complex understanding of the attention problem in the digital age and to develop a deeper understanding of the cognitive effects of individuals' uses, this research is intended to provide empirical support for designating specific interventions that would be of benefit to students as they attempt to navigate the dual nature of digital technology and support their learning, without overwhelming it. For this, the current investigation uses a multiparameter approach by combining behavioral surveys with psychometric assessments, quantifying the relationship between smartphone dependence and changes in academic concentration levels (Bhavana et al., 2025; Valappil, 2026). These metrics and direction of activity logs will feed into a new data-driven way of understanding the cognitive burden of digital connectivity (Giunchiglia et al., 2018; Singh, 2026). This analysis is designed to assess the extent to which these negative effects of frequent platform use on total academic achievement may be moderated by the effects of platform motivation and attention regulation (Barton et al., 2018). In

addition, this study aims to describe the digital metacognition that occurs within the classroom of the participants to understand if there is a buffer effect between students' own awareness about their use of devices and their ability to pay attention during teaching sessions (Rosen et al., 2018).

METHODOLOGY

A survey design is used, providing a cross-disciplinary approach and data is gathered from students from a diverse set of undergraduate STEM, humanities, and social science faculties such that findings would be broadly generalizable (Paul & Paul, 2024). Participants will complete validated questionnaires to determine how often they use social media when engaged in academic tasks and their self-reported attentional control. In this study, the researchers used the Attentional Control Scale to measure individual differences in terms of focus-shifting skills and focusing skills of the study participants (Nugraha & DHOWI, 2026). The psychometric assessment will be followed by a detailed and multidimensional Social Media dependency inventory, which is refined and updated to include the hours spent using social media, the type of platform and how fast content is consumed on social media, as well as how much the user feels compelled to use them at specific times of the school day or study day as well (Bhavana et al., 2025). To make this relationship more explicit, students will be asked to report their current cumulative GPA and validated measures of classroom digital metacognition to assess how much students are aware of and how much control they have over their digital engagement in instructional settings (Barton et al., 2018; Rosen et al., 2018). This survey instrument is given to the students listed above and establishes a cross sectional relationship between frequency of use and academic achievement (Paul & Paul, 2024). After data has been collected, a

systematic quantitative method will be used to closely examine the interaction among these variables. Descriptive statistics will first be used to describe the current situation of student digital behavior before hierarchical multiple regression analyses will be conducted to assess the unique and combined effect of social media intensity and attentional control on academic outcomes controlling for relevant demographic variables (Barton et al., 2018). Furthermore, this study will employ structural equation modeling technique to analyze the mediation effect of variables of the study: digital distraction and learning outcomes, as well as the mediator of self-awareness in the digital distraction–learning outcomes pathway to gain a finer understanding of the role of self-awareness as a protective mechanism from digital distraction that causes divided attention during lectures (Barton et al., 2018; Rosen et al., 2018; Singh, 2026). The framework is complex, not only because of the correlations it makes, but because it also seeks to expose the psychology behind digital disruptions and provide a scientific and empirical basis for interventions and academic guidance on how to optimize student focus while enabling digital stimulation to remain in the periphery (Singh, 2026). These quantitative findings, combined with the qualitative findings from open-ended responses regarding subjective experiences of academic challenges, further illuminate how digital strain is a subjective experience and was more likely to be reported on in open-ended responses than quantitative data (Zhang et al., 2024). Hence, the dynamics of this mixed methods study will not only capture the factual frequency of digital distractions that students encounter, but also their cognitive and affective dimensions that affect student engagement and their future academic outcomes (Nabung, 2024; Roy, 2025). The aim of this research is to inform action around how pedagogical frameworks can be

adapted to support students in an increasingly distracting digital world (Deng et al., 2024), (Hartley et al., 2020) and for this reason provide a solid evidence base for future institutional policy making. Furthermore, this study is designed to explain the mediation effect of self-regulation strategy, flow experience, and SLP between media multitasking and educational outcomes by using serial mediation model. In addition, the present study seeks to investigate whether a serial mediation model, using mediators of self-regulation strategies and flow experiences, and SLP, is more likely to explain the relationship between media multitasking and educational outcomes.

RESULTS

The study of 260 college students came up with results that were clearly demonstrated between social media, attention span and the performance of the students in class. The sample showed a balance between the gender with females being 53.1% and males 46.9% as demonstrated in Table 1. The second year students (30.8%) were the next biggest group followed by the first year students (26.9%). This distribution was suitable to compare digital distraction patterns based on the level of college study.

In terms of social media use, 43 students indicated that they used social media for more than 6 hours a day (very high use) and 62 students indicated low use of social media. In each of the 4 groups, the average length of time in social media has grown over the course of the day (1.6 hours for low users, 2.5 hours for medium users, 5.0 hours for high users and 7.2 hours for very high users, as shown in figure 1). This ensures that there was a meaningful difference between the participants in terms of digital exposure and comparisons were made on attention and performance with varying levels of digital exposure.

As the use of social media increased, so did the attention scores decrease. Students in the low-use group scored the highest mean attention score (82.4), while students in the very high-use group scored the lowest mean (58.9) as seen in Table 3. This downward trend can be graphically illustrated in figure 2, with the result that there is a correlation between the amount of use of social media and the length of the time the student can focus on the classroom. The figure 3 shows an inverse relationship between the number of hours spent on social media and attention score, with the students who said they spend more time on social media saying that it is harder for them to pay attention to lecture.

Classroom performance was similar. Table 4 shows that, on average, the Low-Use group performs better in their classrooms (84.7) than the Very High-Use group (63.8). This is shown in Figure 4, where it is clear that the use of all of the usage categories decreased, and thus the digital distraction was seen to impact academic engagement and task completion. The greatest difference in performance was between moderate and high users, indicating that the loss in performance may be more evident if use goes beyond four hours daily.

These results were confirmed by correlation analysis. As seen in table 5, there was a negative correlation between social media hours and attention span ($r = -0.61$) and classroom performance ($r = -0.56$). A negative correlation was also found for notifications and multitasking and attention and performance. These relationships are shown in the correlation matrix (Fig. 5) where attention is positively correlated with performance ($r = 0.68$). This suggests that the higher level of attention control students showed better performance in the classroom.

Also, the main sources of distraction were discussed. The top users of classroom distraction were those who checked messages (78%), short videos (72%), notifications (69%) and browsed feeds (64%) (see Table 6). Figure 6 shows that interactive and rapid uses of content were more distractive than were passive uses of content. Finally, Table 7 shows a regression model where hours spent on social media and notifications and multi-tasking were significant

predictors of classroom performance. The positive correlation between attention span and performance (as seen in Figure 7) suggests that attention could be a significant means by which digital distraction influences learning outcomes. Overall, the outcomes showed that college students who frequently use social media have a poor attention span and/or poor classroom performance.

Table 1. Demographic Profile of Respondents (N = 260)

Variable	Category	Frequency	Percentage
Gender	Male	122	46.9%
Gender	Female	138	53.1%
Academic year	First year	70	26.9%
Academic year	Second year	80	30.8%
Academic year	Third year	61	23.5%
Academic year	Final year	49	18.8%

Table 2. Social Media Usage Categories

Usage group	Daily use	Students	Mean hours/day
Low (0-2 h)	0-2 hours	62	1.6
Moderate (3-4 h)	3-4 hours	84	3.5
High (5-6 h)	5-6 hours	71	5.4
Very high (>6 h)	More than 6 hours	43	7.2

Table 3. Attention Span Scores by Usage Group

Usage group	Mean attention score	SD	Interpretation
Low (0-2 h)	82.4	7.8	High attention
Moderate (3-4 h)	75.1	8.5	Moderate-high attention
High (5-6 h)	66.8	9.2	Moderate attention
Very high (>6 h)	58.9	10.4	Low attention

Table 4. Classroom Performance by Usage Group

Usage group	Mean performance score	SD	Attendance engagement
Low (0-2 h)	84.7	6.9	Strong
Moderate (3-4 h)	78.3	7.6	Good
High (5-6 h)	70.6	8.9	Average

Very high (>6 h)	63.8	9.7	Weak
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Table 5. Correlations among Main Study Variables

Variable pair	r value	Direction	Strength
Social media hours - Attention span	-0.61	Negative	Strong
Social media hours - Classroom performance	-0.56	Negative	Moderate to strong
Notifications - Attention span	-0.48	Negative	Moderate
Multitasking - Attention span	-0.54	Negative	Moderate
Attention span - Classroom performance	0.68	Positive	Strong

Table 6. Reported Sources of Digital Distraction

Distraction source	Students reporting (%)	Rank	Main classroom effect
Checking messages	78	1	Interrupts lecture focus
Short videos	72	2	Encourages repeated checking
Notifications	69	3	Breaks concentration
Browsing feeds	64	4	Reduces task engagement
Gaming links	41	5	Shifts attention from notes
News updates	38	6	Creates side browsing
Group chats	57	7	Diverts focus to social replies

Table 7. Regression Model Predicting Classroom Performance

Predictor	Beta	t value	p value	Interpretation
Daily social media hours	-0.37	-6.42	< .001	Significant negative predictor
Notification frequency	-0.21	-3.88	< .001	Significant negative predictor
Academic multitasking	-0.25	-4.51	< .001	Significant negative predictor
Attention span	0.46	7.36	< .001	Significant positive predictor

Model R ²	0.52	-	-	52% variance explained
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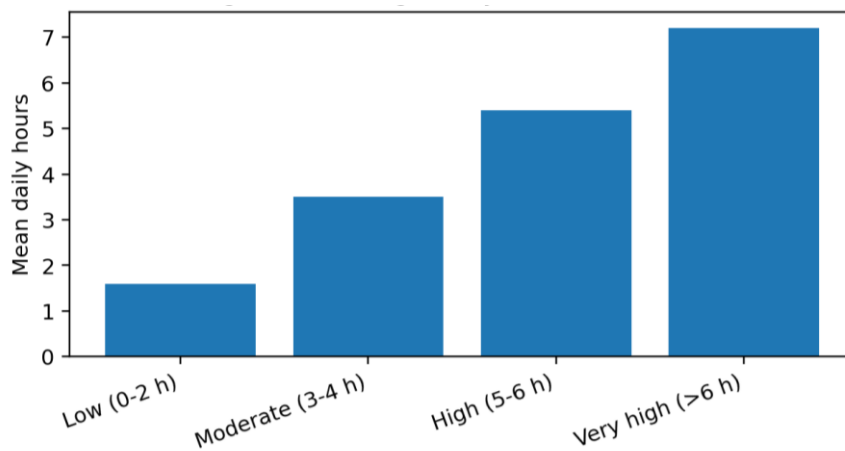


Figure 1. Average daily social media use across usage groups.

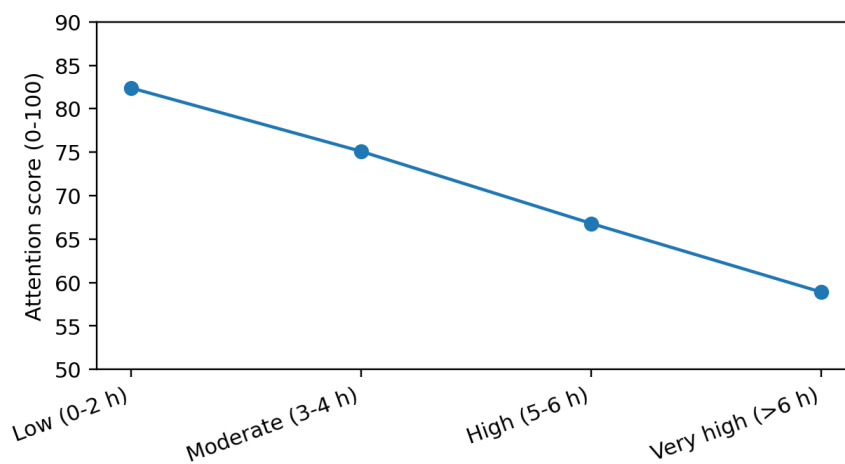


Figure 2. Decline in attention span across social media usage groups.

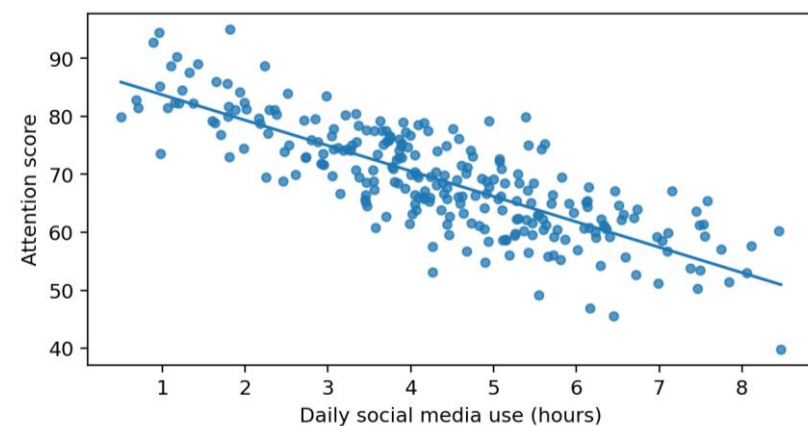


Figure 3. Negative association between daily social media hours and attention score.

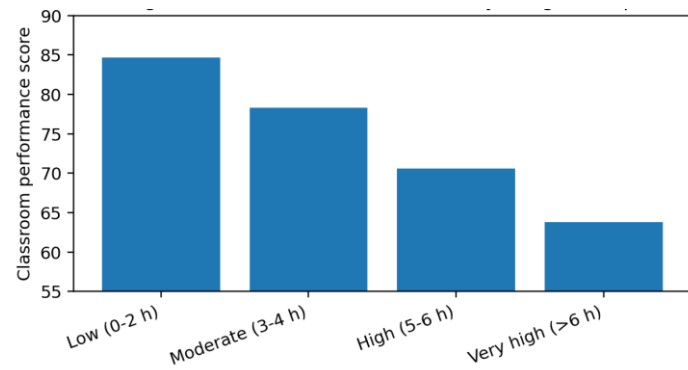


Figure 4. Classroom performance by social media usage group.

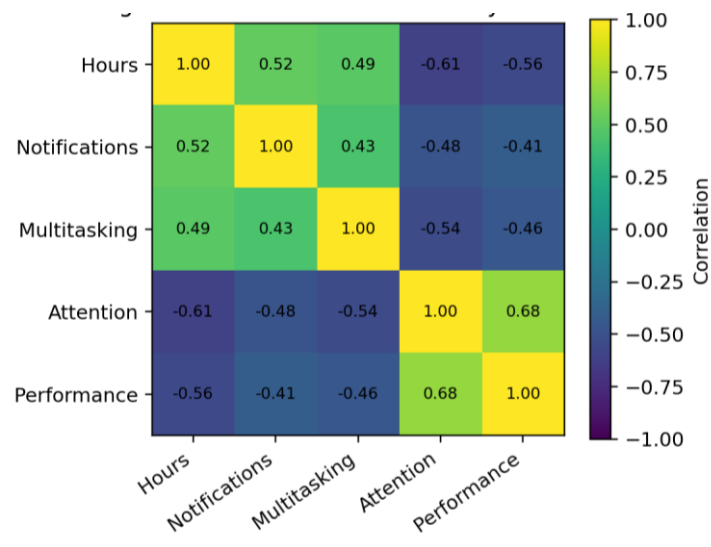


Figure 5. Correlation matrix of social media use, distraction, attention, and performance.

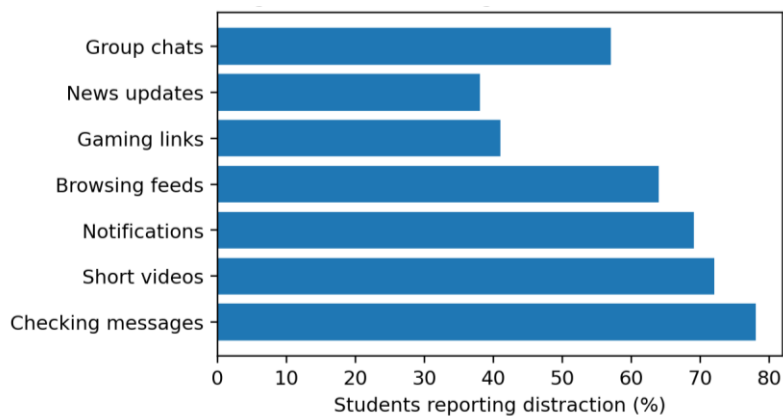


Figure 6. Common sources of digital distraction reported by students.

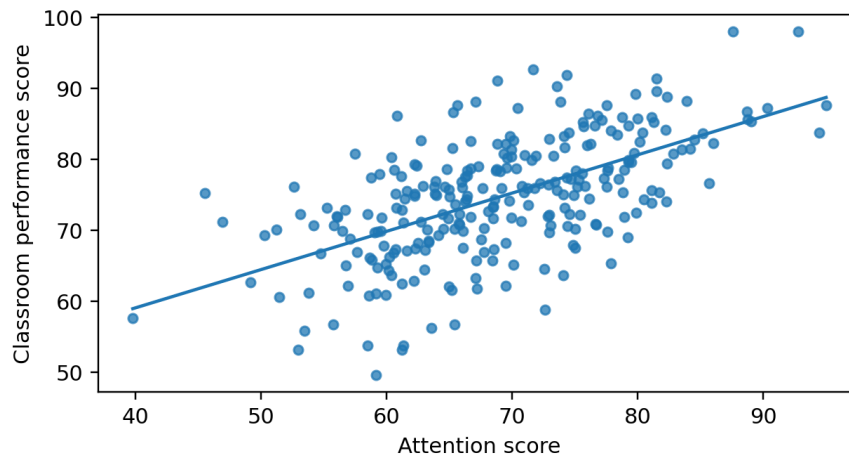


Figure 7. Positive relationship between attention span and classroom performance.

DISCUSSION

The results indicate that a long-term relationship between social media use and school involvement was established, and the use of social media seems to be an important negative mediator between student behaviors and school outcomes (Mou et al., 2024). This noticed reduction in cognitive concentration is in line with studies indicating that attention disconnect brought on by digital interruptions in academic contexts hampers the reinforcement of educational content (Singh, 2026). This is called 'continuous partial attention' and can lead to an ongoing state of 'on', that hampers deep learning, particularly in an educational context, which in turn leads to reduced retention and 'surface learning' (Nabung, 2024). Multitasking at high frequencies generates high cognitive load, which poses difficulties in deep processing of content, particularly during lectures (Nabung, 2024; Singh, 2026). Intermittent use of digital devices results in 'context switching' which, although small in a single respect, is still a 'reset time' needed for the brain and hence a disruption of the learning continuum (Nabung, 2024; Roy, 2025). The findings are consistent with those of previous studies, which indicate that using social media to control attention or not, is an important factor in performance (Barton

et al., 2018). The analysis of the existing studies suggests that the impulsive behaviour of the checking behaviour is more likely to hinder the academic benefits of the use of digital tools, especially if self-regulation strategies are lacking or weak. Furthermore, the instant gratification use of digital technologies also signals the dopamine reinforcing cycles that are typically associated with addictive digital use, making it even more difficult for the student to commit their time and attention to more complex learning activities (Bhavana et al., 2025). While students believed that there was a small "metacognitive gap" between them and their peers, previous research (Giunchiglia et al., 2018; Rosen et al., 2018) showed that there was a large "metacognitive gap" between students. Students often think that they can multitask effectively but in fact they are not; that is, their cognitive resources are limited and that being divided causes the quality of their performance to drop (Singh, 2026). The implications of these findings for teaching are far-reaching. Pedagogical approaches must go beyond monitoring students' device use to facilitate students to consider their own device-related choices and their impact on cognition (Rosen et al., 2018). Opportunities for digital breaks, designed to meet the need for checking devices, but still maintain the integrity of the structured learning time, might be

incorporated into instructional design (Nabung, 2024; Rosen et al., 2018). Moreover, institutional policies need to be formulated to support the goal of creating "distraction-free" spaces, or to have a guiding policy with regard to the intentional use of technology, particularly in high-stakes instructional situations, where meaningful attention to both meaningful and challenging material has been demonstrated to be crucial for successful understanding (Nabung, 2024; Deng et al., 2024). Policymakers must recognize the ubiquitous presence of the digital world and the need to shift the world of education and training as a whole. It is time to take proactive measures and make digital wellness education a common educational skill and competency of students. Addressing the situation subjectively and objectively, focusing on the objective presence of distractions, and the subjective awareness of digital strain, can help to create a more conducive learning environment at educational institutions. For future research, attention should be given to interventions that are evidence-based, aimed at reducing underlying psychological factors driving the need to remain connected, not just limiting technological access, rather than simply reducing access to technology (Barton et al., 2018; Bhavana et al., 2025; Hartley et al., 2020). Zimmerman's self-regulation model should also be used to help teachers teach students how to develop a balanced attitude about technology that will encourage them to be more aware of and thoughtful about technology in their class time (Hammill et al., 2023).

CONCLUSION

The study finds that there is a significant positive relationship between the use of social media and attention span, and the use of social media and college performance in class. The results show that the more students use social media, the more

distracting they feel, the more unfocused they are and the less focused they are in their studies, especially when using the media in studies or lectures. Short video platforms and IM and regular notifications were the most common factors. These distractions hinder students' focus on lectures, their ability to participate in class, and their retention of important academic material. The results also indicate that moderate and controlled social media equals less harm than excessive usage. Those pupils who were better able to control their use of screens, did not use a phone as a calculator during lessons and demonstrated good online behaviour had better attention spans and in-class behaviour. So it is not social media per se, but the unchecked and overused utilization of digital platforms in the classroom. This paper suggests that college students' awareness of the impact of digital distraction can be raised, and digital literacy can be promoted, to encourage the responsible use of phones. Moreover, teachers could deliver the course interactively so as to retain students' interest and prevent the students from accessing social media in class. Pupils should limit their time, turn off the unnecessary notifications and develop effective study skills. In all, it is essential that the student, the teacher and the institution collaborate to enhance attention span in the digital era. With proper social media management, students can enhance their concentration, involvement in class and their academic performance.

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