International Journal of Social Research and Development
www.socialsciencejournal.net
Online ISSN: 2664-8709, Print ISSN: 2664-8695
Received: 04-01-2024, Accepted: 03-02-2024, Published: 19-02-2024
Volume 6, Issue 1, 2024, Page No. 82-87

Short-form videos and attention span in college students

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Abstract
The rapid rise of short-form video platforms such as Facebook Reels, YouTube Shorts, and Instagram Reels has generated increasing concern about their influence on the cognitive abilities and academic performance of university students. As people watch more short, exciting videos—often for more than one to two hours a day—researchers are starting to look at how this phenomenon affects attention span, critical thinking, and the ability to stay focused on tasks. Current studies show that using short-form videos for a long time is linked to poorer academic results, meaning that watching these fast-paced videos a lot can make it harder to pay attention, process information, and remember things. The way these platforms are designed to keep users hooked may make it harder for people to focus on long-term academic work, as they tend to pay more attention to quick, exciting content instead. Given the competitive academic environments students navigate, understanding the mechanisms underlying these cognitive shifts is essential. This paper therefore investigates the multifaceted relationship between short-form video consumption and attention spans among college students, exploring both direct cognitive effects and broader implications for academic engagement and performance.

Keywords: Short-form video platforms, attention span, academic performance, sustained attention, critical thinking, screen time

Introduction

The rapid growth of digital media has significantly transformed how young people access information, communicate, and spend their leisure time. Among the most influential developments recently is the emergence of short-form video platforms such as Instagram Reels, YouTube Shorts, and Facebook Reels. These platforms provide brief, fast-paced audiovisual content designed to capture attention quickly and maintain user engagement through algorithm-driven recommendations and continuous scrolling features. While such platforms offer entertainment, creativity, and easy access to information, researchers have increasingly raised concerns about their potential impact on the cognitive abilities and academic performance of university students, suggesting that excessive use may lead to decreased attention spans and lower academic achievement. College students constitute one of the most active user groups of social media and digital entertainment platforms. With the widespread availability of smartphones and affordable internet access, students frequently engage with short-form videos during study breaks, commuting, or leisure time. Many students report spending one to two hours daily consuming such content, often characterized by rapid visual transitions, sound effects, and emotionally stimulating themes. This pattern of media consumption has raised questions regarding its influence on students' attention spans and their ability to maintain focus on academically demanding tasks. This phenomenon is particularly concerning given the demanding nature of higher education, where sustained attention and critical thinking are paramount for academic success (Jumiyati, 2022) [14].

Attention span plays a crucial role in learning, comprehension, and academic achievement. Sustained attention enables students to concentrate on complex activities such as reading, writing, and problem solving. However, constant exposure to short, highly stimulating digital content may encourage fragmented attention and increased multitasking behavior, which can negatively impact students' ability to engage deeply with their studies and retain information effectively. Consequently, understanding how short-form video consumption influences attention span among college students has become an important area of academic inquiry, particularly within the rapidly expanding digital environment of India. This study seeks to analyze the nuanced effects of pervasive short-form video engagement on cognitive functions critical for academic rigor, specifically focusing on sustained attention and susceptibility to distraction (Chen *et al*., 2022) [8]. This study aims to explain how these platforms might unintentionally lead to shorter attention spans, which could hurt students' ability to think deeply and analyze information.

Theoretical Frameworks, Attention Span, and Short-Form Videos in India

In India's competitive higher education landscape, college students increasingly consume short-form videos on platforms like Instagram Reels, YouTube Shorts, and Facebook Reels amid rising smartphone penetration. Theoretical frameworks illuminate profound cognitive disruptions to attention and learning. The rapid succession of diverse stimuli elevates extraneous cognitive load, diverting resources from germane processing essential for deep learning, memory consolidation, and sustained concentration on tasks like complex reading or problem-solving, resulting in heightened distractibility and atrophy of cognitive control (Rani *et al*., 2022) [19]. Constant fragmented exposure induces divided attention, impairing long-term encoding, short-term retention, and analytical comprehension via "clip thinking"—processing disparate information without connections—thus hindering schema formation and reasoning (Skelly, 2021) [26]. This fosters continuous partial attention, compromising sustained focus critical for academic tasks and expert knowledge.

Attention span in today's digital world shows changes in how we control our thinking and memory, with Indian students showing more frequent distractions, shorter attention times, worse performance on attention tasks, less time spent studying, difficulty remembering, late assignments, and a tendency to engage compulsively due to reward-driven suggestions. The rise of short, intense content changes how we use media, leading to scattered focus, making it hard to keep track of events and remember things due to constantly switching contexts, and overwhelming us with features like autoplay and endless scrolling, which can weaken our ability to control impulses—resulting in mental tiredness similar to feeling drained. Meta-analyses confirm links to diminished attention, particularly urgent for India's youth in rigorous academics.

With India ranking second globally in internet users and substantial mobile social media engagement, this demographic remains understudied. Understanding antecedents and consequences of problematic smartphone use among young Indian adults is critical for addressing cognitive and academic impairments (Handa & Ahuja, 2020) [11], amid rising attentional difficulties from multimedia devices and correlations with ADHD diagnoses.

Literature Review

Numerous scholars have investigated the effects of smartphone and social media usage—precursors to short-form videos—on student cognition, specifically concerning diminished sustained attention and educational outcomes. Masón *et al*. (2020) undertook seminal research in this domain, equating mental depletion due to digital overload with cognitive fatigue, which undermines attention and processing, similar to directed attention exhaustion in the absence of restorative breaks. Attention Restoration Theory posits that while nature restores focus, constant digital stimuli deplete resources, diverting attention to screens. In India, where smartphone penetration surges among youth, Nayak *et al*, 2019. found excessive use impairs academic performance via distractions and reduced focus. Handa and Ahuja 2020 [11] reported 25% of young adults exhibit addictive patterns, linked to poor sleep and cognitive deficits (Handa & Ahuja, 2020) [11]. Malik *et al*., 2018 highlighted social media fatigue correlating with academic decrement amid India's 310 million users, urging digital detox. Rani *et al*., 2022 [19]. noted heavy social media use fatigues cognitive space, shrinking attention regions and hindering task performance (Rani *et al*., 2022) [19]. Körte linked multitasking digital habits to shorter spans and rising ADHD diagnoses, as mere smartphone presence taxes working memory. Skelly *et al*., 2021 [26] described "clip thinking" from fragmented info, impeding schema formation and critical reasoning (Skelly, 2021) [26]. Wilmer *et al*. 2021 reviewed how mobile habits foster divided attention, with adolescents showing "scatterbrained" tendencies from early device onset. These patterns condition rapid shifts, eroding inhibitory control essential for academics, especially in competitive Indian contexts, leading to poorer academic performance and reduced ability to focus during lessons. Indeed, empirical works confirm that digital device use, particularly smartphones, is associated with decreased classroom attention and instructional comprehension among students.

Objective

- The study aims to examine how short-form video content consumption affects the attentional capacities and academic performance of college students in India, taking into account the influence of problematic smartphone use.
- The study seeks to determine the impact of short-form video consumption on the attention span of college students.

Methodology

This study used a convergent mixed-methods design to examine short-form video use and attention among college students in Aligarh. Quantitative data were gathered via a structured questionnaire distributed to 150 students from seven colleges, assessing short-form video engagement, attention challenges, media multitasking, problematic usage, and sleep-related behaviors. Prior research informed these items, demonstrating connections between short-form video consumption, attentional disruption, academic multitasking, and well-being outcomes. Qualitative data were collected through interviews with selected students to understand their different experiences with what causes them to use short videos, why they do it, how algorithms keep them engaged, how they get distracted, and how it affects their sleep, based on themes from recent studies on digital attention and problematic use of Video Reels. Interviews were transcribed and analyzed using hybrid thematic analysis with inductive and deductive coding. The researcher combined the numbers from the quantitative data and the insights from the qualitative data to understand the common patterns and the reasons behind how attention is affected.

Participants and Sampling

The study involved 150 college students drawn from seven higher-education institutions in Aligarh, Uttar Pradesh: DS College, SV College, AMU Arts Faculty, Mangalayatan University, T.R. College, AMU Women's College, and Raja Mahender Pratap University. Participants were recruited using a stratified convenience sampling approach to ensure representation across institutions and academic years. Eligibility criteria included being 18 years or older, currently enrolled as a student, and having prior exposure to short-form video platforms such as Instagram Reels, YouTube Shorts, or TikTok-style applications. This approach aligns with prior studies showing high SFV usage among undergraduate populations.

For the qualitative phase, a careful sampling method was used to choose students with different levels of experience with short-form videos, different school backgrounds, and different living situations (those who live on campus and those who commute). This method is consistent with mixed-methods research recommendations for capturing variation in digital media behavior and attention experiences. A group of participants was asked to take part in semi-structured interviews, which helped us look more closely at their reasons for using digital media, how it affects their attention, and how they multitask while studying, as discussed in existing research. Participation across both strands was voluntary, and informed consent was obtained from all students prior to data collection.

Data Collection Instruments

1. The primary data collection instruments include validated self-report questionnaires assessing short-form video usage patterns.
2. Academic performance is evaluated via self-reported GPA.
3. Interview objectives were qualitative data.

Experimental Procedure

The study employed a convergent mixed-methods design, conducting quantitative surveys and qualitative interviews concurrently across seven colleges in Aligarh. Eligible Students were Screened (aged 18+, enrolled, with short-form video exposure) in classrooms and common areas, obtaining informed consent. Participants filled out structured questionnaires that took 10 to 12 minutes to complete. These questionnaires asked about short-form video involvement, attention problems, media multitasking, problematic use, and sleep behaviors. The questions were based on previous research on how digital media affects attention. Surveys used paper or secure digital formats. A specific group of people with different backgrounds and media use was selected for 30–45 minute interviews to explore how they use media, what distracts them while studying, how algorithms affect them, why they use media, and how it impacts their sleep and emotions, following existing research on media multitasking. Interviews were audio-recorded (with permission), transcribed verbatim, anonymized, and securely stored. Quantitative and qualitative data were analyzed separately and then integrated via joint interpretation for robust findings. This triangulation approach allowed for a comprehensive understanding of the complicated relationship among short-form video consumption, attentional processes, and academic outcomes, leveraging the strengths of both methodologies to provide a more nuanced perspective (Arness & Ollis, 2022; Yang *et al*., 2018) [3, 29]. For the qualitative component, individual semi-structured interviews were conducted to discuss students' experiences, motivations, and the perceived impact of short-form video content on their academic lives, consistent with methods used to explore digital technology's influence on learning (Deng, 2019) [9].

Data Analysis

We analyzed involvement in short-form video attention across seven Aligarh colleges using each college's count of Total Surveyed and Involved students. Overall involvement was 120/150 = 80.0% with a 95% Wilson confidence interval (CI) of 72.9%–85.6%, indicating high prevalence in the sample. Per-college point estimates were Raja Mahender Pratap University 90.0%, AMU Arts Faculty 84.6%, AMU Women's College 82.6%, DS College 81.8%, T R College 76.2%, Mangalayatan University 72.2%, and SV College 70.0%; corresponding 95% Wilson CIs are reported in the analysis output. We compared the percentage of students from each college to the overall rate (80%) using exact binomial tests and adjusted for multiple comparisons with the Benjamini–Hochberg method; after this adjustment, we found no significant differences between colleges (all $q \geq 0.938$), suggesting that the differences we observed (70%–90%) are likely just due to random chance given the current sample size. The quantitative data gathered from the questionnaires were analyzed using SPSS software to determine correlations between short-form video usage, attention span, and academic performance (Sabir *et al*., 2020; Tiernan & Farren, 2017) [23, 28]. The qualitative data from the semi-structured interviews were analyzed using thematic analysis, involving systematic coding to identify recurring patterns and overarching themes related to students' perceptions of algorithmic influence, self-regulation strategies, and the cognitive impacts of short-form video consumption (Bhandari & Bimo, 2022; Rupar & Strong, 2020; Zhao & Mawhinney, 2020) [4, 22, 30].

College	Total Surveyed	Involved	Not Involved	Percent Involved
Raja Mahender Pratap University	20	18	2	90
AMU Arts Faculty	26	22	4	84.6
AMU Women's College	23	19	4	82.6
DS College	22	18	4	81.8
T R College	21	16	5	76.2
Mangalayatan University	18	13	5	72.2
SV College	20	14	6	70

What this result means: Involvement is generally high at all colleges, and there are no significant differences between them at the current sample sizes; we should focus on the overall trends and practical effects instead of minor differences between colleges. Descriptive statistics, including frequencies and percentages, were employed to characterize the demographic profiles of the participants and their engagement with e-learning technologies, consistent with standard practices in survey-based research (Rejitha, 2020) [20].

Results

A survey of 150 students from seven Aligarh colleges found that 120 of them (80% overall) were involved in short-form video attention. The rounded source table used for analysis provides college-wise counts (Total Surveyed, Involved, Not Involved). Per-college rates. Point estimates of involvement were Raja Mahender Pratap University (90.0%), AMU Arts Faculty (84.6%), AMU Women's College (82.6%), DS College (81.8%), T R College (76.2%), Mangalayatan University (72.2%), and SV College (70.0%). The 95% Wilson confidence intervals, the differences in percentage points compared to the overall rate (80%), and the p/q values are shown in the table that breaks down the analysis by college, listed by the percentage of involvement. Comparative tests show that for each college, we conducted two-sided exact binomial tests to see how their rates compare to the overall rate (0.80) and adjusted the results using the Benjamini–Hochberg method (FDR). After controlling for FDR (all $q \geq 0.938$), no college was significantly different from the overall rate. This means that the observed variation (70%–90%) is consistent with sampling fluctuation at the current per-college n. Additionally, Pearson correlation coefficients were utilized

to examine the relationships between variables, such as short-form video usage frequency and academic performance indicators, aligning with quantitative analytical approaches employed in similar studies (Brohi *et al*., 2022) [6]. The thematic analysis of interview data further elucidated these relationships by identifying emergent themes, which were then systematically coded and grouped into categories to construct a conceptual framework (Chapin, 2018; Habiburrahim *et al*., 2021; Hartnup *et al*., 2018) [7, 10, 12].

Impact of Short-Form Video Exposure on Sustained Attention

The study's findings—showing high short-form video involvement across colleges (70%–90%) and an overall rate of 80%—suggest that most students regularly encounter fast-paced, highly stimulating content during the academic day. This level of exposure matters because studies on digital media show that it can quickly reduce sustained attention, making it harder for students to concentrate on their schoolwork due to frequent media interruptions. Research on academic media multitasking shows that it often leads to small but consistent negative effects on learning, mainly due to frequent distractions and switching tasks while studying. However, the effects on sustained attention are not the same for everyone; long-term changes can differ greatly based on why users are engaging with media, the situation they are in, and how well they manage their habits, meaning that high exposure doesn't always lead to lasting attention problems. A subset of students may still face greater risk: problematic short-form video use is linked to sleep disruption and emotional strain, which can indirectly impair sustained attention through next-day fatigue. Furthermore, compulsive engagement with such platforms is frequently associated with diminished focus and academic underperformance, highlighting a significant concern for educational institutions (Sherman *et al*., 2016) [24]. Conversely, while problematic use presents clear challenges, the sheer ubiquity of short-form video necessitates a nuanced understanding of its integration into students' daily routines, as simply attributing negative outcomes to exposure overlooks the complex interplay of individual differences and potential self-regulation mechanisms (Rinella & Putnam, 2022) [21].

Impact of Short-Form Video Exposure on Selective Attention

Short-form platforms overwhelm students with quick, attention-grabbing signals (like movement, sound, and alerts) that grab their focus from outside, leading to more distractions and a slower return to studying—this is a well-known short-term drop in selective attention caused by digital interruptions and using multiple media at once. These costs are strongest when distractors share the same modality as the focal task (e.g., reading). Beside autoplaying clips), which taxes filtering and deep processing, leading to decreased focus and retention of information during academic tasks. Studies that look at academic media multitasking show that it often leads to small but steady declines in academic performance, which aligns with the idea that constantly switching attention can reduce efficiency over time. Evidence showing long-term changes in selective attention is mixed and varies—effects depend on reasons, situations, and self-control—so just because someone is often exposed to something doesn't mean they will have lasting problems. Practical focus should be on reducing interruptions at study time (disable alerts, avoid split-screen, and batch viewing between work blocks). A problematic use subset (e.g., late-night scrolling) shows links to anxiety, depression, and sleep disruption, indirectly degrading next-day selective attention via fatigue. Conversely, while problematic use presents clear challenges, the sheer ubiquity of short-form video necessitates a deeper appreciation for its integration into students' daily routines, as simply attributing negative outcomes to exposure overlooks the subtle relationship between individual differences and potential self-regulation mechanisms. Despite the potential for self-regulation, the pervasive nature of short-form video applications can lead to uncontrolled and excessive use, detrimentally impacting physical and mental health, daily routines, and academic performance (Omar & Wang, 2020) [18].

Qualitative Findings on Student Perceptions

Students described micro-triggers—boredom between classes, notifications, and "just one more" curiosity—as the main prompts to open short-form apps. Feeds felt frictionless and personalized, making disengagement difficult during study. Learners reported momentary attention breaks and slower re-entry to reading/problem-solving, especially when videos shared the same screen as coursework. Multitasking was considered an automatic habit, not a strategy, with cumulative efficiency losses ("more time for the same work"). Many noted late-night scrolling, linking it to next-day fog and more lapses in class. Students valued harm-reduction tactics—Do Not Disturb, phone out of reach, full-screen study, batching viewing between tasks, and nighttime app limits—to protect focus without abstinence.

Discussion

The undergraduate-only sample, regional focus, and gender imbalance limit the generalizability of our findings; we should interpret them cautiously. Relying on self-reports can lead to mistakes in remembering and wanting to look good, and since the study only looks at one point in time, we can't say for sure if the relationships we see are caused by the factors we measured or by other things that affect attention over time. Future studies should include a wider range of ages and education levels, use objective methods (like screen-time logs and eye-tracking), and conduct controlled experiments to measure attention more accurately, as well as use long-term studies to look at how effects change over time. These directions align with reviews calling for objective tracking and prospective designs in digital-attention research. In parallel, work that models algorithmic affordances (e.g., personalized, attention-optimized feeds) can clarify how platform design shapes exposure and risk. With 80% overall involvement and 70–90% by college—but no significant between-college differences—our data suggest pervasive exposure rather than institution-specific effects. This pattern is consistent with meta-analytic evidence that academic media multitasking shows small but reliable negative associations with learning outcomes, implying cumulative efficiency losses from repeated attentional shifts, even when group differences are subtle. Heterogeneity in long-term effects likely reflects motives, context, and self-regulation, so high

exposure alone does not prove enduring deficits. Future experiments should change when exposure happens and account for existing traits to see if there is a two-way relationship (for example, whether certain weaknesses lead to more SFV use and higher attention costs).

Students describe micro-triggers (notifications, boredom), frictionless personalization, and late-night scrolling, mapping onto mechanisms of momentary attentional capture and sleep-related next-day lapses. A subset reports patterns consistent with problematic use—linked in reviews to anxiety, depression, and sleep disruption—supporting targeted screening for loss of control and sleep delay.

The findings have implications for both literature and practice. The agreement with earlier studies on short-term attention problems and slight academic impacts suggests that we should focus on changes in how we study: turning off notifications, not using split screens with autoplay, watching videos in batches between work sessions, and ensuring good sleep—these are all strategies that have been recommended to reduce interruptions. Embedding digital-literacy/self-regulation modules within courses can address motives (e.g., FoMO) and habits that moderate risk, ultimately leading to improved academic performance and reduced attention problems among students. Combining detailed personal stories with long-term and experimental data will help identify who is most affected, in what situations, and which solutions provide the best improvements in attention.

Conclusion

In this survey of 150 students from multiple colleges, most students (80%) were involved with short-form videos (SFVs), with participation rates at colleges ranging from 70% to 90%, and no significant differences between schools, showing that using SFVs is a common part of student life, not just specific to one campus. In this context, research shows that interruptions from SFVs and using multiple media at once can lead to short-term attention problems—like switching tasks more often, taking longer to get back to studying, and not thinking as deeply—which can make it harder to stay focused during learning sessions. These effects are most pronounced when distractors share the same modality as the academic task (e.g., videos alongside reading). Hence, the high exposure we observed constitutes a credible situational risk to sustained attention in study settings. Small but consistent negative links between academic media multitasking and performance found in reviews suggest that over time, even small differences between groups can lead to overall efficiency losses. This illustrates the value of investigating pedagogical strategies and policy frameworks that can mitigate these attentional costs without necessarily advocating for outright prohibition of digital devices in learning environments (Aaron & Lipton, 2017) [1]. Instead, emphasis should be placed on fostering self-regulated learning and metacognitive awareness among students to navigate the challenges posed by media multitasking, as unmanaged engagement can significantly impair academic performance (May & Elder, 2018; Thompson *et al*., 2021) [16, 27].

At the same time, changes in attention over the long term don't happen the same way for everyone; the results depend on reasons for use, the situation, and how well students manage their own learning, so just using digital devices a lot doesn't necessarily mean there are lasting problems. This underscores prioritizing study-context interventions (notification control, avoiding split-screen with autoplay, batching viewing between work blocks, protecting sleep) rather than making global claims about permanent harm. Some students might still show patterns of problematic use (like constantly checking their phones or scrolling late at night) that can lead to anxiety, depression, and sleep issues, which in turn can make it harder for them to pay attention the next day due to tiredness—so it's useful to briefly check for issues with control and sleep delays as part of student support. Finally, the way algorithms personalize content—making recommendations more noticeable and relevant—probably increases the risk of getting too absorbed in videos and should be carefully looked at in future studies. Further research should also explore the moderating role of cognitive factors in media dependency, given the pervasive nature of short-form video consumption among college students ("Short-Form Video App Dependency: The Role of Neuroticism, Lower Life Satisfaction, and Fear of Missing Out," 2022) [25].

Recommendations for Future Research

Future research should move beyond one-time surveys by using long-term studies to track how short-form video watching, media multitasking, and attention change over time during school terms, helping to clarify how these factors influence each other and their long-term effects. Future studies could use experiments to change how short-form videos interrupt study tasks to see how it affects attention, like delays in switching tasks and how deeply people process information. Using objective methods—like eye-tracking to see when distractions happen, fNIRS to measure brain activity in the prefrontal area, or continuous performance tests—would accurately measure how attention is focused. Finally, studies in real-life settings (like dorms and libraries) should find out who gains the most from simple safety measures like turning off notifications or checking messages in groups, based on their self-control, reasons for using their devices, and their usual habits. Additionally, a comprehensive synthesis is warranted to gain a clearer understanding of which cognitive processes SFV use may be associated with and to identify areas requiring further research (Bonsteel, 2012) [5]. Specifically, future investigations should focus on the moderating role of cognitive factors in media dependency and the problematic use of short-form video behavior. Furthermore, research should explore the influence of platform algorithms on user engagement and the development of problematic usage patterns, given their potential to amplify capture risks (Adkins, 2017) [2].

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