

SCROLLING MINDS: HOW SHORT-FORM VIDEOS SHAPE TEENAGERS' ATTENTION SPAN

1. Dr. Meenakshi Jindal, Lecturer Physics, email: meenu20nov@gmail.com

2. Samaira Sood, Student, email:samairasooduni@gmail.com

3. Arshaan Singh Brar, Student, email:arshaanbraruni@gmail.com

4. Meenal Chopra, Student, email:meenalchoprauni@gmail.com

5. Sartaj Singh bal, Student, email:Sartajsinghuni@gmail.com

Abstract

The rapid growth of short-form video platforms such as Tik Tok, YouTube Shorts, and Instagram reels has reshaped media consumption habits, particularly among teenagers. These platforms are characterized by brief, visually stimulating content that maximizes engagement but raises concerns regarding its influence on cognitive processes, especially sustained attention. The present study investigated the relationship between short-form video engagement and sustained attention among 149 teenagers from state of Haryana in India. Data were collected using researcher-constructed scales for short-form video usage/engagement and sustained attention. Statistical analysis, including correlation, t-test, one-way ANOVA, and post-hoc tests, revealed a significant negative correlation ($r = -.450$, $p < .01$) between short-form video engagement and sustained attention. Gender differences were found in engagement patterns, with girls reporting higher engagement than boys, though no significant gender differences were observed in sustained attention. Further, greater daily usage (more than three hours) was associated with significantly higher levels of short-form video engagement compared to those using less than one hour daily. The findings suggest that extensive engagement with short-form videos may fragment attention capacities in teenagers, negatively affecting their academic performance and self-regulation. The study highlights the importance of balancing digital engagement with strategies that promote sustained focus in adolescents.

Keywords

Short-form video usage, short-form video engagement and sustained attention

Introduction

The digital revolution started in late 20th century with the introduction of internet. It enabled the access to vast amount of information but this information was mainly text based. Early 2000 marked a turning point with spread of broadband which encouraged the growth of image sharing platforms. The launch of YouTube in 2005 transformed the landscape further as video sharing became dominant form of online engagement, but these videos were generally long form videos. By 2010 Smartphonerevolutionized everything specially the way people accessed internet. It became more personalized and on demand.

Platforms like Instagram, Snapchat, Facebook and Vine brought a shift towards short visually engaging, interactive and algorithm driven content. This content ensured higher engagement and addictive consumption patterns.

Short-Form Videos: Short-form videos on social media are **brief, engaging video clips**—usually ranging from a few seconds to about three minutes—that are designed to capture attention quickly and deliver content in a concise, entertaining, or informative way.

Key Features of Short-Form Videos

- **Length:** Typically **15 seconds to 3 minutes** (platforms often optimize around 15–60 seconds for maximum engagement).
- **Format:** Vertical, mobile-friendly videos with fast-paced editing, captions, filters, and music.
- **Purpose:** Designed to **entertain, inform, or persuade** quickly without requiring long attention spans.
- **Engagement:** Highly shareable, with algorithms boosting visibility through likes, comments, and re-shares.

While short form videos have opened avenues for creativity and connectivity, they have also given rise to critical concerns regarding their influence on cognitive processes of an individual, especially attention span. Among teenagers whose cognitive and behavioral patterns are still in the developmental stage, these short bit size videos may affect ability to sustain their attention in academic academics and other day to day activities. According to Haliti-Sylaj and Sadiku (2024), regular engagement with short-form video reels diminishes attention span, which in turn affects students' academic performance since sustained attention is vital for learning retention and active participation.

Attention: Attention is a fundamental cognitive process that enables individuals to selectively concentrate on relevant stimuli while filtering out distractions from the environment. It refers to the ability to maintain focus and consistent behavioral responses during prolonged and often monotonous tasks. It plays a vital role in everyday functioning, ranging from academic performance to workplace efficiency.

Attention it is a fundamental neurocognitive function that governs the selective processing of sensory input thoughts and task it play crucial role in acquisition of knowledge skills and problems solving ([Chiencharoenthanakij.et al.](#), 2025).

Sustained attention is particularly crucial during adolescence, a developmental stage marked by rapid cognitive, emotional, and social changes. Teenagers are expected to handle increasingly

complex academic demands, balance extracurricular activities, and adapt to expanding social environments. The ability to maintain focus on tasks over extended periods directly impacts their learning, problem-solving, and decision-making skills.

In academic settings strong attention control is also associated with better memory consolidation, which is essential for retaining information across subjects. Beyond the classroom, sustained attention plays an important role in developing self-regulation and resilience. Teenagers who can resist impulsive distractions are better equipped to set priorities, achieve personal goals, and engage in meaningful activities. Sustained attention is not only a foundation for academic success but also a critical life skill for teenagers.

The present study aims to understand the relation between short form video usage and engagement with sustained attention span among the teenagers.

Review of previous studies

Chen et al. (2022) explored the impact of short-form video addiction on users' attention control through two tasks: video-viewing and a Stroop task based on eye-tracking technology. The results showed that the addicted individuals showed less interest and more distraction. They reported more fixation counts in a relatively shorter period of time i.e. their average attention span was less.

Findings also revealed that addicted users took longer response times, and showed lower accuracy compared to non-addicted users. The study concluded that short-form video addiction impairs attention control and hinders the ability to sustain focus when processing distractions.

Chaudhuri and Imran (2023) examined the relationship between social networking and cognitive functions among 200 participants aged 18–25. The study aimed to investigate the individuals' subjective of their own memory functioning. The results revealed a weak negative correlation between social networking usage and attention control, suggesting that increased usage may be associated with decreased attention span. However, the correlation was not strong, indicating the influence of additional contributing factors.

Xie et al. (2023) investigated the impact of short-form video addiction on academic procrastination among undergraduates, who represent one of the largest consumer groups of such content. Employing a random cluster sampling method, the researchers collected data from 1,047 college students. The findings indicated that short-form video addiction contributed to academic procrastination indirectly by impairing attention control, which subsequently affected students' ability to manage academic tasks effectively. The study concluded that excessive engagement with short-form videos negatively influences undergraduates' mental health, particularly by diminishing attention span, and thereby exacerbates academic challenges.

Asif and Kazi (2024) investigated the effects of short-form video consumption on attention span and its association with academic performance. Data was collected from a sample of 200 students.

Among them, 10 students who reported excessive usage of short video content (more than 4 hours per day) were selected for in-depth interviews. The findings from these interviews indicated that frequent exposure to short-form videos was linked to perceived difficulties in maintaining attention. The condensed and rapidly shifting nature of such content was also found to contribute to cognitive overload, further straining attention resources.

The central objective of the research was to examine the neurological and cognitive implications of short-form video engagement and its relationship with diminished attention span, ultimately leading to a negative effect on students' academic outcomes. The researchers concluded that excessive consumption of short-form media could impair academic achievement through reduced attention capacity.

Kavin, Alaparathi (2024) studied the impact of technology and digital media on attention span in teenagers and young adults. He collected information through a survey based on personal details about social media usage habits and attention spans. The results of this survey in turn revealed the significant relationship between poor attention span and higher social media usage.

Li, Geng and Wu(2024) investigated the influence of short-form video app addiction on academic anxiety and academic engagement, with mindfulness examined as a mediating factor. The study surveyed 1,879 undergraduate students in China using the Short-Form Video App Addiction Scale, the Mindful Attention Awareness Scale, and an academic anxiety scale. Findings revealed that short-form video app addiction was positively associated with academic anxiety and negatively associated with academic engagement. Students with higher levels of addiction reported greater academic anxiety and lower engagement in academic tasks. Moreover, mindfulness was found to play an indirect mediating role, mitigating the negative effects of short-form video addiction on both academic anxiety and academic engagement.

Yan et al. (2024) examined the relationship between mobile short-video addiction tendencies and attention control using the Attention Network Test (ANT), which evaluates three components of attention: alerting, orienting, and executive control. This study formed part of a broader project investigating how short-form video consumption influences brain function and structure.

The findings revealed that individuals (age group 18 -45) with stronger tendencies toward short-video addiction experienced pronounced difficulties in executive control. The study identified a significant negative correlation between short-video addiction and self-control, suggesting that higher levels of addiction were linked to reduced capacity for self-regulation and increased susceptibility to attention impairments.

Al-Leimon et al. (2025) explored the occurrence of short-form video addiction (SVA) among youth, and its impact on attention and memory function as well as an emphasis on understanding the mediating and moderating role of attention in the relationship between SVA and memory. By the method of a cross-sectional survey design, data was collected from 1029 students residing in

Jordan. Many participants displayed behaviours associated with addiction to short-form video platforms. A significant decrease in attention span was observed among those with higher SVA scores. The study concluded that rapid consumption of brief video content appears to fragment focus, weakening the ability to retain and execute intended actions.

Pranathi, & Jacob (2025) studied the impact of attention span mediated by sleep quality and stress. This research examined the addiction between short form media content and attention span among young adults (18-25 yrs). Using a survey of 350 participants, they were able to conclude a moderate negative correlation between the rising addiction of short form video content and lower attention ability.

Significance of the study

As teenagers constitute one of the most active user groups of short-form video platforms such as TikTok, Instagram Reels, and YouTube Shorts, make them highly susceptible to the cognitive influences of these media formats. Also adolescence represents a formative stage where attributes like sustained attention, concentration, executive functioning, and self-regulatory capacities are still developing. These cognitive skills are not only essential for the academic achievement but also help in developing crucial skill of problem solving and long term learning.

Sustained attention is one such cognitive skill whose disruption can have far-reaching implications for educational outcomes and overall intellectual growth.

If excessive engagement with short-form video content leads to attention fragmentation, it may hinder adolescents' ability to engage with extended tasks, thereby influencing both academic performance and skill acquisition required for future life.

The present study thus holds significant importance in understanding the intersection between digital media consumption especially through the format of short form videos and cognitive development among adolescents by examining the relationship between such consumption and sustained attention.

Operational definition

1. Short form video usage: time duration for which short form videos are seen in a day, such as less than one hour, 1-3 hours and more than 3 hours.
2. Short form video engagement: the way content of short form videos is consumed.
3. Sustained attention: Staying engaged and focused on relevant information, task and activity for an extended period even if it is monotonous or not exciting.

Objectives

1. To study the correlation between *Short-form Video engagement and Sustained Attention among Teenagers*.
2. To study difference in mean values for Short form video *engagement* between *teenage* girls and boys.
3. To study difference in mean values for sustained attention between teenage girls and boys.
4. To study the main effect of short form video usage in terms of short form video *engagement*.

Hypotheses

1. There is no significant correlation between *Short-form Video engagement and Sustained Attention among Teenagers*.
2. There is no significant difference in mean values for Short form video *engagement* between *teenage* girls and boys.
3. There is no significant difference in mean values for sustained attention between teenage girls and boys.
4. There is no significant difference in short form video usage in terms of short form video *engagement*.

Sample of the study

A Sample of 149 teenagers studying in schools of Haryana state forms the sample of the study. A Google form was prepared and mailed to teenagers studying in sample schools to collect the data.

Tools used

Following tools were used to collect the data:

1. *Short-form Video usage and engagement scale constructed by the investigator.*
2. *Sustained Attention scale constructed by the investigator.*

Procedure and collection of data

The research was conducted to study the relationship between *Short-form Video usage and engagement* by the teenagers and *Sustained Attention*. A one way factorial design was used to study the problem at hand. 149 teenagers for various districts of Haryana state were surveyed for the study. *Short-form Video usage and engagement scale and Sustained Attention scale constructed by the investigator* were administered to collect the data. The data was collected through Google forms. The data were subjected to statistical analysis. The results and conclusions were drawn out from there.

Statistical tools used

One way ANOVA, Post hoc test, t-test and Pearson's coefficient of correlation technique were used to analyze the data.

Analysis of the data

The raw data was subjected to various statistical techniques like One way ANOVA, Post hoc test, t-test and Pearson's coefficient of correlation. The analysis and interpretation of the results of statistical techniques used is presented in the form of testing the hypotheses for the defined objectives.

Correlation

Objective 1: To study the correlation between *Short-form Video engagement and Sustained Attention among Teenagers*.

The first objective of the study was tested through the related hypothesis by calculating coefficient of correlation value between two variables short form video engagement and sustained attention among teenagers.

Table 1: showing coefficient of correlation value between Short form video engagement and sustained attention among teenagers

S.No.	Variable	N	M	SD	R	Significance
1	Short form video engagement	149	26.05	5.155	-.450	.000
2	Sustained attention	149	29.56	6.528		

Table 1 shows that the mean values for Short form video engagement and sustained attention for the sample of 149 students are 26.05 and 29.56 respectively and standard deviation values are 5.155 and 6.528 respectively. The coefficient of correlation value is found to be -.450 which is significant at .01 level. The negative value indicates that the two variables are in inverse correlation with each other. Hence the hypothesis, 'there is no significant correlation between *short-form video engagement and sustained attention among teenagers*, ' may not be accepted. The result indicates that higher the short form video engagement lesser will be the sustained attention of the teenagers.

t-test

Objective 2: To study difference in mean values for Short form video engagement between teenage girls and boys.

The second objective of the study was tested through the hypothesis by calculating difference in mean values between girls and boys for short form video engagement among teenagers.

Table 2: showing difference in mean values for short form video engagement between girls and boys (teenagers)

Gender	N	M	SD	SEm	Df	t-value	Significance
Girls	80	27.15	4.907	.549	147	2.881	.00
Boys	69	24.77	5.174	.623			

Table 2 shows that mean values for girls (80) and boys (69) are 27.15 and 24.77 respectively and standard deviation values are 4.907 and 5.174 respectively for 147 degree of freedom. The difference in mean value has been calculated in terms of t-value which is found to be 2.881. The value is significant at .01 level. Hence the hypothesis, ‘there is no significant difference in mean values for short form video engagement between teenage girls and boys,’ may not be accepted. This means that girls engage themselves more in short form videos than boys.

Objective 3: To study difference in mean values for sustained attention between teenage girls and boys.

The third objective of the study was tested through the hypothesis by calculating difference in mean values between girls and boys for sustained attention among teenagers.

Table 3: showing difference in mean values for sustained attention between girls and boys (teenagers)

Gender	N	M	SD	SEm	Df	t-value	Significance
Girls	80	28.74	6.556	.733	147	-1.674	NS
Boys	69	30.52	6.409	.772			

Table 3 shows that mean values for girls (80) and boys (69) are 28.74 and 30.52 respectively and standard deviation values are 6.556 and 6.409 respectively for 147 degree of freedom. The difference in mean value has been calculated in terms of t-value which is found to be -1.674. The value is not significant at .05 level. Hence the hypothesis, ‘there is no significant difference in mean

values for sustained attention between teenage girls and boys,' may be accepted. This means that there is no difference in sustained attention between teenage girls and boys.

One way ANOVA

Objective 4: To study the main effect of short form video usage in terms of short form video engagement.

The fourth objective of the study was tested through the hypothesis by calculating difference in mean values among various groups for usage of short form videos among various groups by calculating F- value through one way ANOVA.

Table 4: showing descriptive statistics value for groups using Short form videos in terms of short form video consumption

Groups	Short form Video usage	N	M	SD	SE
Group 1	Less than 1hour	57	24.04	5.172	.685
Group 2	1-3 hours	72	27.06	4.660	.549
Group 3	More than 3 hours	20	28.15	5.133	1.148

Table5: showing F- Value among the various groups using Short form videos in terms of short form video consumption

	Sum of Squares	Df	Mean Squares	F	Significance
Between groups	392.414	2	19.207	8.092	.000
Within groups	3540.258	146	24.248		
Total	3932.671	148			

Table 4 shows that mean values for group 1 (teenagers watching short form video for less than 1 hour), group 2 (teenagers watching short form video for 1-3 hours) and group 3 (teenagers watching short form video for more than 3 hours) are 24.04, 27.06 and 28.15 respectively. The standard deviation values are 5.172, 4.660 and 5.133 respectively. Table 5 shows F value as 8.092, for (2, 146) degree of freedom, which is significant at .01 level of significance. Hence the hypothesis, 'there is no significant difference in short forms video usage in terms of short form video engagement,' may not be accepted.

Post Hoc Test

Table 6: showing difference in mean values between various groups using Short form videos in terms of short form video engagement

Difference in mean values between groups	Mean difference	SE	Significance
Groups 1-2	-3.020	.873	.002
Groups 1-3	-4.115	1.280	.005
Groups 2-3	-1.094	1.245	.654 (NS)

Calculating post hoc test, table 6 shows that difference in mean values between groups 1-2 is (-3.020). The value is significant at .01 level. Difference in mean values between groups 1-3 is (-4.115). The value is significant at .01 level. Difference in mean values between groups 2-3 is (-1.094). The value is not significant at .05 level. The result shows that there is no significant difference in teenagers engaging in short form videos between the groups using short form videos for 1-3 hours and more than 3 hours. Whereas short form video engagement for the group using such videos for more than 3 hours is more than groups using such videos for 1-3 hours and less than one hour respectively. This means that the teenagers who are engaged in short form videos for more time consume more content.

Results and Discussion

Correlation between short-form video engagement and sustained attention

The findings of the present study indicates a significant inverse correlation between short form video engagement and sustained attention of teenagers (<.01). Participants with more engagement with short form video exhibited measurably lower sustained attention span. It is due to the fact that frequent exposure to brief higher stimulating content contributes to attentional fragmentation. The repeated exposure to the same recalibrates base line attentional expectations. He develops a preference for constant stimulation which potentially reduces their capacity to maintain focus on prolonged tasks. Dopamine driven feedback loop embedded in short form videos further reinforces this pattern. The findings of the present study are consistent with prior literature suggesting media multitasking and high frequency. Digital media usage can impair attention regulation (Ophir et al. 2009, Wilmer et al., 2017). The significance at .01 level suggests that the impact of short form video on attention processes is not trivial and accidental. Rather it needs educational and clinical attention particularly in adolescents who are the highest consumers of short form video content.

Gender differences in short-form video consumption

The study found a significant difference in short-form video consumption between girls and boys. Girls reported higher mean engagement levels ($M = 27.15$) compared to boys ($M = 24.77$), with the difference being statistically significant ($t = 2.881, p < .01$). This suggests that girls are more engaged with short-form video platforms. One possible explanation could be that short-form video applications often emphasize trends, aesthetics, and social connectivity—domains that may appeal more to teenage girls due to cultural and social influences. These results highlight the need to understand gendered patterns of media engagement, as higher consumption may also place girls at greater risk of reduced attention span.

Gender differences in sustained attention

Unlike video consumption, no significant gender differences were observed in sustained attention ($t = -1.674, NS$). Both girls and boys demonstrated comparable levels of attention capacity despite differences in media consumption patterns. This suggests that while the frequency of video use differs by gender, the overall cognitive outcome (sustained attention) may not be inherently influenced by gender alone. This finding reinforces the view that attention decline is more directly associated with media usage behavior rather than gender.

Effect of duration of short-form video usage

The results of one-way ANOVA demonstrated a significant difference in short-form video consumption among teenagers based on daily usage duration ($F = 8.092, p < .01$). Teenagers who used short-form videos for more than three hours reported the highest consumption levels ($M = 28.15$), compared to those who used them for less than one hour ($M = 24.04$) or between one to three hours ($M = 27.06$). The post hoc test further revealed that the difference was significant between the less-than-one-hour group and both higher-usage groups, but not between the one-to-three-hour group and the more-than-three-hour group. This indicates that consumption levels rise sharply after one hour of use and tend to plateau beyond three hours, suggesting diminishing variation at higher levels of exposure.

Taken together, the findings provide a comprehensive understanding of the relationship between short-form video consumption and sustained attention.

As digital content continues to evolve towards shorter, more engaging formats, it is very important to understand the long term cognitive implications of these shifts and explore strategies for mitigating negative effects on sustained attention.

Conclusion

In conclusion, the study contributes to growing evidence that the digital habits of adolescents have far-reaching implications for their cognitive development.

The findings also underline the need for awareness among parents, educators, and policymakers about the potential cognitive costs of unregulated exposure to short-form content. Encouraging responsible media use and promoting alternative activities that strengthen attention span can help mitigate the negative impact.

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