

Effect of Social Media Reel Consumption on Undergraduate Students' Attention Span and Attention Diversion

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ABSTRACT

This study investigated the influence of social media reel consumption on attention span and attention diversion among undergraduate students in West Bengal, India. A total of 82 undergraduate students randomly participated in the study, with data collected both online and through ground surveys conducted in two districts: Murshidabad and Paschim Medinipur. Online data were collected from 44 participants, while 38 responses were obtained through ground surveys by the researcher. For this study, researchers utilized a structured questionnaire consisting of 15 items categorized in two parts: Part-I: Demographic details (6 items), Part-II: Times of Scrolling (3 items), Attention Span (3 items), and Attention Divert (3 items). Here, researchers employed a five-point rating scale questionnaire, which was validated through pilot testing with a small group of 17 participants to ensure reliability and validity of the tool. Here, correlational analyses were conducted by the researcher to examine the relationships between social media reel consumption as independent variable and attention span, and attention diversion as the dependent variable. The results revealed significant negative correlations between social media reel consumption and attention span, indicating a high negative correlation, suggesting that higher frequency and duration of reel consumption were associated with a significant decrease in attention span. Similarly, a positive correlation was found between social media reel consumption and attention diversion, indicating a moderately high positive correlation. This suggests that increased exposure to reels was linked to significantly higher levels of cognitive distraction and multitasking behaviors.

Keywords: Social media, Reel videos, Attention, West Bengal, attention span

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INTRODUCTION

In recent years, the widespread adoption of social media platforms has revolutionized communication and information dissemination, particularly among young adults and adolescents. Among the various features offered by these platforms, social media reels have gained popularity for their short, engaging video content. However, concerns have arisen regarding the potential negative effects of excessive reel consumption on individuals' attention, mental health, and academic performance. Understanding the impact of social media reels on these factors is crucial in addressing emerging challenges in digital well-being and academic success among undergraduate students. So, related these issues, this study investigated the influence of social media reel consumption on attention span and attention diversion among the undergraduate students in West Bengal, India.

Research indicates that frequent use of social media can lead to shorter attention spans. The constant stream of content, notifications, and rapid scrolling can fragment focus and reduce sustained attention [1]. Students often switch between tasks, leading to attention fragmentation. This behaviour affects their ability to concentrate during study sessions or classroom activities [2]. Excessive social media use may impair memory retention. The constant influx of information prevents deep processing and encoding of knowledge. Students who spend significant time on social media may struggle to retain information from lectures, textbooks, or study materials [1]. This distraction caused by mobile phones, including social media apps, is a real issue for

students. Many find it challenging to resist checking their phones during study hours. This phenomenon isn't limited to young students; middle-aged individuals also struggle with phone distractions [3]. On the other side, social media platforms encourage multitasking. Students often engage in simultaneous activities—watching reels, texting, and browsing. Such media multitasking negatively impacts attention and cognitive control. It can lead to attention lapses, reduced self-regulation, and lower efficiency [4]. Effects of social media on attention span vary based on individual characteristics, usage patterns, and context. Some students may be more susceptible to attention diversion due to their personality traits, habits, or learning environments [3].

Recent research by the Policy Institute and Centre for Attention Studies at King's College London found that half of surveyed adults felt their attention spans were shorter than before, with mobile phones being a significant distraction [3]. Distractions from social media may affect their ability to focus in class or complete assignments [4]. A Microsoft study found that the average attention span dropped from 12 seconds to 8 seconds since 2000 [5].

While extensive research exists abroad regarding the effects of watching social media reel videos on students, there is a notable gap in the Indian context, particularly within states like West Bengal. This void presents a significant concern, especially considering India's status as one of the world's leaders in internet and social media usage. Understanding how the social media reel video consumption influences attention span and attention diversion in regions such as West Bengal is crucial, particularly for its student population. Addressing this gap, the current research tries to investigate the impact of social media reel consumption specifically within this context, aiming to provide valuable insights into its effects on students' attention span and attention diversion.

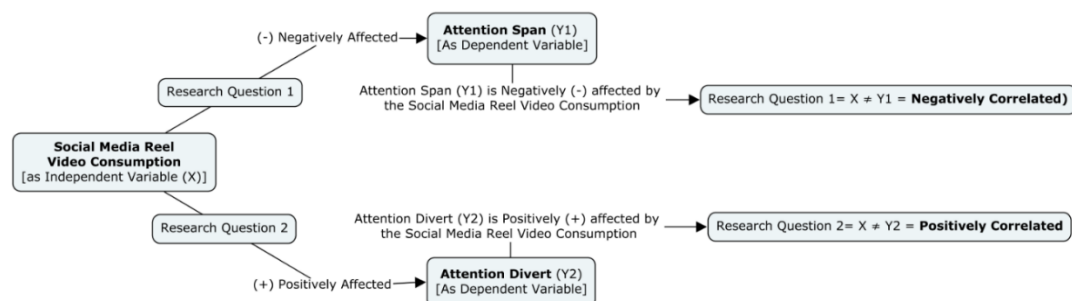
Research Questions

In this study, two research questions were formulated by the researcher, and they are: (i) How does the social media reel consumption relate to attention span of the undergraduate students? (ii) What is the association between social media reel consumption and attention diversion of the undergraduate students?

Hypothetical Assumption

Here researcher hypothetically assume that the consumption of Social Media Reel videos (the independent variable, X) negatively impacts attention span (Y1), which is considered as the dependent variable. Specifically, it is assumed that attention span (Y1) is negatively influenced by the consumption of Social Media Reel videos (X), indicating a negative correlation between X and Y1 ($X \neq Y1 = \text{Negatively Correlated}$). That's why this research aims to explore how social media reel consumption influence the attention span among undergraduate students.

Fig 1: Hypothetical assumptions expected by the researcher



On the other side, researcher also propose that Social Media Reel video consumption (X) positively affects attention diversion (Y2), another dependent variable. In this context, it is hypothesized that attention diversion (Y2) is positively impacted by the consumption of Social Media Reel videos, indicating a positive correlation between X and Y2 ($X \neq Y2 = \text{Positively Correlated}$). So, that's why this study aims to investigate

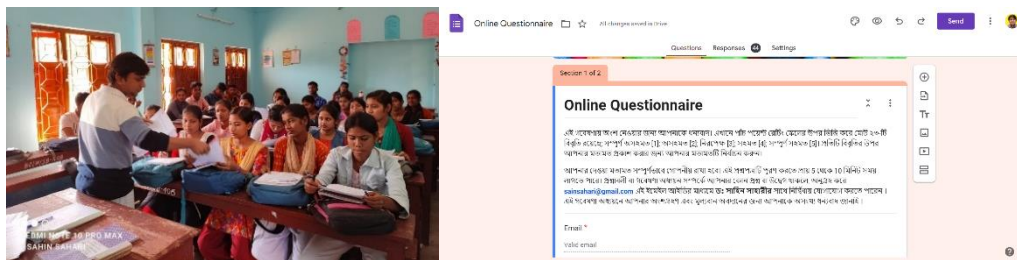
the association between social media reel consumption and attention diversion of the undergraduate students.

METHODOLOGY

This study was conducted in two districts: (i) Murshidabad district, and (ii) Paschim Medinipur district of West Bengal state, India. This research took place from October 11th, 2023, to 20th February 2024. The correlational method was adopted by the researcher for this present quantitative research study.

A total of 82 undergraduate students randomly participated in the study, with data collected both online and through ground surveys conducted in two districts: Murshidabad and Paschim Medinipur. Online data were collected from 44 participants, while 38 responses were obtained through ground surveys.

Fig 2: Participants during the data collection (Left); Online Questionnaire (Right)



For this study, researcher utilized a structured five-point Likert scale questionnaire consisting of 15 items and ranging from strongly agree (4), agree (3), can't say (2), disagree (1), and for strongly disagree (0) was used. The reliability of this questionnaire was assessed using Cronbach's Alpha value ($\alpha = 0.84$), which was validated through pilot testing involving a small group of 17 participants. This questionnaire consists of two subsections; (i) Part-I was related to the demographic details of the participants (6 items), and (ii) Part-II was related to the independent and dependent variables, which categorized into three dimensions: Times of Scrolling (3 items), Attention Span (3 items), and Attention Divert (3 items).

Table 1: Dimension wise items from the part-II of the constructed five-point Likert scale

Dimension	Item Code	Full Item
Time of Scrolling	TS1	I watch video reels or shorts but don't watch them for too long.
	TS2	Once I start watching video reels or shorts, I watch for a long time.
	TS3	I watch video reels or shorts on social media for more than 2 hours every day.
Attention Span	AS1	I love watching short videos on social media.
	AS2	I don't like watching long videos on social media.
	AS3	I have trouble concentrating on reading most of the time in class.
Attention Diversion	AD1	Whenever I get a message or notification of a reel video while studying at home, I immediately check it.
	AD2	I immediately check for any messages or notifications of social media reel videos while in class.
	AD3	I watch reel videos on social media while talking to friends.

Here, correlational analysis was used by the researcher to examine the relationships between social media reel consumption as independent variable and various outcome as dependent variables, including attention span and attention diversion with the help of MS-Excel. Before engaging in the study, all participants provided informed consent. All steps were taken and followed by the researcher to guarantee the anonymity and confidentiality of participants' responses throughout the research process. Among the total participants,

20 participants are female, constituting 25.3% of the sample, while 62 participants are male, comprising 74.7%. Moving to age demographics, 19 participants were aged between 17 and 19 years, representing 23.2% of the sample. Additionally, 27 participants fell within the age range of 20 to 22 years, accounting for 32.9% of the sample. And other remaining 36 participants were aged 23 years and above, constituting 43.9% of the total sample.

Table 2: Correlational Matrix between the Time of Scrolling as Independent Variable and Attention Span as Dependent Variable

	Item		Times of Scrolling			Attention Span		
			TS1	TS2	TS3	AS1	AS2	AS3
Times of Scrolling	TS1	Pearson's r	—	—	—	—	—	—
		p-value	—	—	—	—	—	—
	TS2	Pearson's r	-0.262	—	—	—	—	—
		p-value	0.008	—	—	—	—	—
	TS3	Pearson's r	-0.211	0.398	—	—	—	—
		p-value	0.028	1.000	—	—	—	—
Attention Span	AS1	Pearson's r	0.174	-0.281	-0.302	—	—	—
		p-value	0.942	0.005	0.003	—	—	—
	AS2	Pearson's r	0.149	-0.221	-0.213	0.336	—	—
		p-value	0.910	0.022	0.027	0.999	—	—
	AS3	Pearson's r	-0.005	0.243	0.223	0.075	-0.261	—
		p-value	0.484	0.986	0.979	0.749	0.009	—

Table 3: Heatmap of the Correlational Matrix between the Time of Scrolling as Independent Variable and Attention Span as Dependent Variable

Item	Times of Scrolling			Attention Span		
	TS1	TS2	TS3	AS1	AS2	AS3
TS1	-	-	-	-	-	-
TS2	-0.262	—	—	—	—	—
TS3	-0.211	0.398	—	—	—	—
AS1	0.174	-0.281	-0.302	—	—	—
AS2	0.149	-0.221	-0.213	0.336	—	—
AS3	-0.005	0.243	0.223	0.075	-0.261	—

In the table no. 2 correlation matrix and figure no.3 provides insights into the relationship between “Time of Scrolling” (TS) and “Attention Span” (AS) across three different items (TS1, TS2, TS3; AS1, AS2, AS3). For TS1, TS2, and TS3, no significant correlations are observed with AS1, AS2, or AS3, as indicated by the lack of statistically significant p-values ($p > 0.05$). However, TS2 shows a statistically significant negative correlation with AS2 ($r = -0.262$, $p = 0.008$), suggesting that as the time spent scrolling increases during TS2, attention span decreases. TS3 also exhibits a statistically significant negative correlation with AS2 ($r = -0.211$, $p = 0.028$), implying a similar trend where increased scrolling time during TS3 is associated with decreased attention span during AS2. Interestingly, AS1 and AS3 demonstrate statistically significant negative correlations with TS2 ($r = -0.281$, $p = 0.005$ and $r = -0.261$, $p = 0.009$, respectively) and TS3 ($r = -0.302$, $p = 0.003$ and $r = -0.261$, $p = 0.009$, respectively), indicating that longer scrolling times during TS2 and TS3 are associated with reduced attention span during AS1 and AS3.

Table 4: Correlational Matrix between the Time of Scrolling as Independent Variable and Attention Diversion as Dependent Variable

			Times of Scrolling			Attention Divert		
	Item		TS1	TS2	TS3	AD1	AD2	AD3
Times of Scrolling	TS1	Pearson's r	—					
		p-value	—					
	TS2	Pearson's r	-0.262	—				
		p-value	0.992	—				
	TS3	Pearson's r	-0.211	0.398	—			
		p-value	0.972	< .001	—			
Attention Divert	AD1	Pearson's r	-0.112	0.304	0.348	—		
		p-value	0.844	0.003	< .001	—		
	AD2	Pearson's r	0.131	0.013	0.120	0.565	—	
		p-value	0.119	0.452	0.139	< .001	—	
	AD3	Pearson's r	0.051	0.410	0.003	0.558	0.496	—
		p-value	0.324	< .001	0.489	< .001	< .001	—

Table 3 and 4 results display the Pearson's correlation coefficients (r) and corresponding p-values for the relationship between Time of Scrolling (TS) and Attention Diversion (AD) across different Time of Scrolling items (TS1, TS2, TS3) and attention diversion items (AD1, AD2, AD3). For the relationship between TS1 and AD1, the correlation coefficient (r) is -0.112, indicating a weak negative correlation. However, the p-value is 0.844, suggesting that this correlation is not statistically significant. When examining the association between TS3 and AD2, the correlation coefficient is 0.013, indicating a weak positive correlation. Yet, the p-value is 0.452, indicating that this correlation is not statistically significant. Comparing TS3 and AD3, the correlation coefficient is 0.003, indicating a very weak positive correlation. However, the p-value is < 0.001, signifying that this correlation is statistically significant.

Table 5: Heatmap of the Correlational Matrix between the Time of Scrolling as Independent Variable and Attention Diversion as Dependent Variable

		Times of Scrolling			Attention Divert		
	Item	TS1	TS2	TS3	AD1	AD2	AD3
Times of Scrolling	TS1	—	—	—	—	—	—
	TS2	-0.262	—	—	—	—	—
	TS3	-0.211	0.398	—	—	—	—
Attention Divert	AD1	-0.112	0.304	0.348	—	—	—
	AD2	0.131	0.013	0.12	0.565	—	—
	AD3	0.051	0.41	0.003	0.558	0.496	—

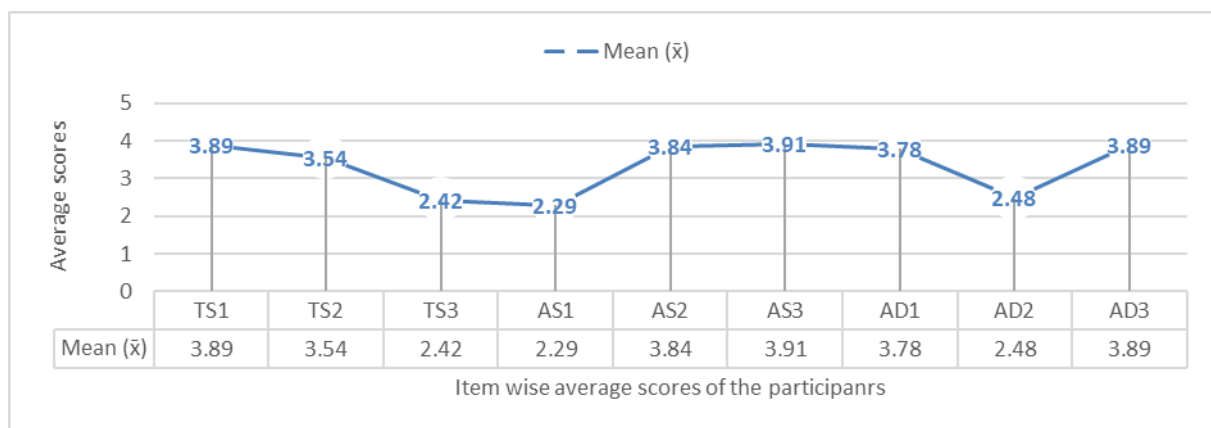
The results from the table no. 4 provide valuable insights into participants behaviours and preferences regarding the social media reel video consumption. Among the items assessed, it is evident that students generally exhibit a high tendency to engage with short video content, as indicated by the high mean scores for statements such as "I watch video reels or shorts but don't watch them for too long" ($\bar{x} = 3.89$), "Once I start watching video reels or shorts, I watch for a long time" ($\bar{x} = 3.54$), and "I don't like watching long videos on social media" ($\bar{x} = 3.84$). These findings suggest a strong inclination towards consuming short-form content over longer videos among the student population. Additionally, gathered data also reveals that students' consumption habits vary in terms of frequency, with a more mixed response observed for

statements related to prolonged usage. Like, while the mean score for “I watch video reels or shorts on social media for more than 2 hours every day” suggests an average level of agreement ($\bar{x} = 2.42$), indicating that some students engage in extended viewing sessions, the mean score for “I immediately check for any messages or notifications of social media reel videos while in class” falls within the average range ($\bar{x} = 2.48$), indicating a more moderate level of agreement. Data from the table 1 also highlights potential distractions caused by social media reel notifications, with a high mean score for the statement “Whenever I get a message or notification of a reel video while studying at home, I immediately check it” ($\bar{x} = 3.78$). This finding suggests that students may struggle to resist the urge to interrupt their study sessions in response to social media notifications, potentially affecting their concentration and focus.

Table 6: Item wise average score and responses of the participants

Items	Mean ($\bar{x}$)	Level
TS1: I watch video reels or shorts but don't watch them for too long.	3.89	High
TS2: Once I start watching video reels or shorts, I watch for a long time.	3.54	High
TS3: I watch video reels or shorts on social media for more than 2 hours every day.	2.42	Average
AS1: I love watching short videos on social media.	2.29	Average
AS2: I don't like watching long videos on social media.	3.84	High
AS3: I have trouble concentrating on reading most of the time in class.	3.91	High
AD1: Whenever I get a message or notification of a reel video while studying at home, I immediately check it.	3.78	High
AD2: I immediately check for any messages or notifications of social media reel videos while in class.	2.48	Average
AD3: I watch reel videos on social media while talking to friends.	3.89	High

Fig 3: Line graph of the item wise average score and responses of the participants



DISCUSSION

Currently, we are living in a serious attention crisis, with implications for our daily lives. And these are the rising distractions from screens, apps, and smartphones contribute to this phenomenon [7]. Related to this, a recent study shows which was conducted by the Policy Institute and Centre for Attention Studies at King's College London, half of surveyed UK adults felt their attention spans were shorter than before. And these distractions are mostly caused by mobile phones, especially checking them frequently, emerged as a real issue [3]. Similar with the previously mentioned issues, findings of this study also equivalently demonstrate the impact of social media reel videos consumptions on students' attention span and attention diversion. Here researcher hypothesizing that social media reel consumption (X) negatively impacts students' attention span (Y1), forming the basis for Research Question 1, which explores the relationship between the frequency

and duration of social media reel consumption and attention span among undergraduate students. Related to this, the results from table 2 and 3 reveal various insights into the relationship between time of scrolling (TS) and attention span (AS) across different items. Where finding suggests that increased scrolling time is negatively associated with decreased attention span. In parallel, the researcher proposes that social media reel consumption (X) positively affects attention diversion (Y2), leading to Research Question 2, which examines the association between social media reel consumption and attention diversion, including cognitive distraction and multitasking behaviours. In the table 3 and 4; the correlation analysis between time of scrolling (TS) and attention diversion (AD) highlights the positive correlation between them. This indicates that scrolling reel videos is significantly associated with attention diversion.

Moreover, the results from Table 6 and figure 3 provide valuable insights into participants' behaviours and preferences regarding social media reel video consumption. The high mean scores for statements such as *"I watch video reels or shorts but don't watch them for too long," "Once I start watching video reels or shorts, I watch for a long time,"* and *"I don't like watching long videos on social media"* suggest a strong inclination towards consuming short-form content over longer videos. However, the mixed response observed for statements related to prolonged usage indicates varying consumption habits among students. Additionally, the high mean score for the statement *"Whenever I get a message or notification of a reel video while studying at home, I immediately check it"* highlights the potential distractions caused by social media reel notifications, suggesting a need for strategies to mitigate these distractions and enhance students' focus and concentration during academic activities.

So, as teachers and parents, it is imperative to grasp the extent of these effects to cultivate balanced media habits. However, every study has its own limitation, and one limitation of this study is its dependency on self-reported data, which may be subject to bias or inaccuracies due to factors such as social desirability or imperfect recall. This study relied solely on a structured questionnaire with a limited number of items to collect data, which may not capture the full range of factors. Sample size is relatively small in this study and limited to undergraduate students from specific districts in West Bengal, India, which may restrict the generalizability of the findings to other populations or regions. But, despite these limitations, mentioned findings are anticipated to offer valuable insights for various stakeholders, including researchers, policymakers, educators, parents, and teachers. And by addressing the impact of social media on students' attention and diversion, this study may create a constructive discussion on the development of effective policies and responsibilities, and these discussions aim to ensure that no child or student faces disadvantages due to their engagement with social media platforms.

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