



Short Form Video Scrolling, Boredom Tolerance and Sustained Attention among Young Adults

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Abstract: The present research investigated the association between young adults' boredom proneness, sustained attention, and short-form video scrolling, with boredom proneness being evaluated as a possible mediator. 104 young adults (ages 18 to 25) selected from a variety of educational institutions made up the sample for this quantitative study. Three standardised self-report measures were used to gather data: the Short Boredom Proneness Scale (SBPS) to gauge boredom proneness, the Smartphone Addiction Scale – Short Version (SAS-SV) to gauge short-form video scrolling behaviour, and the Mindful Attention Awareness Scale (MAAS) to gauge sustained attention. To test the proposed correlations, bootstrapped regression was used for mediation analysis. The findings showed that scrolling through short videos was a strong positive predictor of boredom proneness and a significant negative predictor of maintained attention. The association between short-form video scrolling and sustained attention was found to be significantly partially mediated by boredom proneness (indirect effect = -0.02 , 95% CI [-0.03 , -0.00]). 37.34% of the variance in sustained attention was explained by the overall model. These results imply that regular exposure to short-form video content may both directly and indirectly impair attentional performance by increasing sensitivity to boredom. The findings have significant ramifications for young adults' digital well-being and educational initiatives focusing on attentional health in increasingly media-rich settings.

Keywords: *Short-Form Video Scrolling, Boredom Proneness, Sustained Attention, Mindfulness, Young Adults, Mediation Analysis*

1. Introduction

1.1 Sustained Attention

The ability to concentrate on an activity or stimuli for an extended length of time is known as sustained attention. It enables focusing on a task for as long as necessary, even amid distracting stimuli. Concentration (focused on the stimulus or task) and vigilance (noticing the appearance of a stimulus) are its two main categories. This crucial cognitive ability enables effective and efficient execution of daily tasks. Types of attention include sustained, selective, and divided attention—each with unique functional requirements. Sustained attention involves prolonged focus; selective attention involves prioritising one input while filtering distractions; and divided attention involves distributing resources across several tasks simultaneously.

Neurological Basis of Sustained Attention

A network of brain areas, mainly the prefrontal cortex and parietal lobes, maintains sustained attention. The prefrontal cortex is crucial for sustaining goal-directed behaviour and controlling attention across time, while the parietal lobes aid in distributing attentional resources. Age and cognitive load also significantly affect sustained attention: attentional capacity may gradually deteriorate with age and high cognitive load can make it more difficult to sustain attention over prolonged periods.

1.2 Boredom

Boredom is broadly defined as a distinct psychological state of disinterest or lack of engagement arising when individuals perceive insufficient stimulation or fail to find meaningful activity. According to Eastwood et al. (2012) boredom is a negative emotional state that develops when people are unable to focus on a fulfilling activity indicating a discrepancy between environmental stimulation and the person's requirement for cognitive involvement. Boredom has been increasingly associated with media use behaviours. People who are bored are more inclined to turn their focus to easily accessible digital content as a means of reducing this unpleasant state (Rosen et al., 2013; Terry et al., 2016). Individual differences in boredom proneness a propensity to experience boredom frequently and strongly are linked to greater media multitasking (Ralph et al., 2014; Lin et al., 2020).

1.3 Short Form Video Scrolling

Short-form video scrolling is the practice of continuously viewing short, algorithmically selected videos on social media platforms via feed-based, vertical interfaces. These videos are brief, visually appealing, and readily available, promoting repeated and extended viewing (Carr & Hayes, 2015). With more than 1.5 billion active users per month worldwide, TikTok has become the most prominent platform (Statista, 2024), alongside Instagram, YouTube, and Snapchat. Young adults aged 18–24 are especially prone to short-form video scrolling, with nearly 60% indicating regular use (Anderson et al., 2023). Binge-scrolling—prolonged continuous interaction with short-form video streams is common, driven by algorithm-driven personalisation and infinite scroll design. Recent studies indicate this format may have a greater impact on working memory and attentional function than longer-form media (Yan et al., 2024), with high-intensity fragmented exposure linked to decreased attentional control and greater distractibility (Chiossi et al., 2023; Yang et al., 2024).

2. Review of Literature

Xu (2026) investigated short video addiction and lifestyle disengagement among university students. Higher addiction to platforms like TikTok was associated with increased “lying flat” tendencies, mediated by flow experience, platform attachment, and peer influence.

Arouch (2025) conducted a systematic review examining the effects of short-form video use on cognitive and mental health outcomes. Frequent use was associated with attentional disruption, reduced executive functioning, emotional dysregulation, and increased anxiety; self-regulation was identified as a moderating factor.

Jia and Wang (2025) found that lower self-control and higher habitual short-form video use predicted procrastinatory scrolling, which was linked to increased stress and poorer sleep quality.

David. and Roberts (2025) showed that TikTok use was strongly linked to greater phubbing behaviour, mediated by a decrease in self-control, suggesting immersive short-form video impairs self-regulation.

Levey (2025) found that platform features such as infinite scroll, auto-play, and algorithmic personalisation induce flow states and promote prolonged engagement, potentially impairing attention, memory, and deep cognitive processing.

Nguyen et al. (2025) found that increased use of TikTok and YouTube Shorts is associated with poorer attention, inhibitory control, and higher stress and anxiety, though no significant association was found with self-esteem or body image.

Giri (2025) examined the relationship between doomscrolling and boredom proneness among young adults, finding no significant relationship, suggesting doomscrolling is more emotionally driven and habitual in nature.

Lin et al. (2024) investigated short-form video use and sustained attention through a longitudinal field study and online poll. Worse sustained attention performance was linked to increased consumption, though changing viewing length had no discernible impact, suggesting a correlational rather than causal relationship.

Mahmoudi (2024) found that watching brief videos before learning tasks lowered pupil diameter, a sign of diminished cognitive processing, but this effect lessened over time, indicating a transient attention deficit.

Drüppel (2023) found that across 385 participants, increased short-form video use was significantly linked to attention deficiencies in three of four subjective-objective measurement combinations, highlighting both objective deficits and users' subjective attentional assessments.

Drody (2022) found that trait boredom proneness was linked to greater media multitasking, indicating that stable boredom inclinations drive increased use of digital media as a compensating regulation mechanism.

Belardi (2022) showed that combining MAAS with sustained attention tasks (such as SART) consistently reveals that higher mindfulness is associated with better attentional accuracy and reduced variability in performance.

Hunter and Eastwood (2018) found that trait boredom was a significant predictor of lower sustained attention performance even after controlling for depression, and suggested a reciprocal relationship in which attentional failures may cause or exacerbate boredom.

Danckert and Merrifield (2018) used brain imaging to study the neurological underpinnings of boredom, finding that boredom and attention tasks were linked to anticorrelated activity in the anterior insula, while interest-related circumstances demonstrated coordinated activation with attentional control areas.

Petranker (2018) found that maintaining focus over time is linked to unpleasant emotions like boredom, and discovered a favourable correlation between trait mindfulness and sustained attention, explained by better affect control rather than increased cognitive ability.

Mrazek et al. (2013) showed that mindfulness training significantly improved working memory and reduced mind-wandering, demonstrating a causal relationship between mindfulness (MAAS) and attentional functioning.

Mrazek et al. (2012) found a negative correlation between mindfulness and multiple indicators of mind-wandering, demonstrating that mindfulness reduces attentional lapses during sustained attention tasks like SART.

3. Methodology

3.1 Aim

To examine the relationship between short-form video scrolling and sustained attention, and to investigate the mediating role of boredom in this relationship among young adults.

3.2 Objectives

1. To assess the level of short-form video scrolling on boredom among young adults.
2. To examine the relationship between short-form video scrolling on sustained attention.
3. To determine the relationship between boredom proneness on sustained attention.
4. To investigate whether boredom proneness mediates the relationship between short-form video scrolling and sustained attention.

3.3 Hypotheses

H1: There will be a significant relationship between short-form video scrolling and sustained attention among young adults.

H2: There will be a significant relationship between boredom proneness and sustained attention among young adults.

H3: There will be a significant relationship between short-form video scrolling and boredom proneness among young adults.

H4: Boredom proneness will significantly mediate the relationship between short-form video scrolling and sustained attention.

3.4 Variables

Independent Variable (IV): Short-form video scrolling (measured using SAS-SV)

Mediator (M): Boredom proneness (measured using SBPS)

Dependent Variable (DV): Sustained attention (measured using MAAS)

3.5 Research Design

The study used a quantitative research methodology to investigate the connection between young adults' propensity for boredom, sustained attention, and short-form video scrolling. A mediation analysis approach was used to examine whether boredom proneness could account for the association between short-form video scrolling and sustained attention.

3.6 Sample Details

There were 104 young adults in the sample, between the ages of 18 and 25, drawn from a variety of social backgrounds and educational institutions. Both male and female participants were included. Informed consent was acquired prior to data collection and participation was voluntary.

3.7 Psychological Tools Used

3.7.1 Smartphone Addiction Scale – Short Version (SAS-SV)

The SAS-SV, created by Kwon M. et al. (2013), is a prominent self-report tool for evaluating problematic smartphone use. Ten items on a Likert scale measure behaviours like overuse, withdrawal, and disruption to daily life; higher scores indicate greater smartphone addiction. The SAS-SV has shown strong validity and reliability across a variety of demographics.

3.7.2 Short Boredom Proneness Scale (SBPS)

The SBPS, developed by Struk A. A. et al. (2017), is a concise self-report measure used to assess an individual's tendency to experience boredom. The scale includes 8 items rated on a Likert scale, with higher scores indicating greater boredom proneness. The SBPS is a reliable and efficient tool for measuring boredom tendencies in both clinical and non-clinical populations.

3.7.3 Mindful Attention Awareness Scale (MAAS)

Brown K. W. and Ryan R. M. (2003) created the MAAS to evaluate trait mindfulness, specifically the degree of awareness and attention in daily situations. It has fifteen items scored on a Likert scale; higher scores indicate more mindfulness. Since mindfulness is strongly associated with attentional regulation and fewer cognitive lapses, the scale was utilised in this study as a measure of sustained attention. Mrazek M. D. et al. (2012) found a negative correlation between mind-wandering and mindfulness; Mrazek M. D. et al. (2013) showed that practicing mindfulness greatly enhances sustained attention and working memory; and Belardi A. et al. (2022) confirmed that higher mindfulness is consistently linked to improved attentional precision and stability. These results support the use of MAAS as a gauge of sustained attention capacity.

3.8 Procedure

Participants' informed consent was obtained before data collection began. Three standardised self-report measures were administered: the SAS-SV to evaluate short-form video scrolling behaviour, the SBPS to evaluate boredom proneness, and the MAAS to evaluate attentional awareness. Participants filled out the surveys in uniform settings to maintain identity and confidentiality.

4. Analysis of Results

Table 1. Regression Analysis Predicting Mediator from Short-form Video Scrolling

Predictor	B	SE	T	p	95% CI
Constant	3.13	0.15	20.70	< .001	[2.83, 3.43]
Short form video scrolling	0.01	0.00	3.25	.002	[0.01, 0.02]

Model Summary: $R = .31$, $R^2 = .09$, $F(1, 102) = 10.58$, $p = .002$

Effect of Short-Form Video Scrolling on Boredom

The first step of the mediation analysis assessed whether short-form video scrolling significantly predicts boredom. The regression results (Table 1) indicated that short-form video scrolling was a significant positive predictor of boredom, $B = 0.01$, $SE = 0.00$, $t = 3.25$, $p = .002$. The 95% confidence interval [0.01, 0.02] did not include zero, further confirming the statistical significance. The overall model was statistically significant, $F(1, 102) = 10.58$, $p = .002$, explaining approximately 9.4% of the variance in boredom ($R^2 = .09$). This suggests that increased short-form video scrolling is associated with higher levels of boredom.

Table 2: Regression Analysis Predicting Outcome (Sustained Attention) from Short-form Video Scrolling and Boredom

Predictor	B	SE	t	p	95% CI
Constant	8.40	0.61	13.75	.001	[7.19, 9.62]
Short form video scrolling	-0.02	0.01	-2.69	.008	[-0.04, -0.01]
Boredom	-1.07	0.18	-6.10	< .001	[-1.42, -0.72]

Model Summary: $R = .61$, $R^2 = .37$, $F(2, 101) = 30.09$, $p < .001$

Effect of Short-Form Video Scrolling and Boredom on Sustained Attention

The second step evaluated the combined effect of short-form video scrolling and boredom on sustained attention (Table 2). The overall regression model was statistically

significant, $F(2, 101) = 30.09$, $p < .001$, accounting for 37.34% of the variance in sustained attention ($R^2 = .37$). Short-form video scrolling emerged as a significant negative predictor of sustained attention, $B = -0.02$, $SE = 0.01$, $t = -2.69$, $p = .008$. Boredom was also a strong and significant negative predictor, $B = -1.07$, $SE = 0.18$, $t = -6.10$, $p < .001$, with a confidence interval of $[-1.42, -0.72]$. Notably, the effect size for boredom is considerably larger than that of short-form video scrolling, suggesting boredom plays a more central role in influencing sustained attention.

Table 3: *Direct and Indirect Effects of Short-form Video Scrolling on Sustained Attention via Boredom*

EFFECT TYPE	Effect	SE	t	p	95% CI
Direct Effect	-0.02	0.01	-2.69	.008	[-0.04, -0.01]

Indirect Effect (Bootstrapped):

Mediator	Effect	Boot SE	95% CI
Boredom	-0.002	0.01	[-0.03, -0.00]

Direct and Indirect Effects (Mediation Analysis)

The mediation analysis (Table 3) examined whether boredom functions as a mediator between short-form video scrolling and sustained attention. The direct effect of short-form video scrolling on sustained attention remained statistically significant even after including boredom in the model, $B = -0.02$, $SE = 0.01$, $t = -2.69$, $p = .008$, with a confidence interval of $[-0.04, -0.01]$. The indirect effect through boredom was also statistically significant ($B = -0.002$, $Boot SE = 0.01$, $95\% CI [-0.03, -0.00]$). The persistence of a significant direct effect indicates that scrolling also impairs sustained attention through other mechanisms, such as reduced attentional control, increased distractibility, or cognitive overload.

5. Discussion

All four hypotheses were validated by the results, confirming a partial mediation effect of boredom proneness in the relationship between short-form video scrolling and sustained attention. The MAAS was used as a measure of sustained attention given its strong empirical alignment with attentional regulation. Mrazek et al. (2012, 2013) and Belardi et al. (2022) have collectively demonstrated that MAAS scores reliably capture individual differences in attentional lapses and moment-to-moment cognitive engagement.

The first hypothesis—a significant negative relationship between short-form video scrolling and sustained attention—was supported ($B = -0.02$, $p = .008$). This is consistent with research by Lin et al. (2024), Drüppel et al. (2023), and Arouch et al. (2025), all of whom found higher short-form video consumption associated with worse sustained attention. The structural characteristics of short-form platforms—algorithm-driven content delivery, rapid stimulus shifts, infinite scroll, and auto-play (Chung et al., 2023; Levey, 2025) appear to gradually weaken attentional control and increase distractibility. Notably, the direct effect of scrolling on sustained attention persisted even after statistically controlling for boredom proneness, indicating multiple cognitive pathways. Contextual factors may modulate these effects; Puaponpong et al. (2023) found no significant association among high school students, and Mahmoudi (2024) found only a transient impairment, underscoring the importance of individual difference factors.

The second hypothesis—a strong negative correlation between sustained attention and boredom proneness—was strongly supported ($B = -1.07$, $p < .001$), with an effect magnitude much greater than that of scrolling alone. Hunter and Eastwood (2018) similarly found trait boredom to be a significant predictor of poorer sustained attention. Danckert and Merrifield (2018) provided neurological evidence through anticorrelated activity between boredom-related neural states and the anterior insula. The boredom feedback model (Tam et al., 2021) postulates that boredom results from insufficient attentional engagement, creating a vicious cycle of attention drifting and further disengagement consistent with the current findings. Golubchik et al. (2021) extended these relationships to clinical groups, finding that children with ADHD showed poorer attentional performance when more prone to boredom.

The third hypothesis—a positive correlation between short-form video scrolling and boredom proneness—was verified ($B = 0.01$, $p = .002$). This points to a paradoxical dynamic: habitual scrolling may amplify vulnerability to boredom rather than resolve it. Long-term passive, low-effort content consumption may gradually reduce one's ability to engage cognitively in meaningful ways, increasing the stimulation threshold needed to feel engaged (Eastwood et al., 2012; Drody et al., 2022). Zhu's research also revealed boredom as a partial mediator between loneliness and short video addiction, highlighting boredom's role in compulsive platform use.

The fourth and central hypothesis boredom proneness significantly mediates the relationship between short-form video scrolling and sustained attention was confirmed. The bootstrapped indirect effect was statistically significant ($B = -0.02$, 95% CI $[-0.03, -0.00]$). Partial rather than full mediation is indicated by the persistence of a substantial direct effect,

meaning scrolling also impairs attention through boredom-independent pathways such as habitual attentional switching, decreased cognitive inhibition, or cognitive fatigue linked to scroll immersion (Feng et al., 2024; Xie et al., 2023). The overall model explained 37.34% of the variance in sustained attention, confirming the predictive utility of both variables.

6. Conclusion

The present study provides empirical support for significant relationships among short-form video scrolling, boredom proneness, and sustained attention in a sample of young adults. The association between scrolling behaviour and attentional functioning was found to be significantly partially mediated by boredom proneness, underscoring the significance of dispositional affective aspects in comprehending the cognitive effects of digital media interaction. These findings have practical implications for educational settings and interventions related to digital well-being, indicating that attempts to maintain attentional capacity in media-rich environments may need to concurrently address habitual scrolling behaviour and the underlying susceptibility to boredom.

6.1 Findings

Limitations

1. Self-report tools were used to measure all three variables, raising the possibility of subjective distortion and social desirability bias. The lack of objective, task-based attentional measures like the SART restricts accuracy of attentional assessment.
2. Several confounding factors like impulsivity, trait self-control, sleep quality, total screen time, and prior attentional disorders (such as ADHD) were not measured or controlled.
3. The study failed to distinguish between deliberate and habitual/compulsive scrolling, which could have distinct cognitive effects and mask the actual nature of the attention-related relationship.

6.2 Future Directions

1. To determine the directionality of the association over time, longitudinal research should be carried out.
2. Experimental designs involving digital detox or reduced scrolling conditions should be used to determine whether reducing short-form video consumption enhances sustained attention.

3. Future studies should integrate self-report instruments like the MAAS with objective attentional measures like the SART or CPT for a more thorough and reliable evaluation.
4. Individual difference characteristics such as self-control, impulsivity, and mindfulness should be investigated as potential moderators to identify particularly susceptible subgroups.

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