



# **Impact of Short-Form Video Consumption on Cognitive Psychology among State University Students in Sri Lanka**

Research Proposal  
MGT-3223 Research Methodology

**By**

S.G.A.D De Jayathunga

MGT/2022/327

MGT/7167

Department of Information Systems

Faculty of Management Studies

Rajarata University of Sri Lanka

Mihintale

31.10.2025

## Table of Contents

01. Background Study.....	1
02. Research Problem. ....	3
03. Literature Review.....	4
3.1 Cognitive Psychology. ....	4
3.2 Short-Form Video Platforms.....	5
3.3 Impact of Short Videos on Cognitive Psychology.....	6
3.4 Empirical Findings.....	7
04. Conceptual Framework.....	7
05. Research Questions.....	8
5.1 General Question. ....	8
5.2 Specific Questions. ....	9
06. Research Objectives.....	9
6.1 General Objective. ....	9
6.2 Specific Objectives. ....	9
07. Hypotheses.....	10
08. Methodology.....	10
8.1 Research approach. ....	10
8.2 Research Type.....	10
8.3 Research Strategy.....	11
8.4 Time Horizon of the Study. ....	11
8.5 Nature of the Study. ....	11
8.6 Population & Sample. ....	11
8.6.1 Population. ....	11
8.6.2 Sample Size.....	12

8.6.3 Sampling Technique. ....	14
8.7 Research Design.....	14
8.7.1 Data Collection. ....	14
8.7.2 Data Analysis.....	15
09. Significance of the Study.....	16
10.Scope & Limitations. ....	16
10.1 scope. ....	16
10.2 Limitations. ....	17
11. Timeline.....	18
12. References.....	19

## **List of Tables.**

1 Population Table .....	12
2 Sample Table .....	14

## **List of Figures.**

1 Conceptual Framework .....	8
2 Timeline .....	18

## **01.Background Study.**

Nowadays, short-form video (SFV) platforms including TikTok, Instagram Reels, and YouTube Shorts play a central role in young people's media consumption. These 15- to 60-second videos are engineered to capture attention instantly through rapid scene-switching, vivid visuals, catchy audio, and algorithm-driven personalization (Paltaratskaya, 2023). While they can support micro-learning or creative expression, their design promotes fragmented, passive consumption that undermines deeper cognitive processing (Chiossi et al., 2023; Meiselwitz, 2022). Over time, this trains the brain to expect novelty without depth, subtly reshaping how users engage with information (Hamed et al., 2025). Recent experimental work confirms that even brief exposure to SFVs disrupts the brain's ability to maintain goal directed focus, with users showing reduced activation in prefrontal regions associated with executive control (Shanmugasundaram & Tamilarasu, 2023).

According to Cognitive Load Theory (Sweller, 1988), working memory has limited capacity. SFV scrolling simultaneously overloads the phonological loop (auditory) and visuospatial sketchpad (visual), creating high extraneous cognitive load that impairs concentration (Baddeley, 2000). This leaves little mental bandwidth for meaningful encoding, weakening both short- and long-term memory (PsychFuel, 2023). Chiossi et al. (2023) found SFV users show significantly worse prospective memory due to rapid context-switching a deficit not seen with long-form media. Similarly, (Hamed et al., 2025) reported consistent (though not always statistically significant) declines in attention and memory among adolescent SFV users. Dopamine-driven feedback loops further reinforce habitual scrolling: every like or new video delivers a small reward that fuels continued use (Medrano, 2022). This conditioning erodes sustained attention the foundation of critical reading, comprehension, and analytical thinking (Hollis & Was, 2016; Firth et al., 2020). Neurocognitive research links heavy SFV use to reduced gray matter in attention regulating brain regions (Loh & Kanai, 2016), and classroom studies show students struggle to focus beyond six minutes when digital distractions are present (Rosen et al., 2013). A 2024 study of Gulf-region undergraduates further confirmed that frequent SFV use correlates with self-reported difficulties in concentration, information retention, and task persistence (Abulibdeh et al., 2024).

This issue is especially urgent in Sri Lanka, where over 8.2 million people use social media most aged 18–24, the core undergraduate demographic (DataReportal, 2025). Many students watch SFVs during study breaks or before bed, often unaware of the cognitive costs. Local evidence confirms this: Udesh and Ratnayake (2021) found Sri Lankan undergraduates experience high levels of social media–driven mind wandering, which significantly impairs working memory, memory retention, reading comprehension, and decision-making. Compounding the problem are privacy and security concerns, which act as cognitive moderators. Awareness of data tracking, algorithmic profiling, and misinformation triggers a “privacy calculus”—a mental trade-off between engagement and risk (Dinev & Hart, 2006). This constant background vigilance diverts attention from content processing, creating a state of “continuous partial attention” (Kaplan, 1995). Such divided attention not only strains working memory but also promotes surface-level engagement the opposite of the deep processing needed for lasting learning (Bartlett, 1932; Otto, 2025). Koohang et al. (2021) empirically validated that privacy and security concerns heighten cognitive vigilance and reduce engagement depth. When users feel insecure about online manipulation, they shift toward intuitive, heuristic judgments rather than analytical thinking (Petty & Cacioppo, 1986) a tendency that degrades decision quality. SFV exposure increases susceptibility to misinformation (Pennycook & Rand, 2019), and (Hamed et al., 2025) found adolescents report greater difficulty sustaining focus during academic tasks with higher SFV use. A recent validation study further confirms that privacy concerns significantly moderate cognitive load during digital media use, especially among young adults in developing contexts (Bhatnagar & Pry, 2020).

Despite widespread SFV consumption among Sri Lankan undergraduates, no study has yet examined its impact on all four core cognitive functions working memory (WM), memory retention, reading comprehension, and decision making while accounting for privacy and security as moderators. Understanding these dynamics is essential, as these abilities directly underpin academic success, concentration, and long-term intellectual development.

## **02.Research Problem.**

Short-form video platforms such as TikTok, Instagram Reels, and YouTube Shorts have rapidly reshaped global media habits (Duffy & Hund, 2019), yet their cognitive impact on undergraduates in Sri Lankan state universities remains unexplored. Although international studies show that excessive short-video use can reduce attention, memory, and analytical thinking (Firth et al., 2020; Otto, 2025; Paltaratskaya, 2023), these findings cannot be generalized to Sri Lanka due to differences in digital literacy, academic culture, and infrastructure. No research has yet examined the combined effects of short-form video use on key cognitive domains crucial to learning working memory, memory retention, reading comprehension, and decision-making within the local higher education context.

This gap is critical, as over 8.2 million Sri Lankans are active social media users, most aged 18–24 (DataReportal, 2025). For undergraduates, short-form videos have become habitual, even during study periods. However, the rapid visual pace and dopamine-driven design of these platforms (Medrano, 2022; Paltaratskaya, 2023) conflict with the sustained focus and deep cognitive engagement required for academic performance. Without localized evidence, educators and students remain unaware of how these behaviors affect cognitive and academic outcomes.

Additionally, privacy and security concerns may further moderate these effects. Continuous awareness of data tracking, misinformation, and surveillance anxiety (Baruh et al., 2017; Dinev & Hart, 2006) creates cognitive multitasking (Ophir et al., 2009), dividing attention and reducing comprehension (Ayres & Sweller, 2014). Yet, this moderating factor has not been tested in Sri Lankan contexts where privacy literacy remains low.

Therefore, this study addresses the lack of empirical evidence on how short-form video use influences cognitive performance among Sri Lankan undergraduates and how privacy and security concerns shape these effects. The findings aim to support evidence-based strategies for digital wellness, cognitive health, and improved academic performance in higher education.

### **03.Literature Review.**

#### **3.1 Cognitive Psychology.**

Cognitive psychology explores how individuals acquire, process, store, and retrieve information core mental functions that support learning, reasoning, and academic success (Eysenck, 2012). Key domains such as working memory, memory retention, reading comprehension, and decision-making are increasingly challenged by today's high-stimulus digital environments. In the Sri Lankan context, Udesh and Ratnayake (2021) found that social media-driven mind wandering significantly impairs these four cognitive functions among state university undergraduates.

Cognitive Load Theory (Sweller, 1988) states that working memory has limited capacity; when overloaded by rapid audiovisual input, learning efficiency declines. Similarly, Baddeley's Working Memory Model (2000) identifies the phonological loop and visuospatial sketchpad as subsystems that can easily become strained by simultaneous SFV content, reducing encoding efficiency (Chiossi et al., 2023). Craik and Lockhart's Levels of Processing Theory (1972) explains that deep, meaningful engagement fosters durable memory, whereas short videos promote surface-level encoding. Experimental findings confirm this, showing that individuals exposed to short videos exhibit lower prospective memory due to rapid context-switching (Chiossi et al., 2023).

Schema Theory (Bartlett, 1932) and the Cognitive Theory of Multimedia Learning (Mayer, 2009) emphasize that comprehension depends on integrating new knowledge with prior understanding a process hindered by fragmented, fast changing content. The split attention effect worsens this issue, as users process visuals, sound, and text simultaneously, increasing extraneous cognitive load (Ayres & Sweller, 2014). Neurocognitive studies further support these claims: heavy media multitaskers exhibit reduced gray matter density in the anterior cingulate cortex, a region responsible for attention regulation (Loh & Kanai, 2016). Students in digital environments often lose focus within minutes, leading to poor retention (Rosen et al., 2013). Recent reviews also associate excessive digital engagement with reduced sustained attention, impaired executive function, and structural brain changes (Shanmugasundaram & Tamilarasu, 2023).



Decision-making also weakens under cognitive strain. The Elaboration Likelihood Model (Petty & Cacioppo, 1986) suggests that when mentally overloaded, individuals shift from analytical (central) processing to heuristic (peripheral) decision-making. Algorithmic feeds that emphasize emotional appeal intensify this tendency, reducing critical evaluation and increasing vulnerability to misinformation (Pennycook & Rand, 2019). Supporting this, Abulibdeh et al. (2024) found that frequent SFV users in Gulf-region universities struggled to maintain focus during academic tasks, reflecting subtle but persistent cognitive fatigue.

### **3.2 Short-Form Video Platforms.**

SFV platforms including TikTok, Instagram Reels, and YouTube Shorts have transformed how young people engage with digital content. These videos, typically lasting from a few seconds to one minute, are designed to capture attention instantly with rapid transitions, vivid visuals, and algorithmic personalization (Duffy & Hund, 2019). Their design prioritizes engagement over depth, encouraging continuous scrolling through highly stimulating, bite-sized media. While SFVs can facilitate creativity and micro-learning, their structure imposes significant cognitive strain.

The constant stream of audiovisual stimuli often layered with captions and emotional cues leaves little space for reflection, fostering fragmented attention and shallow processing (Chiossi et al., 2023; Shanmugasundaram & Tamilarasu, 2023). Experimental findings show that such rapid context switching reduces the brain's ability to sustain focus, encode meaning, and retain information over time (Chiossi et al., 2023; Hamed et al., 2025). From a cognitive psychology perspective, SFVs directly challenge Cognitive Load Theory (Sweller, 1988) by overloading working memory with simultaneous auditory, visual, and textual inputs, thereby reducing meaningful learning (Ayres & Sweller, 2014).

According to Baddeley's Working Memory Model (2000), both the phonological loop and visuospatial sketchpad are easily overwhelmed when processing SFV content, weakening the integration of new information with existing knowledge (Udesh & Ratnayake, 2021). Neurocognitive evidence links habitual SFV use to reduced gray matter in attention-regulating regions and weakened analytical reasoning (Loh & Kanai, 2016; Pennycook & Rand, 2019). Over time, this conditions the brain to favor novelty and instant gratification, eroding the cognitive endurance required for sustained

academic tasks such as reading, problem-solving, and reflective decision-making (Firth et al., 2020; Abulibdeh et al., 2024).

### **3.3 Impact of Short Videos on Cognitive Psychology.**

The cognitive effects of SFV consumption are multifaceted. Working memory declines as users are bombarded with competing visual and auditory cues, leading to overload and reduced retention. This dual channel strain aligns with Baddeley's model, where the phonological loop and visuospatial sketchpad compete for limited cognitive resources (Chiossi et al., 2023). Neuroimaging studies also reveal reduced gray matter in the anterior cingulate cortex a key region for attentional control among heavy media multitaskers (Loh & Kanai, 2016).

Memory retention weakens because SFVs promote surface-level engagement, opposing Craik and Lockhart's (1972) deep processing principle. The rapid context-switching inherent in SFV feeds disrupts encoding and consolidation, particularly when viewed before sleep (PsychFuel, 2023). The spacing effect (Cepeda et al., 2006) further shows that massed exposure to short videos prevents long-term recall, as it contradicts the distributed learning process necessary for durable memory (Otto, 2025).

Reading comprehension is also negatively impacted. Simultaneous exposure to visuals, captions, and music increases extraneous cognitive load (Ayres & Sweller, 2014), reducing comprehension accuracy. Students accustomed to SFVs often approach reading with an entertainment mindset, limiting analytical engagement (Otto, 2025). This is worsened by declining attention spans; undergraduates now struggle to maintain focus for more than a few minutes during academic activities (Rosen et al., 2013).

Decision-making suffers similarly. Dopamine driven feedback loops, reinforced by likes, views, and instant rewards, encourage impulsivity and reward seeking behavior (Medrano, 2022). As a result, users rely more on intuitive, heuristic decisions rather than reflective reasoning (Pennycook & Rand, 2019), reducing their ability to evaluate information critically especially in the presence of misinformation (Shanmugasundaram & Tamilarasu, 2023).

Privacy and security concerns further moderate these relationships. According to Privacy Calculus Theory (Dinev & Hart, 2006), users constantly weigh the benefits of platform use against potential data risks, which divides attention and drains cognitive

resources. Empirical evidence shows that privacy and security concerns are distinct constructs that heighten cognitive vigilance but reduce deep engagement (Koohang et al., 2021). Persistent privacy anxiety leads to continuous partial attention (Baruh et al., 2017), while both the Attention Restoration Theory (Kaplan, 1995) and Lang's Limited Capacity Model (2000) assert that shared cognitive resources diminish learning efficiency when split between threat monitoring and task performance.

### **3.4 Empirical Findings.**

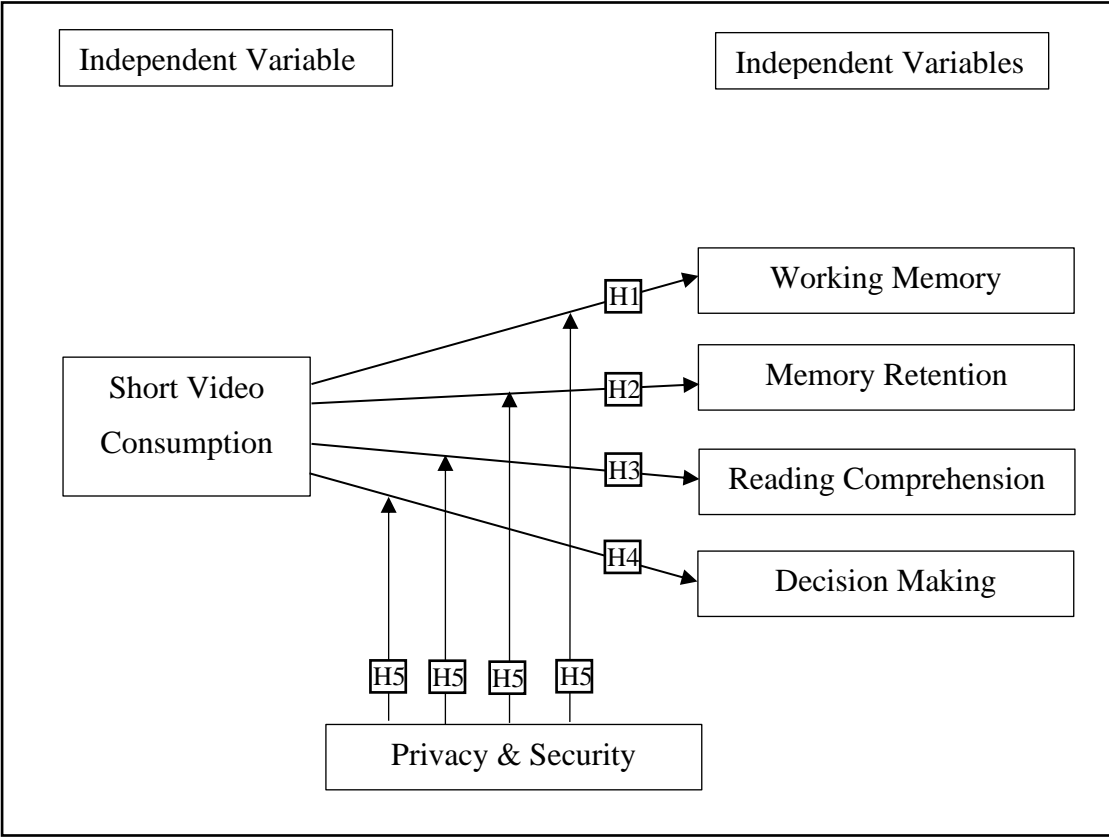
Empirical evidence increasingly shows that SFV consumption and social media engagement can impair key cognitive functions. In Sri Lanka, Udesh and Ratnayake (2021) found strong negative correlations between social media-driven mind wandering and four cognitive domains among state university undergraduates working memory ( $r = -0.68$ ), memory retention ( $r = -0.62$ ), reading comprehension ( $r = -0.66$ ), and decision-making ( $r = -0.65$ ) revealing that digital distraction undermines essential academic skills. Globally, similar patterns emerge. Chiossi et al. (2023) reported that SFV exposure reduces prospective memory through rapid context-switching, while Otto (2025) linked habitual SFV use to surface-level processing and weakened reasoning. Firth et al. (2020) also associated prolonged digital media use with fragmented attention and impaired memory consolidation. However, results remain mixed. The (Hamed et al., 2025) observed only weak correlations between SFV use and cognitive performance, suggesting that cultural and contextual factors shape outcomes. Given Sri Lanka's growing SFV adoption, uneven digital literacy, and emerging privacy awareness, localized evidence is vital.

Accordingly, this study investigates how SFV consumption influences cognitive performance among Sri Lankan undergraduates, incorporating privacy and security concerns as moderating variables an area supported by Koohang et al. (2021) but previously unexplored in local contexts.

## **04. Conceptual Framework.**

The conceptual framework of this study is grounded in the empirical work of Senarath and Ratnayake (2021), which examines the impact of social media-driven mind wandering on the cognitive psychology of undergraduates in Sri Lankan state universities. Their study identifies working memory, memory retention, reading

comprehension, and decision-making as core dimensions of cognitive functioning that are significantly impaired by heightened levels of mind wandering induced by social media use. Building on this foundation, the present research adopts these four cognitive domains as dependent variables, while positioning short-form video (SFV) consumption as the primary independent variable. This alignment ensures theoretical continuity with locally validated constructs while extending the inquiry to a more specific and contemporary form of digital engagement—short-form video platforms such as TikTok, Instagram Reels, and YouTube Shorts.



1 Conceptual Framework

## 05. Research Questions.

### 5.1 General Question.

What is the impact of short-form video consumption on cognitive psychology of state university students in Sri Lanka?

## **5.2 Specific Questions.**

1. What is the impact of short-form video consumption on working memory among state university students in Sri Lanka?
2. What is the impact of short-form video consumption on memory retention among state university students in Sri Lanka?
3. What is the impact of short-form video consumption on Reading Comprehension among state university students in Sri Lanka?
4. What is the impact of short-form video consumption on decision making among state university students in Sri Lanka?
5. What is the moderation impact of privacy and security on the relationship between short-form video consumption and working memory, memory retention, reading comprehension and decision making?

## **06. Research Objectives.**

### **6.1 General Objective.**

To identify the impact of short-form video consumption on cognitive psychology of state university students in Sri Lanka.

### **6.2 Specific Objectives.**

1. To identify the impact of short-form video consumption on working memory among state university students in Sri Lanka?
2. To identify the impact of short-form video consumption on memory retention among state university students in Sri Lanka?
3. To identify the impact of short-form video consumption on reading comprehension among state university students in Sri Lanka?
4. To identify the impact of short-form video consumption on decision making among state university students in Sri Lanka?
5. To examine the moderating impact of privacy and security on the relationship between short-form video consumption and working memory, memory retention, reading comprehension, and decision-making among state university students in Sri Lanka?

## **07. Hypotheses.**

**H1:** There is a significant impact of short-form video consumption on working memory among state university students in Sri Lanka.

**H2:** There is a significant impact of short-form video consumption on memory retention among state university students in Sri Lanka.

**H3:** There is a significant impact of short-form video consumption on reading comprehension among state university students in Sri Lanka.

**H4:** There is a significant impact of short-form video consumption on decision-making among state university students in Sri Lanka.

**H5:** There is a significant moderating impact of privacy and security on the relationship between short-form video consumption and working memory, memory retention, reading comprehension, and decision-making among state university students in Sri Lanka.

## **08. Methodology.**

### **8.1 Research approach.**

This study adopts a deductive research approach. It begins with established theoretical frameworks such as Cognitive Load Theory, the Working Memory Model, Privacy Calculus Theory, and the Elaboration Likelihood Model to develop specific, testable hypotheses about how short-form video consumption affects cognitive functions, including working memory, memory retention, reading comprehension, and decision-making. The study also examines how privacy and security concerns moderate these relationships. Data will be collected using a structured questionnaire and analyzed statistically to test these theory-driven propositions.

### **8.2 Research Type.**

The research is explanatory (causal) in nature, as it goes beyond mere description to investigate how and to what extent short-form video (SFV) consumption influences key cognitive outcomes namely working memory, memory retention, reading comprehension, and decision-making among undergraduate students in Sri Lankan state universities. Rather than simply identifying correlations, this study explicitly tests

directional hypotheses grounded in established cognitive theories (e.g., Cognitive Load Theory, Privacy Calculus Theory) and examines whether privacy and security concerns act as statistically significant moderators in these relationships. This explanatory approach enables the study to uncover underlying mechanisms and contribute evidence-based insights

### **8.3 Research Strategy.**

A survey strategy will be employed to collect primary data from undergraduate students across selected Sri Lankan state universities. The survey allows for collecting data from a large number of respondents efficiently and helps in generalizing findings to the wider undergraduate population.

### **8.4 Time Horizon of the Study.**

The study will follow a cross sectional design, with data collected at a single point in time. This design is efficient for capturing current usage patterns, cognitive self-assessments, and privacy attitudes among undergraduates, and is well-suited for hypothesis testing in large populations.

### **8.5 Nature of the Study.**

This study adopts a quantitative nature. Quantitative methods are suitable because the objective is to measure the relationships between short-form video consumption, cognitive functions (working memory, memory retention, reading comprehension, and decision-making), and the moderating role of privacy and security concerns using numerical data.

### **8.6 Population & Sample.**

#### **8.6.1 Population.**

The target population consists of undergraduate students enrolled in state universities in Sri Lanka during the 2025 academic year. This includes students from all faculties (e.g., Arts, Science, Engineering, Management, Medicine) and year levels (1st to 4th year). . The total student population across all state universities is 198,106, as reported by the University Grants Commission (UGC) of Sri Lanka. The table below presents

the total number of students in each university and their respective representation within the overall population.

<b>University Name</b>	<b>Total Number of Students</b>	<b>Representation of the sample</b>
University of Colombo	15863	8%
University of Kelaniya	16671	8.41%
Wayamba University of Sri Lanka	7682	3.87%
University of Sri Jayewardenepura	18772	9.47%
University of Peradeniya	13198	6.66%
University of Moratuwa	9429	4.75%
University of Jaffna	13731	6.93%
University of Ruhuna	16620	8.38%
South Eastern University of Sri Lanka	8557	4.31%
Sabaragamuwa University of Sri Lanka	9933	5.01%
The Open University of Sri Lanka	31113	15.7%
Uva Wellassa University of Sri Lanka	6706	3.38%
University of Vavuniya, Sri Lanka	3692	1.86%
Rajarata University of Sri Lanka	9233	4.66%
University of the Visual & Performing Arts	3176	1.6%
Gampaha Wickramarachchi University of Indigenous Medicine	2609	1.31%
Eastern University of Sri Lanka	12127	6.12%
<b>Total Number of Students</b>	<b>198,106</b>	<b>100%</b>

*1 Population Table*

### **8.6.2 Sample Size.**

A key principle underlying the Krejcie and Morgan table is that as population size grows particularly beyond 100,000 the required sample size increases only marginally. This reflects a point of diminishing returns in terms of accuracy gains. Consequently, for large populations and assuming a 95% confidence level with a 5% margin of error, a sample of approximately is generally considered the minimum needed to achieve a representative and statistically reliable sample.



<b>University Name</b>	<b>Total Number of Students</b>	<b>Representation of the sample</b>	<b>Number of Students Representing Each University</b>
University of Colombo	15863	8%	31
University of Kelaniya	16671	8.41%	32
Wayamba University of Sri Lanka	7682	3.87%	15
University of Sri Jayewardenepura	18772	9.47%	36
University of Peradeniya	13198	6.66%	26
University of Moratuwa	9429	4.75%	18
University of Jaffna	13731	6.93%	27
University of Ruhuna	16620	8.38%	32
South Eastern University of Sri Lanka	8557	4.31%	16
Sabaragamuwa University of Sri Lanka	9933	5.01%	19
The Open University of Sri Lanka	31113	15.7%	60
Uva Wellassa University	6706	3.38%	13

University of Vavuniya, Sri Lanka	3692	1.86%	7
Rajarata University of Sri Lanka	9233	4.66%	18
University of the Visual & Performing Arts	3176	1.6%	6
Gampaha Wickramarachchi University	2609	1.31%	5
Eastern University of Sri Lanka	12127	6.12%	23
<b>Total Number of Students</b>	<b>198106</b>	<b>100%</b>	<b>384</b>

*2 Sample Table*

### **8.6.3 Sampling Technique.**

The snowball sampling technique will be used. Initial respondents will be identified through personal networks and student groups and will be asked to refer other participants who meet the study criteria. This method is suitable given the dispersed nature of the target population and the need to access students across different universities efficiently.

## **8.7 Research Design.**

### **8.7.1 Data Collection.**

Data will be collected via a structured online questionnaire using Google Forms. The instrument includes four sections: (1) demographics (age, gender, university, faculty, year of study, daily short-form video use, and preferred platform); (2) video consumption patterns (frequency, duration, and context e.g., during study breaks or before bed); (3) cognitive functioning assessing working memory, memory retention, reading comprehension, and decision-making through self-reported items; and (4) privacy and security concerns, measuring awareness, anxiety, and vigilance regarding online risks. All responses will use a standardized Likert-type scale.

## **8.7.2 Data Analysis.**

### **8.7.2.1 Descriptive Analysis.**

Descriptive statistics will be used to summarize key characteristics of the data, including participants' demographics, SFV consumption levels, privacy concerns, and cognitive outcomes. Measures such as mean, median, mode, range, and standard deviation will describe the distribution and variability of responses, providing a clear overview of the dataset without drawing inferences about the wider population.

### **8.7.2.2 Reliability Test.**

Reliability will be assessed using Cronbach's Alpha, which measures the internal consistency of questionnaire items. A value above **0.70** will be considered acceptable, indicating that the items reliably measure the intended constructs.

### **8.7.2.3 Validity Test.**

Validity testing will be conducted to ensure that the measurement instruments accurately capture the intended constructs. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity will be applied to assess sampling adequacy and the suitability of data for factor analysis. Furthermore, Average Variance Extracted (AVE) values will be examined to evaluate convergent validity, ensuring that the variables used in the study reliably represent their respective theoretical constructs.

### **8.7.2.4 Correlation Analysis.**

Pearson's correlation coefficient will be used to identify the strength and direction of relationships between short-form video consumption and the cognitive variables.

### **8.7.2.4 Regression Analysis.**

Regression analysis will be employed to examine the impact of short-form video consumption on cognitive outcomes. The analysis will be conducted using multiple linear regression models to determine the strength and direction of relationships among variables. Key statistical indicators, including  $\beta$  (Beta coefficients), F-statistics, and Sig. (Significance) values, will be used to assess the predictive power and overall significance of the model. These results will help to identify whether short-form video consumption and moderating variables, such as privacy and security concerns, have statistically significant effects on cognitive performance among undergraduates.

## **09. Significance of the Study.**

This study holds significance for several key reasons. First, it addresses a pressing gap in the literature regarding the cognitive implications of short-form video (SFV) consumption among undergraduate students in Sri Lankan state universities a demographic that is increasingly immersed in digital media yet underrepresented in existing research. As SFV platforms become integral to daily information and entertainment consumption, understanding their naturalistic association with core cognitive functions such as working memory, memory retention, reading comprehension, and decision-making is essential. Unlike experimental studies that impose artificial usage conditions, this observational approach captures real-world patterns of SFV engagement, thereby offering insights that reflect actual student behavior. This ecological validity strengthens the relevance of the findings to everyday academic and cognitive experiences. Additionally, the inclusion of privacy concerns as a variable responds to the growing awareness of data-related anxieties in digital environments. Investigating how such concerns intersect with media consumption and cognitive outcomes adds a distinctive dimension to the study, particularly in a context where digital literacy and data protection awareness are still evolving.

The results of this research may inform university-level initiatives aimed at promoting mindful digital media use, support the development of cognitive resilience strategies, and contribute to curriculum enhancements in digital literacy. Moreover, the study provides a foundational dataset for future research in similar socio-educational settings across the Global South, where digital media adoption is rapid but cognitive impact studies remain scarce.

## **10.Scope & Limitations.**

### **10.1 scope.**

This study investigates the impact of short-form video (SFV) consumption on the cognitive performance of undergraduates in Sri Lankan state universities, focusing on four key cognitive areas—working memory, memory retention, reading comprehension, and decision-making. It also examines how privacy and security concerns moderate these relationships. The scope is confined to students in state universities to maintain contextual relevance, using a quantitative, non-experimental,

cross-sectional approach based on self-reported data. Laboratory or longitudinal methods are excluded, and findings are intended to provide localized insights that can inform educators and policymakers on promoting healthier digital habits and cognitive well-being among university students in Sri Lanka.

## **10.2 Limitations.**

Data were collected through self-reported questionnaires, which may be subject to recall bias, social desirability bias, or inaccurate self-assessment of cognitive functioning, potentially affecting the reliability of the responses.

The study employs a cross-sectional design that captures data at a single point in time, thereby limiting the ability to draw causal inferences between short-form video (SFV) consumption and cognitive outcomes.

The use of snowball sampling, while practical for participant access, may reduce sample representativeness and limit the generalizability of the findings across all Sri Lankan state universities.

The study examines only moderating variable name, privacy and security concerns while excluding other potentially influential factors such as mental health, sleep quality, study habits, or digital literacy, which may restrict the depth of analysis.

The study focuses exclusively on undergraduates in Sri Lankan state universities, meaning the findings may not be generalizable to private university students, other age groups, or individuals from different cultural or technological contexts.

## 11. Timeline.

Activity	October				November				December				January				February				March				April			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proposal Development																												
Literature review																												
Methodology Development																												
Questioner Preparation																												
Data Collection																												
Data Analysis																												
Writing and Presentation																												
Finalization and Submission																												

2 Timeline

## 12. References

- Abulibdeh, E. S., Alneyadi, S., Skaik, H., El-Saleh, M. S., Libdeh, F. I. A., & Naser, K. (2024). Short Video Addiction and its Relationship with Students' Academic Achievement and Well-Being: A pilot study. *IEEE*, 1–6.  
<https://doi.org/10.1109/gdigihealth.kee62309.2024.10761759>
- Are TikTok and Instagram reels sabotaging your brain? The startling effects of Short-Form video on memory, attention span, and creativity.* (2023, April 30). PsychFuel. <https://psychfuel.home.blog/2023/04/29/are-tiktok-and-reels-sabotaging-your-brain-the-startling-effects-of-short-form-video-on-memory-attention-span-and-creativity/>
- Ayres, P., & Sweller, J. (2014). The Split-Attention principle in multimedia learning. In *Cambridge University Press eBooks* (pp. 206–226).  
<https://doi.org/10.1017/cbo9781139547369.011>
- Baddeley, A. (2000). The episodic buffer: a new component of working memory? *Trends in Cognitive Sciences*, 4(11), 417–423.  
[https://doi.org/10.1016/s1364-6613\(00\)01538-2](https://doi.org/10.1016/s1364-6613(00)01538-2)
- Baruh, L., Secinti, E., & Cemalcilar, Z. (2017). Online Privacy Concerns and Privacy Management: A Meta-Analytical Review. *Journal of Communication*, 67(1), 26–53. <https://doi.org/10.1111/jcom.12276>
- Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2006). Distributed practice in verbal recall tasks: A review and quantitative synthesis. *Psychological Bulletin*, 132(3), 354–380. <https://doi.org/10.1037/0033-2909.132.3.354>
- Chiossi, F., Haliburton, L., Ou, C., Butz, A. M., & Schmidt, A. (2023). Short-Form Videos Degrade Our Capacity to Retain Intentions: Effect of Context Switching On Prospective Memory. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*, 1–15.  
<https://doi.org/10.1145/3544548.3580778>
- Craik, F. I., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671–684.  
[https://doi.org/10.1016/s0022-5371\(72\)80001-x](https://doi.org/10.1016/s0022-5371(72)80001-x)

- Dinev, T., & Hart, P. (2006). An extended privacy calculus model for E-Commerce transactions. *Information Systems Research*, 17(1), 61–80.  
<https://doi.org/10.1287/isre.1060.0080>
- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist*, 49(8), 709–724.  
<https://doi.org/10.1037/0003-066x.49.8.709>
- Firth, J. A., Torous, J., & Firth, J. (2020). Exploring the impact of internet use on memory and attention processes. *International Journal of Environmental Research and Public Health*, 17(24), 9481.  
<https://doi.org/10.3390/ijerph17249481>
- Heffernan, C. J. (1988). Social foundations of thought and action: A social cognitive theory, Albert Bandura Englewood Cliffs, New Jersey: Prentice Hall, 1986, xiii + 617 pp. Hardback. US\$39.50. *Behaviour Change*, 5(1), 37–38.  
<https://doi.org/10.1017/s0813483900008238>
- Hollis, R. B., & Was, C. A. (2016). Mind wandering, control failures, and social media distractions in online learning. *Learning and Instruction*, 42, 104–112.  
<https://doi.org/10.1016/j.learninstruc.2016.01.007>
- Janicki, T. (n.d.). *ISEDJ - Information Systems Education Journal*. <https://isedj.org/>
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15(3), 169–182.  
[https://doi.org/10.1016/0272-4944\(95\)90001-2](https://doi.org/10.1016/0272-4944(95)90001-2)
- Kemp, S. (2025, March 3). *Digital 2025: Sri Lanka — DataReportal – Global Digital Insights*. DataReportal – Global Digital Insights.  
<https://datareportal.com/reports/digital-2025-sri-lanka>
- Koohang, A., Floyd, K., Yerby, J., & Paliszkievicz, J. (2021). SOCIAL MEDIA PRIVACY CONCERNS, SECURITY CONCERNS, TRUST, AND AWARENESS: EMPIRICAL VALIDATION OF AN INSTRUMENT. *Issues in Information Systems*. [https://doi.org/10.48009/2\\_iis\\_2021\\_136-149](https://doi.org/10.48009/2_iis_2021_136-149)
- Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, 50(1), 46–70.  
<https://doi.org/10.1111/j.1460-2466.2000.tb02833.x>
- Loh, K. K., & Kanai, R. (2015). How has the internet reshaped human cognition? *The Neuroscientist*, 22(5), 506–520. <https://doi.org/10.1177/1073858415595005>



- Nwodo, Adora. (2025). The Impact of Social Media Integration on Cognitive Load and Information Processing in High School Classrooms: 10.13140/RG.2.2.27608.20489
- Mayer, R. E. (2009). *Multimedia learning*.<https://doi.org/10.1017/cbo9780511811678>
- Ophir, E., Nass, C., & Wagner, A. D. (2009). Cognitive control in media multitaskers. *Proceedings of the National Academy of Sciences*, 106(37), 15583–15587. <https://doi.org/10.1073/pnas.0903620106>
- Otto, T. (2025). Should educators be concerned? The impact of short videos on rational thinking and learning: A comparative analysis. *Computers & Education*, 105330. <https://doi.org/10.1016/j.compedu.2025.105330>
- Paltaratskaya, V. (2023). *Informing current models of time perception by looking at cognitive load during the use of short form video applications (SVAs)*[Doctoral dissertation, University of Illinois at Urbana-Champaign].
- Pennycook, G., & Rand, D. G. (2018). Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, 188, 39–50. <https://doi.org/10.1016/j.cognition.2018.06.011>
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In *Advances in experimental social psychology* (pp. 123–205). [https://doi.org/10.1016/s0065-2601\(08\)60214-2](https://doi.org/10.1016/s0065-2601(08)60214-2)
- Phelps, E. A. (2004). Human emotion and memory: interactions of the amygdala and hippocampal complex. *Current Opinion in Neurobiology*, 14(2), 198–202. <https://doi.org/10.1016/j.conb.2004.03.015>
- Psychiatry Counseling, Counseling psychology, Morgan Virtual Psychiatry. (2025, October 22). *Are short reels making our attention spans shorter?* Psychiatry Counseling | Counseling Psychology | Morgan Virtual Psychiatry. <https://www.morganvirtualpsychiatry.com/are-short-reels-making-our-attention-spans-shorter/>
- Simon, H. A. (1947). *Administrative behavior: A study of decision-making processes in administrative organization*. Macmillan.
- Shanmugasundaram, M., & Tamilarasu, A. (2023). The impact of digital technology, social media, and artificial intelligence on cognitive functions: a review. *Frontiers in Cognition*, 2. <https://doi.org/10.3389/fcogn.2023.1203077>

- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285.  
[https://doi.org/10.1207/s15516709cog1202\\_4](https://doi.org/10.1207/s15516709cog1202_4)
- Trepte, S., Teutsch, D., Masur, P. K., Eicher, C., Fischer, M., Hennhöfer, A., & Lind, F. (2014). Do people know about privacy and data protection strategies? towards the “Online Privacy Literacy Scale” (OPLIS). In *Law, governance and technology series* (pp. 333–365). [https://doi.org/10.1007/978-94-017-9385-8\\_14](https://doi.org/10.1007/978-94-017-9385-8_14)
- S Senarath, U. [Udesh S. Senarath], & Ratnayake, H. (2019). *Impact of social media Driven Mind-Wandering Control Failure on Cognitive Psychology of State University Students in Sri Lanka*.<https://doi.org/10.13140/RG.2.2.32534.37441>
- Wilmer, H. H., Sherman, L. E., & Chein, J. M. (2017). Smartphones and Cognition: A Review of Research Exploring the Links between Mobile Technology Habits and Cognitive Functioning. *Frontiers in Psychology*, 8.  
<https://doi.org/10.3389/fpsyg.2017.00605>
- Wolters, A. W. (1933). Remembering: A Study in Experimental and Social Psychology. By F. C. Bartlett. (Cambridge University Press. 1932. Pp. x + 317. Price 16s. net.). *Philosophy*, 8(31), 374–376.  
<https://doi.org/10.1017/s0031819100033143>

