

**The Impact of Short-Form Video Consumption on Attention Span, Memory Retention, and Academic Performance Among Undergraduates of State Universities in Sri Lanka.**

**RESEARCH PROPOSAL**

**By**

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# 01.Background Study

Nowadays, the short-form video platforms, including Tik Tok, Instagram Reels, and YouTube Shorts, play a central role in the media consumption of young people in the modern digital environment. The videos are between fifteen and sixty seconds long, and they are made to capture the attention immediately, as they have rapid scenes-switching, bright images, catchy sound, and personalization with the help of algorithms (Paltaratskaya,2023). Even though these platforms can be entertaining and even lead to micro-learning, their layout promotes fragmented and passive consumption, which may interfere with more intricate thinking.

Through the Cognitive Load Theory (Sweller,1988), the human working memory has a restricted capacity to store and process a given amount of information at a given time. The repetitive scrolling of short videos presents a variety of visual and auditory information at once, which causes extraneous cognitive load that overwhelms the ability of the mind to concentrate well. In the working memory model developed by Baddeley (2000), this overload is experienced by the phonological loop (or the auditory information) and the visuospatial sketchpad (or the visual information) leaving very little time to encode meaningful information. This leads to the brain becoming unable to effectively organize and store new information, which reduces the efficiency of short-term memory and long-term memory formation (PsychFuel,2023).

Furthermore, the dopamine-based feedback loops constitute the core of a short-video platform and continuously reinforce a user interactivity. Every like, comment or video is a little burst of satisfaction and it boosts the desire to scroll further (Medrano, 2022). With time, such conditioning causes the brain to desire novelty and immediate gratification and slowly reduces sustained attention, the basis of complex academic tasks like critical reading, understanding, and critical thinking (Hollis and Was, 2016; Firth, Torous, and Firth, 2020).

This problem becomes more topical in Sri Lanka. As the number of users of social media has reached more than 8.2 million actives as of 2025 (DataReportal,2025), with the greatest number of users falling in the 18-24 age bracket (DataReportal,2025), university students are one of the most digitally engulfed population groups. Short videos are usually consumed by many undergraduates during their breaks or at late hours without them usually realizing that such practices are disrupting their capacity to retain information, focus in lecture rooms or grasp academic reading materials (PsychFuel,2023).

To make matters worse are the concerns of privacy and security, which act as moderating elements and further stress the cognitive resources. When the users learn about data surveillance and algorithmic observation, as well as being exposed to fake news, they make a mental trade-off between entertainment and information security, which is what Dinev and Hart (2006) refer to as privacy calculus. This constant background assessment causes a diversion of the mental energy to content processing, causing what Kaplan (1995) refers to as a state of continuous partial attention. Not only does such divided attention interfere with working memory, but it also encourages surface interaction with information which is the exact reverse of deep processing that is required to achieve long-term learning and understanding (Bartlett, 1932; Otto,2025).

Whenever users are insecure about misinformation or manipulation over the internet, they are more likely to be guided by intuitive and fast judgment as opposed to critical and analytical thinking (Petty and Cacioppo,1986). Such a move towards heuristic processing can decrease the quality of decision-making and the critical thinking skills- skills that are necessary to be successful in academics and in the workplace.

Although evidence of the use of short-form videos is extensive among the Sri Lankan undergraduates, there is a lack of empirical evidence regarding the impact of the digital behavior in question on the essential cognitive processes, including working memory, memory retention, reading comprehension, and decision-making. The knowledge of such interactions is crucial because such mental abilities are the direct sources of academic achievements, concentration and intellectual development of students in the long run.

# 02.Research Problems.

Although short-form video platforms have become popular around the world swiftly and the knowledge concerning the cognitive impact of such platforms has grown, there is a dire void in empirical studies regarding the effect of the platforms on the most important cognitive processes of undergraduate students in the state universities in Sri Lanka. Although the results of international studies have shown that the excessive use of short videos can lower attention, memory, and analytical thinking (Firth et al., 2020; Otto, 2025; Paltaratskaya, 2023), these results could not be directly used in a study of Sri Lanka, as there are significant differences in the digital infrastructure, media literacy, education culture, and regulatory measures. More to the point, there is still no research that evaluates the simultaneous impact of the use of short-form video on the four most directly related areas of cognition most relevant to academic success, which are working memory, memory retention, reading comprehension, and decision-making, in this particular student group.

This gap in knowledge is quite worrying considering the fact that the usage of social media is rife among the young people of Sri Lanka. By 2025, more than 8.2 million Sri Lankans are active users of social media with a majority of them being in the age group of 18-24 (DataReportal, 2025). To most undergraduates, short-form videos have ceased to be a mere thing to watch, but rather a daily routine and even a light learning device. The same, however, is incompatible with the cognitive basis of university learning: the ability to sustain attention, encode information, read analytically, and judge reflexively matches the short-video platform, which is optimized to prioritize fast visual stimuli, algorithms, and dopamine-driven reward systems (Medrano, 2022; Paltaratskaya,2023). In the absence of local evidence-based research, teachers and learners do not know how this behavior is disrupting the concept of attention, memory and achievement in practical situations at the university.

Another theoretical gap is in the awareness of the moderating effect of privacy and security issues. The majority of digital cognition studies consider content use as a separate phenomenon, which ignores the secondary mental load of surveillance anxiety, data profiling, and potential exposure to false information (Baruh et al., 2017; Lang, 2000). Students need to be more aware of being monitored online in Sri Lanka, where the overall privacy literacy and regulatory protection are still in its infancy. According to the Privacy Calculus Theory, (Dinev and Hart, 2006) such anxieties elicit unremitting thought and attention in which the user unconsciously weighs the dangers of data disclosure against the advantages of being online. This is a continuous mental bargaining that splits attention between the processing of content and self-protection that leads to what Ophir et al. (2009) describe as cognitive multitasking. In the long term, this multitasking can further enhance the adverse consequences of a short-video-consumption, as it decreases the efficiency of working memory and understanding (Ayres and Sweller,2014). However, this modulating factor has not been studied regarding the use of short-form video by Sri Lankan undergraduates.

The lack of such research has its far-reaching implications far beyond theory. In case indeed attention control, memory performance, and reasoning abilities are deteriorating due to the consumption of short videos, it might have adverse effects on academic performance, problem-solving skills, and future cognitive well-being. As an example, the inability to understand lectures or complex tasks may be experienced with the working memory overloaded with rapid audiovisual information (Baddeley, 2000). It may help to watch the short videos prior to sleep and decrease remembering information during revision (PsychFuel,2023). A critical writing and reading comprehension can be negatively affected by habitual superficial activity (Otto, 2025b). And security concerns might cause decision-making to take on an expediency-based route (Petty & Cacioppo, 1986), which diminishes the capability of students in an era of misinformation to process the information critically.

Insufficient evidence on Sri Lanka alone becomes a barrier to the ability of the educators, policymakers and institutions to formulate suitable intervention. In the absence of context-sensitive data, digital wellness, media literacy, and balanced technology use promotion programs become useless or culturally illogical. The strategies used in the West cannot be applied directly to the situation on the ground where such problems as use of shared devices, unstable internet-connection, and social attitudes toward data sharing are more common.

Thus, this study is aimed at solving an urgent and complex issue: a lack of empirical knowledge of the impact of short-form video use on the cognitive performance of undergraduates at universities in Sri Lanka under the state; and the moderating effect of privacy and security issues. It is important to fill this gap so that it would prove possible to create localized, evidence-based frames that could be used to maintain cognitive health, enhance academic outcomes, and shape effective digital behavior in the changing environment of higher education.

# Literature Review.

The consumption of short-form video (SFV) has received a lot of academic interest because of the psychological and behavioral consequences of such consumption especially by the young generations. These applications offer highly stimulating content that can be consumed in seconds, at high speed and with numerous bursts on Tik Tok, Instagram Reels, and YouTube Shorts. Such media is structured in such a way that it does not comply with the warning signs of overloading the small working memory capacity of the brain as suggested by Sweller in the Cognitive Load Theory (1988). When users experience competing visual and sound stimuli, it leads to the cognitive resources being strained so that they cannot learn effectively and they are unable to remember. Research has concluded that short videos are designed in a fragmented manner, which interferes with attention control, restricts the attention span, and promotes habits of consumption (Paltaratskaya, 2023; Medrano, 2022).

The Baddeley Working Memory Model (2000) elaborates further that short videos overload the phonological loop, as well as, the visuospatial sketch pad-system that handles auditory and visual information which causes the processing efficiency to be low. The brain has to adapt to these rapid and diverse stimuli continually compelling the brain to give preference to novelty instead of deep processing. The given tendency promotes impulsive involvement and deteriorates the capacity to concentrate during the length of time, which is essential in academic learning (Firth et al., 2020). To back these claims, Firth, Torous and Firth (2020) propose a theory that the continuous use of digital devices reconfigures the systems of attention, leading to disrupted attention and lack of persistence in cognitively challenging tasks.

Another very important aspect of cognition such as memory retention is also compromised in such situations. The Levels of Processing Theory by Craik and Lockhart (1972) states that to learn anything meaningfully, one has to engage in deep, semantic processing of the information. Nevertheless, the fast, entertaining characteristic of SFVs can tend to promote superficial processing of surface information, as opposed to the interpretation or assimilation of knowledge. On the same note, Cepeda et al. (2006) point out the so-called spacing effect, indicating that the information learned during spaced periods results in a more powerful long-term memory as compared to information learned in short and repetitive sequences- a particular form of learning structure that SFV consumption strongly opposes. Empirical research has shown that people who watch videos in short formats have been found to forget information much faster and show poorer recall ability, which supports the anxiety about the worsening memory performance (Otto, 2025).

An additional explanation of the effect of continuous exposure to multimedia content on the comprehension process can be found in the Schema Theory (1932) by Bartlett and the Cognitive Theory of Multimedia Learning (2009) by Mayer. The brain will have a split-attention effect when it tries to process concurrent textual, auditory, and visual information (Ayres and Sweller, 2014). This does not only augment cognitive load, but also constrains the ability to combine the information in a meaningful way. This leads to an increase in the probability of users of SFV platforms acquiring superficial learning behavior at the expense of understanding and critical thinking. Otto (2025) discovered that students who consume a lot of materials made up of short videos scored very low in comprehension and analysis compared to students who got access to texts.

Another area of SFV overuse with a negative effect is decision-making. In his Decision-Making Model (1947), Simon singles out the deliberate analysis and reflective judgment as the main elements of rational decision-making processes. Nevertheless, the dopamine-fuelled feedback mechanisms of SFV platforms, which are the likes, views, and instant gratification, train users to become impulsive and reward-seeking individuals. Such a behavioral change makes people less patient towards deliberative judgment, and more inclined to make quicker, heuristically-oriented decisions instead of grounded on evidence (Petty and Cacioppo, 1986; Pennycook and Rand, 2019). This kind of tendencies can have an adverse impact on the academic choices of students, such as prioritizing studies, time management, and evaluation of information.

Besides these cognitive issues, there is the complexity of privacy and security issues regarding SFV platforms. The Privacy Calculus Theory suggests that people are constantly re-evaluating the gains of sharing information with the perceived loss of privacy (Dinev and Hart 2006). This unremitting mental assessment demands cognitive resources, as a distraction of the mind in the background taking the place of active information processing. Baruh, Secinti, and Cemalcilar (2017) highlight that long-term anxiety about privacy may result in a higher level of cognitive vigilance, frustratingly reducing the involvement with content. This is in line with the Attention Restoration Theory by Kaplan (1995), which argues that as users have to engage in vigorous suppression of distractions, including the threat of privacy, attentional capacity is depleted progressively.

Equally, the Limited Capacity Model of Motivated Mediated Message Processing (LC4MP) developed by Lang (2000) describes that attention, storage and retrieval operations utilize a common pool of cognitive resources. These resources are partly used up in privacy and security issues at every stage and therefore efficiency in encoding and recalling information is reduced. Fears related to security can be misinformation, data manipulation, or the exposure to malicious content, which can further change the cognitive processing paths, promoting defensive skepticism and lowering the level of trust in the source of information. The Elaboration Likelihood Model (ELM) by Petty and Cacioppo (1986) also confirms this idea and states that in the risk scenario, users have to depend on peripheral cues instead of critical analysis which reduces the accuracy of information and quality of decisions.

The majority of these findings however are based on studies in the western and East Asian contexts and have little application to the developing nations such as Sri Lanka. Both unstable internet connectivity, unequal digital literacy and distinct socio-cultural views on privacy and technology are that which require localized research. International studies are invaluable in terms of their theoretical background; however, the findings cannot be directly applied to the case of Sri Lankan undergraduates whose learning issues, exposure to technologies, and the use of digital devices are vastly different.

This research, hence, seeks to fill this gap by generalizing the evidence across the globe and translating to the Sri Lankan situation. It examines the impact of short-form video use on working memory, memory retention, reading comprehension and decision making taking into consideration the moderating role of privacy and security issues. In this regard, the study aims to make localized contributions to the body of academic knowledge and to benefit the digital literacy initiatives that are specific to the Sri Lankan higher education.

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