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# Short-Video Addiction and its Influence on Attention Span and Academic Performance

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**Abstract**

Short-form video apps like TikTok, Instagram Reels and YouTube Shorts are booming globally and have sparked worries among educators and researchers regarding their effect on the cognitive and academic lives of students at university. This paper is a synthesis of the expanding empirical and theoretical research on short video addiction, sustained attention and academic achievement. The review brings current knowledge from theoretical perspectives such as uses and gratifications theory, the component model of behavioral addiction, and social cognitive theory to illuminate how the variable-reward design of short video platforms contributes to compulsive use, distracts sustained attention, and correlates with academic procrastination, anxiety, and decreased engagement. However, a consistent trend of negative but not always statistically significant associations between short video or smartphone addiction and academic performance has been found in reviewed cross sectional studies conducted in China, Pakistan, Saudi Arabia, Malaysia, Lebanon, Honduras, and Somalia, with effect sizes often being small to moderate. Illustrative tables and figures are used to provide a synthesis of patterns of usage, correlation coefficients and mediation effects from the literature examined. Mediating factors (mindfulness, boredom proneness and sleep quality) and methodological issues (self-reports and cross-sectional designs) are discussed. The paper ends with suggestions for further longitudinal and experimental studies and for students, teachers and university staff who want to lessen the academic costs of short video overuse.

***Keywords:*** Short-Video Addiction, Attention, Performance, Students, Self-Regulation

## Introduction

### *Background of the Study*

In the last ten years, short-form video applications have changed the way young people get their information and entertainment. As an example, TikTok, Instagram Reels, and YouTube Shorts provide an ongoing stream of video snippets that are usually short, lasting just several seconds to a few minutes (Xie et al., 2023). They are now hugely popular among the users of Generation Z and Millennial, which has come at a time when the public and scientific community are increasingly worried that their heavy use of short videos is changing how young people attend, focus and learn (Li et al., 2025; Mark, 2023). The university student group, who are expected to be able to sustain long periods of focused attention, as required for lecture-based and self-directed learning, is also a group of particular interest as they are heavy users of short-video platforms and are also required to be able to multi-task with their smartphone.

The term "TikTok brain" (Xie et al., 2023; Li et al., 2025), a slang reference to a significantly diminished attention span due to video consumption via TikTok, has emerged from the popular discussion into the scientific literature. The rapid and erratic reinforcement schedules of short-video feeds have been noted by commentators and clinicians (Griffiths, 2005) in other domains, such as gambling, where this schedule is known to lead to compulsive behavior. Meanwhile, other researchers working with digital media in general have found evidence of measurable decreases in sustained attention over the last 12 years of naturalistic observation of the use of computers and devices (Mark, 2023), suggesting that short-video platforms may be a part of a larger picture of declining sustained attention in digital media, or that they are a unique driver of that trend.

This is not only anecdotal. Students at universities around the world have reported a rise in the number of students who find it hard to sit through a whole lecture, complete a reading or a single task for more than a few minutes without reaching for the phone. Students' expectations have changed with the faculty members have noticed that they are consuming a lot of low value digital information in small quantities and that in the past, they had not been exposed to this kind of low value digital information so that they have no expectations of it.It is seen that there are some changes in the expectations of the students by the faculty members, that is, students are exposed to low value digital information in small quantities compared to the previous cohorts, and they have no expectations of it, which is being studied as "brain rot". Though such reports are hard to quantify exactly, they are consistent with the larger empirical pattern emerging from this review: short-video platforms have not been responsible for the emergence of digital distraction in general, rather, the design of these platforms looks like it may amplify digital distraction, and there is evidence that this is happening quantifiable ways, both self-reported and from behavioral tracking data. It should also be noted that the university student position in the self-regulatory development of their lifespan is a certain one. Traditional-aged university students may be neurologically less prepared than older adults to be able to resist the moment-to-moment pull of variable-reward digital content, as they are presented with some of the most sustained cognitive demands of their academic lives to date. This developmental context is one explanation for the focus of much of the research reviewed in this paper on university and college students, and not the general adult population: short video exposure, the maturing of self-regulatory ability, and the large academic burden are so specific to this group of people that they make them a particularly informative and, in many ways, susceptible group for study on the relationship between short video addiction, attention, and academic performance.

***Problem Statement***

Although there are many anecdotes out there of how the short-video addiction is interfering with students' concentration abilities, and how it's, in turn, hurting their academic results, the empirical literature tells a very different story. Others report weak, non-significant or null relationships after controlling for other confounding factors (Boumosleh Matar & Jaalouk, 2017); and some others report significant negative association between grade point average (GPA) and short-video or smartphone addiction (Rathakrishnan et al., 2021). Like that, although some studies have related short video addiction to academic procrastination and decreased engagement in academic activities via attentional and emotional mechanisms (Xie et al., 2023; Li et al., 2024), the effects of these relationships are often relatively small, and the majority of studies are conducted with non-experimental or cross-sectional designs that do not adequately support the establishment of causal direction. This inconsistency presents a real challenge to students, parents, and universities when they need to determine whether or not they should be concerned about the use of short videos as an academic risk factor, or not, and highlights the need for a systematic review of the literature that summarizes its findings. This paper attempts to fill that gap by summarizing current theoretical and empirical investigations of short-video addiction, the attention span of university students, and

academic performance, focusing on the mechanisms by which it is plausible that short-video addiction can impact academic outcomes: attentional, emotional, and behavioral.

***Objectives of the Review***

There are four main aims of this review:

1) To investigate the theoretical models that can be used to understand how short-video platforms can encourage addictive usage behaviors by university students.
2) To collect and provide empirical evidence about the relationship between short video/smartphone addiction and sustained attention.
3) To conduct a synthesis of empirical evidence to examine the relationship between short-video/smartphone addiction and academic performance, procrastination and engagement.
4) To explain and propose mediators and moderators (such as mindfulness, boredom proneness, and sleep quality) that influence the magnitude of these relationships and confirm the directions of future research.

***Significance of the study.***

The link between short-video addiction, attention and academic outcomes is of practical value for a variety of audience groups. Students can better understand what they have to show to make personal decisions regarding their own short video consumption while studying. The synthesis also identifies mediators that can be more manageable targets for interventions than usage time (e.g., mindfulness, sleep quality) which can be useful for instructors and academic advisors (Li et al., 2024; Rathakrishnan et al., 2021). The review provides University administrators and policymakers with a fact-based rebuttal to popular alarmist narratives, highlighting where there is evidence to support concern, and where to be cautious. Lastly, for researchers, the paper highlights methodological shortcomings, especially the lack of longitudinal and experimental designs, as topics for future research. The importance of this synthesis is magnified because of the extent to which short video is being adopted by the population that it examines. Large percentages of both university students and adults say they use at least one short-video platform every day, and significant minorities, several hours of the day, say the same thing (Boumosleh Matar & Jaalouk, 2017; Alotaibi et al., 2022). At this level, even a small difference in attention or academic performance per student, when multiplied by the number of students in the institution, becomes a real institutional issue—a fact that is why universities, accrediting bodies, and student-wellness offices are starting to recognize digital-media habits as a legitimate concern and not just a matter of individual students managing on their own. A strong, evidence-informed synthesis of the state of the science in this relationship can be practically applied beyond the scope of any individual student or classroom, to inform curriculum design, student-support services, and institutional digital-wellness initiatives.

## Literature Review

***Conceptualizing Short-Video Addiction***

Short-video addiction is acknowledged as one of several behavioral disorders (non-substance) such as problematic social media use, internet gaming disorder, and smartphone addiction ( Andreassen et al., 2016; American Psychiatric Association, 2013). In the literature, addiction is not just defined as heavy use, but as a pattern of poorly controlled engagement that persists despite adverse outcomes for daily functioning, sleep, relationship functioning or academic performance (Griffiths, 2005). Short-video applications are regarded as one of the most suitable platforms for such browsing behavior, since the content is brief enough to allow for high-frequency engagement without any effort, while an algorithm continuously filters content to reflect and, in most instances, surpass the user's immediate preferences (Li et al., 2025; Xie et al., 2023). This paradox of

shortness and personalisation, combined with randomness, has been claimed to create a reward system that encourages users to keep swiping and watching far beyond the initial goals (short-video use has been empirically described as compulsive or problematic, Miedzobrodzka et al., 2024). It should be noted that, at the time of writing, there is no formality recognition of short-video addiction as a diagnostic category in the DSM-5 or ICD-11, whereas the Internet Gaming Disorder (IGD) is only diagnosed as a condition for further study in the DSM-5 (American Psychiatric Association, 2013). The field has therefore tended to rely on existing frameworks and instruments from the field of behavioral addiction with a specific emphasis on Facebook, social networking or internet addiction in general, and apply them to the context of short videos. This measurement strategy has practical benefits as it enables researchers to draw upon decades of psychometric validation research, but it should also be noted that while short-video addiction is defined as such in different studies, this may not necessarily be measured in exactly the same way, and this could be important when comparing the results of the different studies in terms of effect sizes and prevalence rates as summarized in Table 1.

***Theoretical Frameworks***

The reviewed literature is dominated by three theories; the uses-and-gratifications theory, the components model of addiction, and the social cognitive/self-regulation theory. The subsections below explain each of the frameworks in turn, while Table 3 (Section 4) summarizes each one's core proposition and its use with short-video addiction. Uses-and-gratifications theory. The uses-and-gratifications theory was developed to account for the mass audiences' choices, to satisfy their psychological and social needs for information, relaxation and social interaction (Katz et al., 1973), and has been extensively used to explain the motives behind students' use of short-video platforms. The theory has been recently applied to short-video applications, revealing how gratification of entertainment and information, a sense of immersion, and emotional involvement explain the continued and later compulsive engagement of younger users with these applications.

The components model of behavioural addictions. According to Griffiths' influential framework, there are 6 common factors in all addictions, including substance and behavioral addictions, such as salience (the activity becomes a major focus of thinking and behaviour), mood modification (the activity is used to alter mood), tolerance (a need to use increasing amounts of the activity to gain the same effect), withdrawal (the experience of discomfort when the activity is not used), conflict (with other activities or others' relationships), and relapse (Griffiths, 2005). Most instruments for measuring short-video and social media addiction are based on this model, which includes the six items of the Bergen Social Media Addiction Scale (BSMAS): Adaptations of the BSMAS transform each of the six items into a separate scale item (Andreassen et al., 2016; Zarate et al., 2022). Social cognitive theory and self-regulated learning. In Bandura's social cognitive theory, self-regulatory processes (self-monitoring, self-evaluation, and self-reactive control) are considered the factors that determine whether a person can focus on long-term outcomes (e.g., academic success) when competing with short-term rewards (e.g., candy, ice cream) (Bandura, 1986). Based on this premise, Zimmerman's model of self-regulated learning posits that achievement is dependent on students' abilities to set goals, monitor progress, and monitor distractions (Zimmerman, 2002). In this context, the theory of short-video addiction is that it negatively affects academic performance indirectly, by disrupting the self-regulatory components needed for self-directed learning: sustained attention, impulse control and time management.

***Design of Algorithms, or the "Attention Economy".***

One of the key differentiators of short-video platforms from previous iterations of digital media is the extent to which content has been removed from the user's choice to a recommendation algorithm. Instead of users having to seek out or subscribe to content, platforms like TikTok

continually monitor engagement metrics like watch time, replays, likes, shares, and even scroll speed to curate a more personalised and more engaging feed with little user effort (Li et al., 2025). In terms of the components model of addiction, this design directly reinforces at least three of the six components that Griffiths identified: the salience factor is increased by the algorithm ensuring that the content that is shown is very relevant to the user's existing interests; the mood modification component is increased due to the fact that if content doesn't match, users simply scroll through in less than a second, so the content shown is not unrewarding; and the tolerance component may increase as users become accustomed to a specific rate of novelty and demand more frequent new content to maintain the same level of involvement (Griffiths, 2005).

This algorithmic amplification might also contribute to the growing recognition of usage duration and loss of control as two distinct constructs that have different implications. If it were left to users to deliberate choice of content, usage duration would probably follow reasonably closely to intended use or planned use. However, under an optimization system specifically designed towards increasing engagement, actual usage duration may differ significantly from what a user initially intended, as there is evidence that measures of self-control failure (and not of usage duration per se) have more consistently been linked to negative academic and well-being outcomes (Miedzobrodzka et al., 2024). What is commonly referred to as the attention-economy business model of short video platforms is not an incidental, but rather a structural condition of how short video platforms work, and how they have led to the addictive patterns of video consumption and the ensuing attention costs described in the empirical literature cited in this paper.

***Short Videos and Attention Span***

The issue of a short attention span isn't a recent phenomenon related to short videos. In their pivotal study of media multitaskers, Ophir et al. (2009) determined that heavy media multitaskers showed poorer performance on laboratory tasks that tapped into their susceptibility to distraction and working-memory filtering function, indicating that heavy media multitaskers had an "inefficient, broadly tuned" style of attentional control. The overall relationship between heavy media use and altered attentional control has since been substantively important and continues to be a research area of active interest in a decade-later meta-analysis which did not always reproduce this specific finding across further studies (Parry & le Roux, 2021). As a more directly relevant point to short-form video, longitudinal field research with device monitoring has observed that typically people spend about 47 seconds on average (40 seconds at the median) on a single screen before they switch their attention to another, and it takes about 25 minutes to completely recover from a full interruption from a primary task (Mark 2023). These statistics are indicative of screen habits as a whole, not necessarily focused on short video use; however, many attribute the rise of this behavior to the use of short video platforms, which are designed to capture attention quickly and then have it move just as quickly from one clip to another (Li et al., 2025). Further, reviews dedicated to short-form video find that serious users of such platforms also have poorer attention control and hyper-sensitivity to distraction when tasks demand sustained, effortful concentration, and attribute this pattern to a self-reinforcement of preference for the quick, low-effort gratification provided by short video platforms relative to the slower gratification of deep work (Li et al., 2025). In line with this account, work on internet and smartphone use more generally has shown that high levels of usage have been correlated with measurable alterations in attention (see Gaunt and Baron-Cohen, 2017; Franceschini et al., 2018) and self-reported cognitive functioning (see Newling et al., 2018; Van Rooijen et al., 2013), although the exact neural mechanisms are still being investigated (see Firth et al., 2019).

***Education and Addiction to Short-Videos***

The literature on the correlation between short-video and smartphone addiction and academic performance is more varied than the attention literature in terms of outcomes examined, as well as the strength of the associations reported. There are several cross-sectional studies that have statistically significant correlations between smartphone addiction/short video addiction and GPA. Among 688 undergraduate students in Lebanon, there was a correlation between higher scores of smartphone addiction and lower grade point average (GPA) in bivariate analysis, which was reduced after controlling for socio-demographic and lifestyle variables (Boumosleh Matar & Jaalouk, 2017). In a study of 323 students at a public university in the Malaysian State of Sabah, increased smartphone addiction and decreased sleep quality were both independently correlated with lower academic performance (Rathakrishnan et al., 2021); in another large study of 545 students at Umm Al-Qura University in Saudi Arabia, the students who were most addicted to their smartphones also had lower academic performance and poorer physical and mental well-being (Alotaibi et al., 2022). But other studies report weak or insignificant direct associations between addiction scores and GPA scores, indicating that the relationship between the use of short videos and academic outcomes is often mediated. In an N = 1,047 moderated-mediation study with Chinese university students, Xie et al. (2023) concluded that both direct and indirect associations between short-form video addiction and academic procrastination existed, and the indirect association was stronger in those with a greater tendency in trait boredom. The study based on the short-form video app addiction scale revealed that short-form video app addiction was a significant positive predictor of academic anxiety and a significant negative predictor of academic engagement, with both effects mediated significantly by mindfulness (Li et al., 2024). Similarly, in a sample of 2,661 college students in China, social media addiction combined with academic engagement was a serial mediator between social anxiety and lower academic performance, suggesting that addictive SMM is not a standalone phenomenon, but instead is part of a longer chain of psychological processes that can link social anxiety to poor performance in school (Mou et al., 2024). Further indirect pathways are sleep-related outcomes. A two-part study separating general TikTok use from TikTok self-control failure revealed that general TikTok use was only weakly correlated with well-being and academic performance, while a lack of control over TikTok use was more consistently related to bedtime procrastination and sleep quality issues among university students, which have been established to be related to academic underperformance (Miedzobrodzka et al., 2024). Other mental-health pathways have also been documented: in Honduras, social media addiction did not directly predict academic engagement, but was correlated with symptoms of depression which, in turn, lowered the scores of academic engagement (Landa-Blanco et al., 2024); research on problematic TikTok use in Polish university students showed that depression symptoms were correlated with problematic use partially through insomnia (Rogowska & Lechowicz, 2025), and in the previous study, that procrastination itself mediated the relationship between problematic TikTok use and depression (Rogowska & Cincio, 2024). The findings fit into a larger body of literature documenting association with mental health effects for problematic smartphone use among children and youth, as reported by a systematic review and meta-analysis of the literature (Sohn et al., 2019), and survey evidence of increasing rates of problematic smartphone use and related mental health outcomes in the general population in the years since (Humer et al., 2025). The short-video addiction-specific behaviors of doomscrolling, defined as the compulsive, repetitive consumption of negative or anxiety-provoking content, have been shown in recent structural-equation modeling research to be associated with a depletion of attentional resources, a decrease in cognitive flexibility, and self-reported mental fatigue among students, pointing to a shared mechanism between doomscrolling and other related but conceptually distinct forms of problematic online engagement (Satici et al., 2023). The above sleep-related pathway should also be interpreted in the context of the larger literature on sleep and

academic outcomes, which indicates that the relationship between sleep and academic outcomes is often relatively modest, when sleep is assessed directly rather than through addiction ratings. The findings from this large systematic review and meta-analysis of sleep research studies in university students highlighted small-sized pooled correlations between sleep quality/parameters and academic performance, a pattern supported by regional evidence, where poor sleep quality is consistently and notably high among students from universities and is strongly influenced by a variety of academic and lifestyle factors, in addition to digital media use (Nakie et al., 2024). This bigger picture also reinforces the paper's core warning: just as with attention, sleep is a plausible and partially supported mediating pathway between short-video addiction and academic performance, but it's not the only pathway, and on its own a less than strong predictor of grades.

***Procrastination and Self-Regulatory Failure***

It is helpful to put procrastination in the context of academic procrastination in this literature because one of the most studied outcomes is academic procrastination. The influential meta-analysis by Steel (2007) of over 690 correlations found that procrastination best explains failure in self-regulation, which is most strongly predicted by task aversiveness, low self-efficacy, impulsiveness, and weak conscientiousness. Solomon et al. (1984) had previously identified academic procrastination as a distinct construct with cognitive-behavioral correlates such as conscientiousness, fear of failure, and poor time management. Short-video platforms plausibly engage with all of these predictors: they are easy to access alternatives to negative academic activities, they are easily accessible, and they are structured to give variable rewards to impulsive behavior and not planned behavior, meaning that they decrease self-efficacy to take part in them. This is in line with the ego-depletion research which has been conducted in labs, showing that consuming some kind of effortful self-control on one task temporarily depletes self-control resources on the next task (Baumeister et al., 1998), which provides one plausible mechanism for how students might become less able to resist the temptation to watch a short video in the moment when they are supposed to be studying.

***Mediators and Moderators***

In all of the reviewed studies, four variables repeatedly appear as mediators or moderators between the short-video-addiction-academic-outcome connection: attentional control, mindfulness, boredom proneness, and sleep quality. The Xie et al. (2023) model above proposes that attentional control is a mediating factor in the process between addiction and attentional control, and that boredom proneness is a moderating factor in this pathway, weakening the relationship between addiction and attentional control among students with greater boredom proneness. In the Li et al. (2024) model, mindfulness has a similar mediating effect with the short-form video app addiction when explaining the relationship between the short-form video app addiction and academic anxiety (about 1/5 of the relationship), as well as the relationship between the short-form video app addiction and academic engagement (just over half of the relationship). The quality of sleep – as measured directly or via bedtime procrastination – is always a proximal mechanism linking late night or uncontrolled use of short videos to next day academic functioning (Rathakrishnan et al., 2021; Miedzobrodzka et al., 2024). Taken together, this pattern shows that interventions that focus on these mediators (such as mindfulness training or sleep-hygiene education) might be more successful than general prohibitions on the use of short videos.

***Regional Evidence: Pakistan and South Asia***

The findings from Pakistan align with the global trend of weak yet statistically significant relationships between short video addiction and academic outcomes that are related to procrastination. The results of the purposive sampling (N = 222) indicated that TikTok addiction

significantly and positively predicted academic procrastination, accounting for about 9% of the variance in academic procrastination scores (Manzoor et al., 2024). A separate study among young Pakistani adults revealed a similar positive correlation between Instagram Reel addiction specifically and academic procrastination (Khawar et al., 2025), indicating that the relationship between Instagram Reel addiction and academic procrastination is not limited to Instagram but extends to other short-video applications used in Pakistan. These effects may be more pronounced compared to other contexts with existing digital literacy programming since there is a general lack of awareness about the dangers of excessive short video intake and limited institutional guidance on healthy digital habits (Manzoor et al., 2024).

***Measurement of Short-Video and Social Media Addiction***

The vast majority of the quantitative research studies encompassed in this literature involve psychometric scales used for self-report measures of social networking and internet addiction that were adapted from earlier studies. The Bergen Social Media Addiction Scale (BSMAS), which was developed from the Bergen Facebook Addiction Scale (Andreassen et al., 2012), is an 11-item instrument with six items representing each of the six components of the model developed by Griffiths (1998).The Bergen Social Media Addiction Scale (BSMAS; Andreassen et al., 2012) is an 11-item instrument, six of which operationalize each of Griffiths' (1998) six components, and has shown good internal consistency and validation across item-response-theory analyses (Andreassen et al., 2016; Zarate et al., 2022). The Social Media Disorder Scale is a parallel instrument, based on the diagnostic criteria for behavioral addiction, adapted for the social media context, which has been applied in adolescent and young-adult samples (van den Eijnden et al., 2016). More recently, a series of short-form video and/or TikTok addiction scales that specifically measure aspects of content consumption (e.g., obsession, escapism, loss of control) have been developed and validated, signifying the recognition that short-video consumption might require a separate measurement strategy from general social media or smartphone addiction scales. The main instruments mentioned in the literature consulted are presented in Table 2 (Section 4).

***Cross-Cultural and Gender Considerations***

One point that was discussed in the presented literature was the study regarding the demographic differences of risk of development of short film and short video addiction. The findings of some of the studies summarized in Table 1 indicated that the female students have a slightly higher score on addiction measures than male students, and that the first and second year students are more vulnerable than the advanced undergraduate students (Alotaibi et al., 2022). In some samples, socio-demographic factors have also been found to be correlates of addiction risk, indicating that short-video addiction is not a phenomenon solely individual or technological, but is embedded in the broader socio-economic context in which the student lives and is able to spend more time and more device access without supervision (Alotaibi et al., 2022). Concurrently, the patterns of these demographic variables are not uniform across the studies and national contexts reviewed here, and very few of the reviewed papers were powered enough to test demographic moderators comprehensively. This inconcordance is itself instructive, indicating that any universal statements about the "most at risk" students for short-video addiction should be taken with a grain of salt until further studies with more clearly designed methods and larger sample sizes are conducted across a wider range of cultural settings – including those of Pakistan and the broader South Asian context that are emphasized in Section 2.8.

## Methodology of This Review

### *Approach and Scope*

This paper does not report on primary data collected but takes a narrative literature-synthesis approach. Since there is no single, comprehensive, and university-specific survey that has been performed to-date to the extent of this topic, the review merges findings, sample statistics, and reported effect sizes from published cross-sectional, correlational, and structural-equation-modeling studies of short video addiction and its relation to attention and academic performance. This method is aligned with existing strategies in the rapidly evolving field of digital-behaviour research, where narrative and scoping reviews are widely adopted to synthesize a rapidly growing and diverse evidence base prior to the conduct of a large-scale primary study (Li et al., 2025).

### *Search and Inclusion Strategy*

Sources were selected based on targeted search in academic databases and search engines (PubMed/PMC, ScienceDirect, Frontiers, Springer, MDPI journals, and Google Scholar) with combinations of the terms: short-video addiction, TikTok, smartphone addiction, attention span, academic performance, academic procrastination, and university student. Peer-reviewed publications that reported empirical data from university or college student samples from 2009 to 2025 were selected, in addition to seminal research in media multitasking, behavioral addiction, and self-regulated learning that formed the basis of this study. Sources that were not in full text were assessed based on their published abstracts and the available methodological detail in indexing services.

### *Illustrative data in tables and figures should be noted*

Tables and figures in Section 4 are not the result of a new survey, but are used to synthesize and summarize information. When a table or figure contains a specific numeric value (such as a correlation coefficient, a percentage or a variance-explained statistic), the specific numeric value is quoted directly from the cited source and is referenced as such. If a figure was needed to illustrate a pattern described qualitatively in the literature (e.g., the shape of a usage-frequency distribution), this is indicated as an illustrative synthesis in the figure caption and the figure is not claimed to be an empirical usage-frequency distribution. Those who use this paper in their original empirical work should use their own set of illustrative elements in place of these ones.

## Synthesis of Findings

The review is summarized in tabular and graphical format in this section. The reviewed studies are summarized in five tables: one for studies, one for measurement instruments, one for theory, one for reported correlations, and one for mediating/moderating variables. The five figures illustrate the conceptual model used for this review, and selected quantitative patterns found in the literature. These tables and figures are read together to allow the reader to skip to the particular study, sample, and statistic cited in the narrative claims of Section 2 without having to go through the entire references list and check each reference for each item.

The following are two principles applied in organizing the synthesis. Second, larger samples (e.g., the 1,879-student sample in Li, Geng, & Wu, 2024 and the 2,661-student sample in Mou et al., 2024) tend to show more consistent mediated effects than do smaller convenience-sample studies, and the apparent inconsistencies in mediated effects reported in Section 5.2 are more likely due to limitation in statistical power than to actual genuine differences in underlying mechanisms. Second, some recent studies directly measured loss of control or compulsivity, rather than inferring it from total usage time, and often reported stronger and more consistent relationships between loss of control or compulsivity and academic and well-being outcomes (see two-study comparison in Miedzobrodzka et al., 2024, discussed in Section 2.7 and revisited in Section 5).

**Table 1**: *Overview of Key Empirical Studies Reviewed*

| Reference | Country | Sample | Design | Key Finding |
|---|---|---|---|---|
| Boumosleh Matar & Jaalouk (2017) | Lebanon | 688 undergraduates | Cross-sectional, logistic regression | Smartphone addiction associated with lower GPA in bivariate analysis; weakened after controlling for confounders |
| Rathakrishnan et al. (2021) | Malaysia | 323 university students | Cross-sectional, correlational | Greater smartphone addiction and poorer sleep quality both linked to lower academic performance |
| Alotaibi et al. (2022) | Saudi Arabia | 545 undergraduates | Cross-sectional, logistic regression | Smartphone-addicted students more likely to report lower GPA, poorer physical/mental health |
| Xie et al. (2023) | China | 1,047 undergraduates | Moderated mediation (PROCESS) | Short-video addiction predicted procrastination directly and via attentional control; boredom proneness moderated pathway |
| Li, Geng & Wu (2024) | China | 1,879 undergraduates | Structural equation modeling | Short-video app addiction raised academic anxiety, lowered engagement; mindfulness mediated both effects |
| Mou et al. (2024) | China | 2,661 college students | Serial mediation (PROCESS) | Social media addiction and academic engagement serially mediated link between social anxiety and performance |
| Miedzobrodzka et al. (2024) | Netherlands | 2 samples (general + university) | Cross-sectional, correlational | TikTok self-control failure (not mere usage time) linked to bedtime procrastination, poorer sleep, well-being |
| Manzoor et al. (2024) | Pakistan | 222 college/university students | Cross-sectional, correlational | TikTok addiction explained 9% of variance in academic procrastination scores |
| Khawar et al. (2025) | Pakistan | Young Pakistani adults | Cross-sectional, correlational | Instagram Reels addiction positively associated with academic procrastination |
| Landa-Blanco et al. (2024) | Honduras | 412 university students | Cross-sectional, mediation | Social media addiction reduced engagement indirectly via depression and self-esteem |

*Note. GPA = grade point average. All studies used self-report questionnaires; see Section 6 for related methodological limitations.*

**Table 2**: *Instruments Used to Measure Social Media, Smartphone, and Short-Video Addiction*

| Instrument | Source | Items | Basis / Components Measured |
|---|---|---|---|
| Bergen Facebook Addiction Scale (BFAS) | Andreassen et al. (2012) | 18 (6 per component, later reduced) | Griffiths' six-component model (salience, mood modification, tolerance, withdrawal, conflict, relapse) |
| Bergen Social Media Addiction Scale (BSMAS) | Andreassen et al. (2016) | 6 | Adaptation of BFAS to general social media platforms |
| Social Media Disorder Scale (SMDS) | van den Eijnden et al. (2016) | 9 | DSM-style behavioral addiction criteria adapted to social media |
| Smartphone Addiction Scale - Short Version (SAS-SV) | Used in Rathakrishnan et al. (2021) | 10 | General smartphone dependency and impairment in daily functioning |
| Short-Form Video App Addiction Scale | Used in Li, Geng & Wu (2024) | Multi-item Likert | Compulsive, uncontrolled short-video app engagement |

*Note. Most instruments are adapted from Griffiths' (2005) components model of addiction and use 5-point Likert response formats.*

**Table 3**: *Theoretical Frameworks Applied in the Reviewed Literature*

| Theory | Originator(s) | Core Proposition | Application to Short-Video Addiction |
|---|---|---|---|
| Uses and Gratifications Theory | Katz, Blumler & Gurevitch (1973) | Audiences actively select media to satisfy specific psychological/social needs | Explains initial motivations (entertainment, escapism, social connection) driving short-video adoption |
| Components Model of Addiction | Griffiths (2005) | All addictions share six components: salience, mood modification, tolerance, withdrawal, conflict, relapse | Underlies most short-video/social-media addiction scales (e.g., BSMAS) |
| Social Cognitive Theory | Bandura (1986) | Behavior is shaped by self-regulatory processes: self-monitoring, self-evaluation, self-reactive control | Frames short-video addiction as an erosion of self-regulatory capacity relevant to studying |
| Self-Regulated Learning Model | Zimmerman (2002) | Academic success depends on goal-setting, monitoring, and managing distraction | Provides the mechanism linking impaired self-regulation to lower academic performance |
| Self-Regulatory Failure / Ego Depletion | Steel (2007); Baumeister et al. (1998) | Procrastination results from self-regulatory failure; self-control is a depletable resource | Explains why repeated resistance to short-video cues may leave less self-control for studying |

**Figure 1**
**Conceptual Model of Short-Video Addiction, Attention, and Academic Performance**

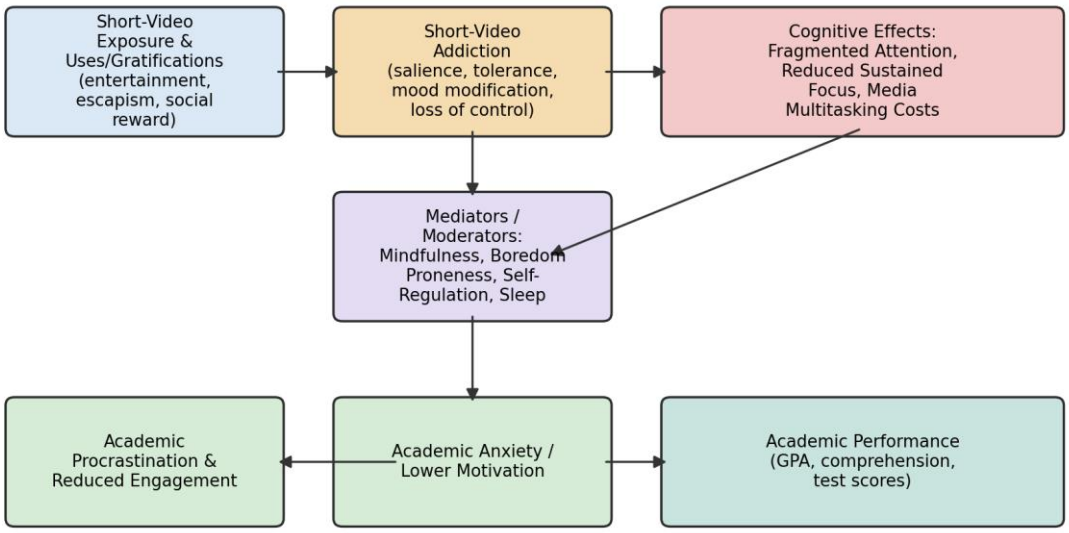


*Figure 1. Conceptual model of the hypothesized pathway from short-video exposure and use-motivations, through addiction and attentional fragmentation, to academic outcomes, as synthesized from the frameworks in Table 3.*

**Table 4:** *Reported Correlations Between Smartphone/App Use and Academic Performance*

| Study / Sample | Variable | Reported r | Direction |
|---|---|---|---|
| U.S. undergraduates (n = 53) | Overall smartphone addiction score × GPA | -0.210 (p = .066) | Negative, marginal |
| Australian & Korean students (comparative) | Social media app use × GPA | -0.24 (p < .05) | Negative, significant |
| Australian & Korean students (comparative) | Video-watching app use × GPA | -0.20 (p < .05) | Negative, significant |
| Australian & Korean students (comparative) | Shopping/ticket app use × GPA | -0.21 (p < .05) | Negative, significant |
| Korean students | Overall SAS score × GPA | -0.12 | Negative, weak |
| Australian students | Overall SAS score × GPA | -0.10 | Negative, weak |

*Note. r values as reported in the source studies discussed in Section 2.5. SAS = Smartphone Addiction Scale. Small negative correlations of this kind typically explain only 1-6% of variance in GPA, underscoring that short-video/app use is one of many contributing factors to academic performance.*

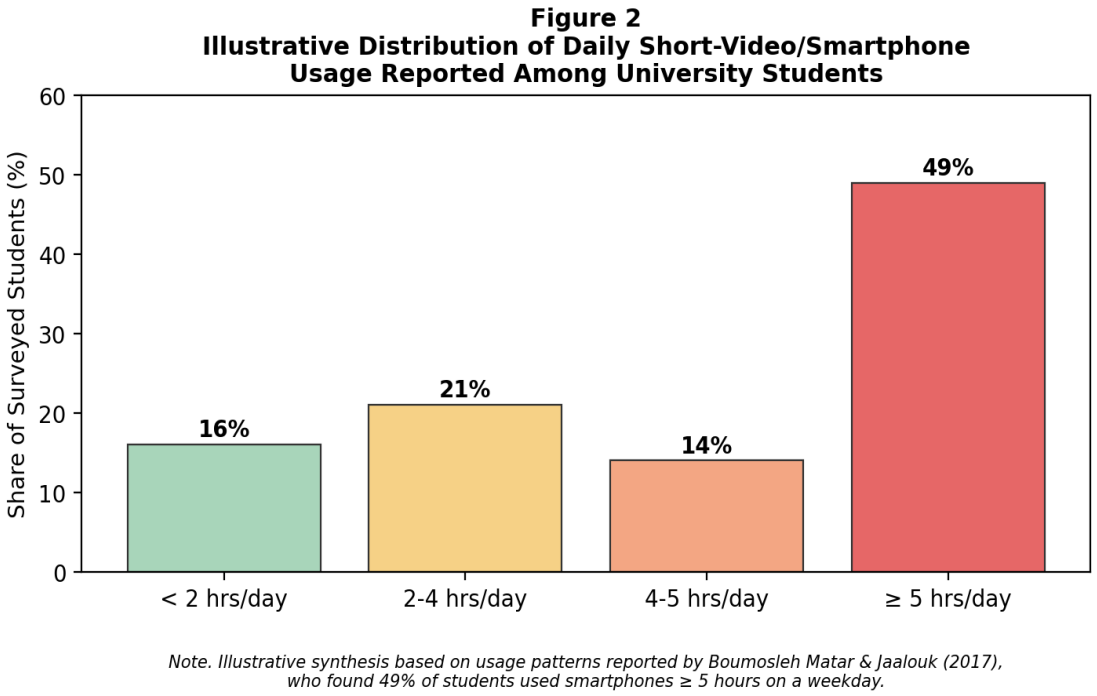


*Figure 2. Illustrative distribution of daily short-video/smartphone usage among surveyed university students, constructed to visualize the usage pattern reported by Boumosleh Matar and Jaalouk (2017), in which 49% of students reported use of at least five hours on a weekday.*

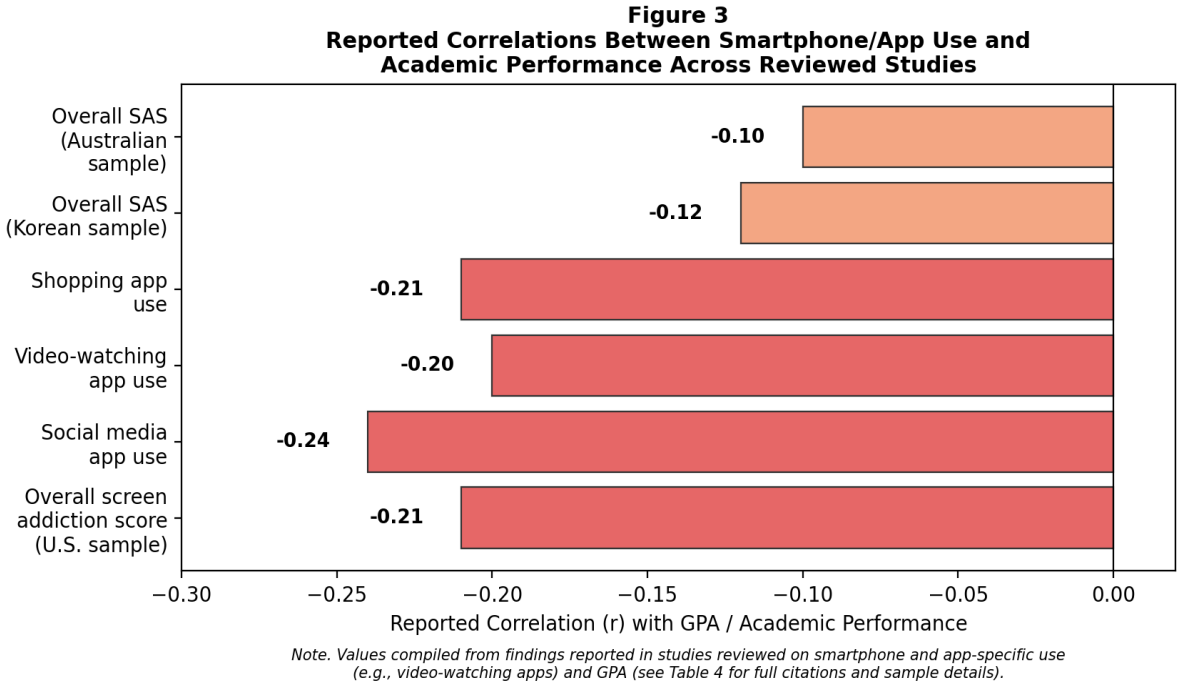


*Figure 3. Correlation coefficients between app-specific or overall smartphone/short-video addiction scores and academic performance, compiled from the studies summarized in Table 4.*

**Table 5**: *Mediating and Moderating Variables Identified in the Reviewed Literature*

| Variable | Role | Representative Study | Reported Effect |
|---|---|---|---|
| Attentional control | Mediator | Xie et al. (2023) | Mediates path from short-video addiction to academic procrastination |
| Boredom proneness | Moderator | Xie et al. (2023) | Weakens the attentional-control mediation pathway at higher levels |
| Mindfulness | Mediator | Li, Geng & Wu (2024) | Mediates 19.23% of effect on academic anxiety; 51.85% of effect on engagement |
| Sleep quality / bedtime procrastination | Mediator | Rathakrishnan et al. (2021); Miedzobrodzka et al. (2024) | Poor sleep independently associated with lower academic performance |
| Depression / self-esteem | Mediator | Landa-Blanco et al. (2024) | Mediates link between social media addiction and reduced academic engagement |

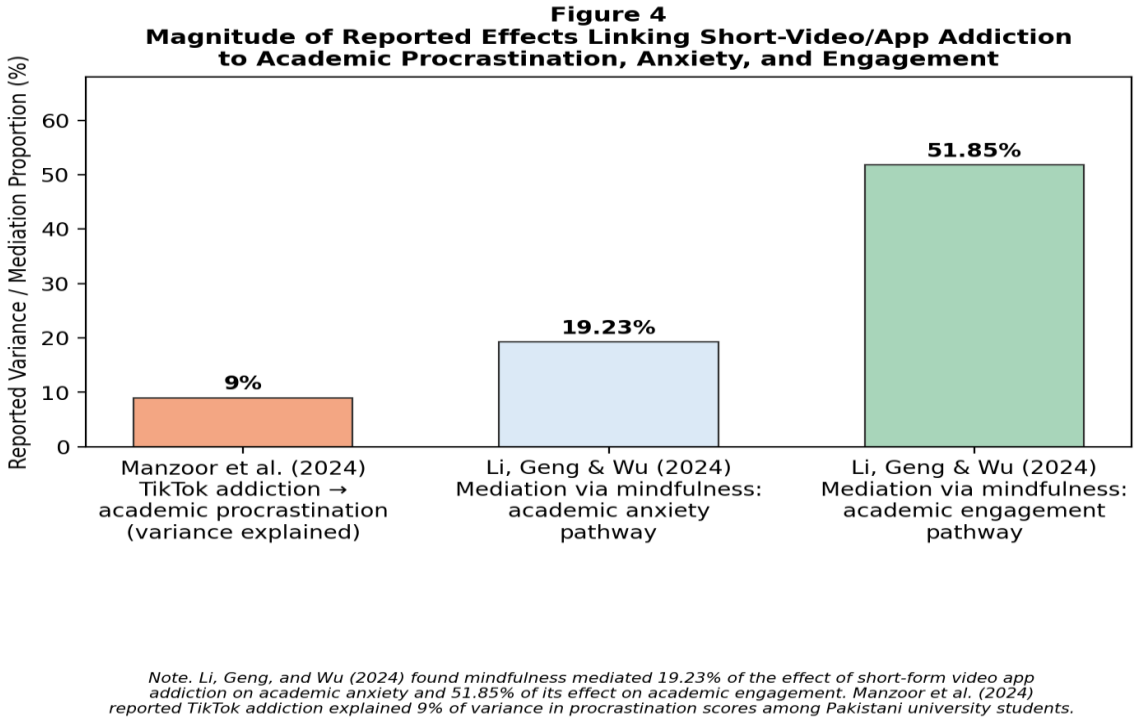


*Figure 4. Magnitude of reported variance-explained and mediation-proportion statistics linking short-video/app addiction to academic procrastination, anxiety, and engagement, compiled from Manzoor et al. (2024) and Li, Geng and Wu (2024).*

**Figure 5**
**Reported Screen-Attention Metrics from Longitudinal Digital-Behavior Research**

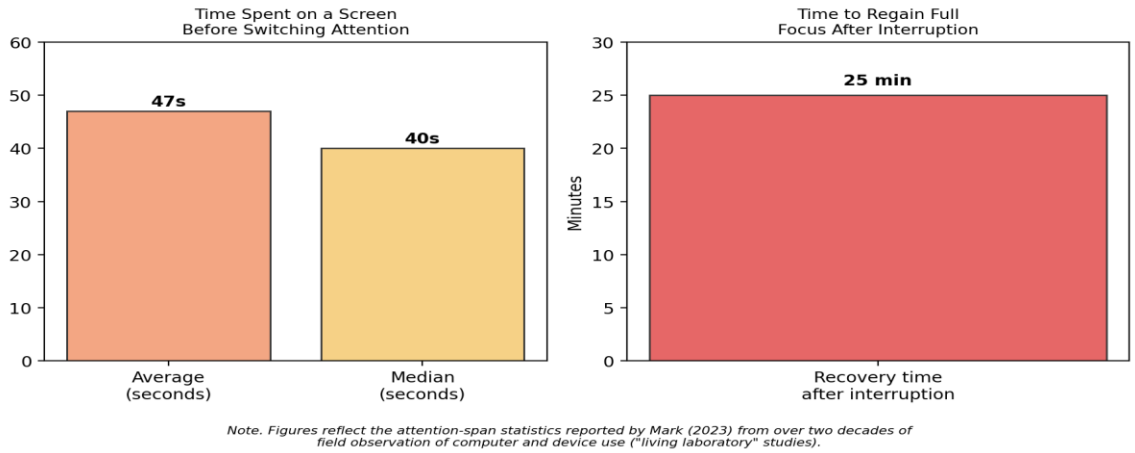


*Figure 5. Screen-attention metrics reported from over two decades of naturalistic device-use observation, illustrating the broader attentional context within which short-video use occurs (Mark, 2023).*

## Discussion

### *Interpreting the Attention-Academic Performance Link*

As a whole, the literature reviewed here provides reason to be cautious but nonetheless concerned about the relationship between frequent, out-of-control short video consumption and attention problems, which in turn may be linked to minor academic performance declines in at least some university students. All of the correlations in Table 4 and Figure 3 are negative but range from small to moderate, typically in the r = -.10 to -.24 range. These coefficients often represent a small proportion of the variance in GPA and are in line with the general pattern: short videos are only one of the factors that impact GPA, and GPA is multiply determined by prior achievement, study habits, socioeconomic factors, mental health, and more (Boumosleh Matar & Jaalouk, 2017).

The findings of mediation, presented in Table 5 and Fig.4, demonstrate that the relationship between short-video addiction and academic outcomes is not direct and is more likely to be mediated by other variables, such as attentional control, mindfulness, sleep, and mood (Xie et al., 2023; Li et al., 2024). This trend mirrors the self-regulation models of academic achievement which argue that digital distraction negatively affects self-monitoring and goal setting perseverance which is necessary for self-regulated learning (Zimmerman, 2002; Bandura, 1986), rather than simply consuming study time that would otherwise be effective in learning. Furthermore, it helps to explain somewhat contradictory findings from the attention literature that documented real and measurable attention shifts due to heavy digital media use (Ophir et al., 2009), and yet the academic-performance literature demonstrated rather weak and inconsistent effect sizes: attentional fragmentation seems to be a real phenomenon, but the change in academic performance depends on a chain of other psychological and behavioral factors that are variable across students and contexts (Mark, 2023). These results are also best placed in the context of the larger literature on academic performance in which even highly touted predictors of GPA frequently have relatively low individual correlations. Literature on sleep and academic performance, for instance, finds large meta-analyses of hundreds of studies and hundreds of thousands of participants report pooled correlations in a similar range, r = .03 to r = .17 (Barley et al., 2025). Given this context, the correlations between short video and smartphone use and GPA in Table 4 are not atypically small for a single behavioral predictor of academic performance, they are just typical of the empirical facts: that GPA is a noisy, multiply-determined outcome that is unlikely to correlate strongly with any single behavior or psychological variable alone. This does

not mean that this addiction to short videos is not academically significant; what it does say is that it is not a uniquely powerful or uniquely urgent threat, compared to other, better established predictors of student success, namely, prior academic preparation, study skills, mental health.

***Mixed and Null Findings***

In the present literature, several studies reviewed here identified either weak and non-significant direct associations between addiction scores and GPA after controlling for other variables, or that overall usage time is a less predictive factor of academic and well-being outcomes than the inability to control its use (Boumosleh Matar & Jaalouk, 2017), whereas the literature specific to TikTok suggests that the inability to control TikTok use is a stronger predictor of academic and well-being outcomes. It also has an applied implication: time-based policies (e.g., screen time limits) might not be as effective as developing students' capacity to exercise control and deliberate use, because it is a lack of control—not screen time per se—that seems to be more strongly linked to poor academic and well-being outcomes. It also warns against using studies with small samples or those conducted in single-country settings and against generalizing from such studies to larger populations, as in the U.S. sample that included 53 students (Table 4), which revealed only a modestly significant association, thus calling for further studies with larger and more diverse samples before any causal inferences can be drawn.

***Practical Implications***

The mediation between sleep, mindfulness, and boredom proneness implies that helping students reduce their susceptibility to boredom (by creating study routines, such as using a brief mindfulness exercise before a study period, or by identifying and challenging their tendency to scroll through short videos while they study), by affecting these mechanisms, may be more effective than simply trying to get them to stop using short videos (Li et al., 2024; Rathakrishnan et al., 2021). For educators, the attentional literature indicates that pedagogical modifications that allow for more frequent and shorter periods of active engagement (not just shorter periods of student attention) in the classroom, may better align with students' attentional patterns, as they enter the classroom, than pedagogical modifications that rely on uninterrupted 50-minute chunks of student attention. The close link between emotional factors (including anxiety and depression) and the relationship between addiction and performance suggests that students with evidence of problematic short-video use might benefit equally from mental-health support as from digital-literacy programming alone (Landa-Blanco et al., 2024; Rogowska & Lechowicz, 2025).

***Self-regulation is the common thread.***

Self-regulation is the concept that weaves through the theoretical perspective, mediating variables, and practical implications outlined above. Uses-and-gratifications theory explains why students are attracted in the first place to platforms such as short video; the components model of addiction explains how the initial attraction becomes addiction, which is characterized by compulsive, poorly controlled use; and self-regulated-learning and procrastination theory explains how the loss of control translates into academic costs (Katz et al., 1973; Griffiths, 2005; Zimmerman, 2002; Steel, 2007). As such, short-video addiction is not so special or exotic a type of academic problem but a modern manifestation of a much older psychological issue: the struggle between delayed and more difficult rewards (a grade, deep learning) and immediate and less demanding rewards (the next video), which, according to ego-depletion research, grows increasingly difficult over the course of the day as the demands placed on self-control increase over time (Baumeister et al., 1998). This reframing has a positive implication, in that interventions and skills already used in the self-regulation and study skills literature (such as the goal-setting approach, implementation intentions, structured breaks, and exposure reduction of the environment) are potential candidates

for adaptation for the short-video context, although few have been tested specifically against short-video addiction in randomized designs to date.

**Limitations of the Reviewed Literature**

There are several methodological limitations that repeat themselves throughout the studies synthesized in this review, and limit the conclusion that can be drawn from them. First, the majority of studies are cross-sectional and can only report associations and are unable to demonstrate causality, that is, whether struggling students use short videos as a coping or avoidance mechanism, or the use of short videos leads to a decline in academic achievement, or whether both negative outcomes are caused by a common factor, a self-regulation deficit, for example (Xie et al., 2023). Second, most of the studies are based on self-reported data on addiction and, in many studies, academic performance, which means that there may be social-desirability and recall bias (Boumosleh Matar & Jaalouk, 2017). Third, samples sizes and sampling strategies vary considerably, ranging from convenience samples, with fewer than 60 students, to large samples, with more than 2,000 students in each study, which makes direct comparisons of effect sizes across studies difficult (Mou et al., 2024). Fourth, most of the research has so far been carried out in a limited number of national contexts, notably China, while there is considerably less research on university-level populations in South Asia, sub-Saharan Africa and Latin America, where cultural and infrastructural factors might have varying impacts on both usage patterns and academic outcomes (Manzoor et al., 2024). Lastly, findings from short-video studies conducted even just a few years apart may not be applicable to current short-video usage, with findings that are ever-changing, so there is a demand for ongoing research in this field. To illustrate this rate of change, a study of Chinese university students in 2026 revealed that problematic smartphone use was indirectly associated with negative life events as mediated by reductions in self-efficacy; that physical activity moderated and weakened this pathway; and that there was an increase in the literature identifying protective factors other than physical activity that can enhance self-efficacy (Yang et al., 2026).

**Conclusions and Future Research Directions**

The review has compiled the theoretical and empirical studies related to short video addiction, attention span, and academic achievement among university students. Based on the findings, it is suggested that long-term use of short videos, when done excessively and with poor self-regulation, is linked to measurable changes in attentional behavior, and to moderately lower academic performance, primarily through attentional control, mindfulness, boredom proneness, sleep quality and mood. Concurrently, the effect sizes of these correlations are typically small to moderate, some researchers report null or inconsistent direct effects, and almost all evidence currently available is correlational, rather than causal. The current debate about a “TikTok brain” crisis that is affecting student achievement, therefore, is only partly supported by the peer-reviewed research literature: while there are real effects, they are not universal and not as pronounced as some media coverage indicates. There are four directions that future research should focus on. First, associations reported here need to be understood in terms of cause and effect; longitudinal or experimental designs are required, with objective tracking of usage and repeated measures of academic performance for at least one full academic term. Second, more research is needed in under-researched contexts in other regions, such as South Asia, to check whether the effect size and mechanism of mediation found mostly in Chinese and Western samples are representative of other cultural and educational environments (Manzoor et al., 2024; Khawar et al., 2025). Third, in the context of intervention studies that directly test the effectiveness of mindfulness training, sleep hygiene programs and structured digital breaks, respectively, on academic outcomes, the field would shift from a correlational description to actionable, evidence-based recommendations for students and

universities. Fourth, further measurement research should explore platform-specific measures that can differentiate between the loss of control and actual time spent, as evidence reviewed here indicates that these measures are likely to have the strongest and most actionable relationships with academic and well-being outcomes, rather than measures of total time spent. (Miedzobrodzka et al., 2024). In the end, this review isn't a rallying call to panic (that each generation has been remodeled into a new species of attention-deficit disorder) nor a shrug (who cares about attention and academic performance?). It's a more measured, if in some respects more actionable, picture: short-video addiction does seem to be an erosion of a set of specific identifiable psychological resources (attentional control, sleep, mood regulation and self-regulatory capacity) that are important for academic success, and it does seem to be a real but modest erosion, one that is significantly mediated by factors that students, educators and universities can plausibly intervene on. Genuine risk and genuine tractability, combined with a new experience of being able to access engaging digital media, and a new experience of having to deal with unprecedented academic challenges, is a combination that in the end, is not grounds for panic, but as we say, it is grounds for informed attention.

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