

Neuroscience

## Short Videos

### The Real Detrimental Inducer for Concealed Brain Damage

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Funding: No funding source declared.

COI: The author declares no competing interest.

AI Declaration: The author affirms that artificial intelligence did not contribute to the process of preparing the work.

**In the digital age, our constant connectivity and reliance on technology have brought about a new concern: concealed brain damage. This hidden threat to our cognitive well-being is often exacerbated by the pervasive presence of short videos in our daily lives. As we immerse ourselves in the captivating world of screens, the detrimental effects on our brain health become increasingly apparent. Understanding the impact of short videos on our cognitive function is crucial to navigating the modern landscape of technological consumption. This article delves into the nuanced relationship between short videos and concealed brain damage, shedding light on the neurological, cognitive, psychological, and emotional implications of excessive screen time. By identifying these detriments and exploring strategies for mitigating the risks, we can strive to promote healthy tech habits for optimal brain health in an increasingly digital world.**

**Keywords:** Short Video; Brain Damage; Neural Mechanisms; Mental Health; Cognition

Science Insights, 2024 March 31; Vol. 44, No. 3, pp.1275-1281.

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### Introduction

**T**HERE are concerns regarding the potential impact of the proliferation of short videos on social media platforms such as TikTok and Instagram on cognitive health. Excessive exposure to short videos may cause concealed brain damage. Short videos have the potential to overwhelm the brain and impair cognitive functions such as attention, memory, and decision-making due to their fast-paced, constantly shifting nature (1). Mental fatigue, decreased productivity, and an elevated susceptibility to conditions such as ADHD and anxiety

may result from this.

A primary factor contributing to the detrimental effects of short videos on the brain is the manner in which they stimulate the brain's reward system (2). To maintain viewers' interest, short videos frequently employ dopamine-inducing and immediate gratifying elements such as flashy visuals, rapid editing, and attention-grabbing sound effects. The incessant influx of stimuli may result in desensitization of the reward circuitry in the brain, which can impair an individual's ability to concentrate on and obtain gratification from tasks that are more intricate and

significant.

Furthermore, the propensity for short videos to be addictive may have adverse effects on the quality of sleep and overall mental health. Research has indicated that blue light emitted by electronic devices, especially in the hours leading up to nighttime, can interfere with the body's natural sleep-wake cycle and disrupt the production of melatonin (3). This may result in insomnia, trouble settling asleep, and an elevated susceptibility to mood disorders such as depression (4). Furthermore, there is a correlation between excessive screen time and heightened experiences of loneliness, social isolation, and a diminished sense of interpersonal connection (5).

Although short videos may offer amusement and entertainment value as a means of passing the time, it is critical to exercise caution regarding their potential influence on cognitive well-being. The detrimental effects of short videos on the brain can be mitigated by restricting screen time, taking pauses, and engaging in activities that support mental health, such as exercise, mindfulness, and social interaction. Individuals can safeguard themselves from concealed brain damage and maintain a healthy balance between digital engagement and real-world experiences by prioritizing their mental health and engaging in moderation when using screens.

### **Uncovering the Veil on Concealed Brain Damage**

A concealed brain injury or damage is any injury or damage to the brain that is not readily apparent. This may ensue from a stroke, traumatic brain injury, or an assortment of alternative conditions. On certain occasions, individuals may remain unaware of the extent of their brain damage for months or even years. The enigmatic or concealed characteristic of brain damage may pose challenges in terms of diagnosis and treatment, potentially resulting in enduring repercussions for the affected individual (6).

Traumatic brain injury (TBI) is a prevalent etiology of concealed brain damage. TBI is caused when an abrupt trauma, such as a strike to the head, interferes with the regular functioning of the brain. Although some TBIs manifest with immediate symptoms, others may be more subtle and remain undetected. During these instances, people might undergo physical, mental, or emotional transformations that are ascribed to external factors, such as the natural process of aging or stress.

Stroke, an additional factor contributing to concealed brain damage, manifests as a cessation of blood supply to the brain, resulting in tissue damage and cellular demise. Although certain strokes manifest conspicuous symptoms like paralysis or impaired speech, others may manifest in a more subtle manner (7). Although these "silent" strokes may evade detection, they nonetheless inflict progressive brain damage that may manifest as cognitive decline or other complications.

There are numerous conditions besides TBI and stroke that are capable of causing concealed brain damage. Chronic conditions such as multiple sclerosis or epilepsy, which may not always manifest symptoms, have the potential to cause progressive brain damage. Infections, tumors, and genetic disorders are all capable of inducing brain damage that is not readily apparent.

Diagnosing and treating concealed brain damage can pre-

sent a significant challenge. Contrary to appearances or potential attributions to alternative etiologies, those who have concealed brain damage may not receive the necessary medical attention. Such long-term effects may include physical disabilities, emotional distress, or cognitive deterioration.

In order to expose concealed brain damage, it is imperative that healthcare professionals remain vigilant in their ability to identify the signs and symptoms associated with brain injury (8). Conducting comprehensive evaluations, which may include imaging studies such as MRIs or CT scans, in order to detect any brain damage, may be necessary. In addition, when formulating a diagnosis, healthcare providers ought to consider the individual's medical history, lifestyle factors, and any potential risk factors associated with brain damage.

After the detection of concealed brain damage, suitable interventions and assistance can be rendered. This may involve lifestyle modifications to prevent further damage, cognitive function-improving therapies, or symptom management medications. Through timely and efficient intervention, individuals may be able to mitigate the enduring consequences of their injury and enhance their overall quality of life when concealed brain damage is addressed.

### **Navigating the Digital Minefield of Brain Health**

Navigating the extensive realm of information and resources pertaining to brain health in the contemporary digital era can be likened to traversing a minefield. In the area of mental health and cognitive enhancement, the abundance of websites, applications, and social media platforms providing advice and direction on these topics can be overwhelming. Recognizing which information is reliable and advantageous, and which may be detrimental or deceptive, can be particularly difficult.

Distinguishing scientific research from pseudoscience poses a significant obstacle when attempting to navigate the digital minefield of brain health. Numerous online sources make audacious assertions regarding the cognitive advantages of particular supplements, diets, or activities, but fail to substantiate them with scientific data. It is crucial that individuals exercise a discerning assessment of the reliability of the sources on which they place their trust and exclusively obtain information from reputable outlets, including academic journals, government health websites, and reputable medical organizations (9).

In the digital minefield of brain health, the possibility of frauds and misinformation is an additional concern. In the current era, where online gurus and social media influencers abound, endorsing instant remedies to enhance cognitive performance can be a slippery slope into deceptive claims and marketing tactics. Before investing money or time in a specific product or program, it is vital to approach any assertions regarding brain health with a healthy degree of skepticism and conduct extensive research.

In addition, in terms of cognitive well-being, the digital environment may foster sentiments of inferiority and comparison. The pervasive presence of carefully curated visuals and narratives depicting success and accomplishment on social media platforms can potentially induce feelings of obligation in users to meet unattainable benchmarks for mental health and cognitive performance. Maintaining an awareness of the fact

that each individual's brain is distinct and that improving one's brain health is an individual process that demands patience and self-compassion is essential (10).

A crucial element in effectively navigating the complex digital landscape of mental health is to uphold a comprehensive and equilibrium in one's well-being. In addition to remaining updated on the most recent developments and trends in mental health, it is critical to give equal weight to other facets of well-being, including but not limited to nutrition, physical activity, sleep, and social interaction. A comprehensive approach to brain health, which incorporates mental and physical well-being, is imperative for sustained achievement and fortitude.

Individuals should also be cognizant of the potential negative effects on mental health that may result from excessive screen time and digital overload. Although technology can provide beneficial resources and assistance for brain health, excessive screen time can negatively impact cognitive function and mental health. It is essential to establish limits on screen time, take frequent pauses, and engage in offline brain-health activities such as socializing, exercise, and meditation.

### **Understanding the Short Video Saga: A Pixelated Culprit**

Recent years have seen a surge in the popularity of short videos, facilitated by platforms such as TikTok, Instagram Reels, and YouTube Shorts. Although these videos are amusing and simple to comprehend, they negatively impact our mental health and attention spans.

Primarily, the purpose of short videos is to induce addiction. Automatic playback and brief content snippets make it simple to become engrossed in a never-ending cycle of scrolling through videos. The persistent stimulation in question may have an adverse impact on our capacity to focus on activities that demand long-term concentration, such as academic study or project completion (11).

In addition, short videos frequently exalt immediate gratification and a fleeting feeling of joy. A considerable number of online videos are meticulously curated to accentuate the most memorable moments of an individual's life, thereby fostering an impractical notion of what contentment ought to resemble. As a result, individuals may experience feelings of insufficiency and discontentment regarding their personal lives when compared to the seemingly flawless lifestyles depicted in these videos (12).

Furthermore, short videos may negatively affect our mental health. Experiencing an excessive influx of information and visual stimuli can induce heightened levels of stress and anxiety (13). Younger populations, who have grown up with social media and are therefore more susceptible to its negative effects, are particularly vulnerable to this.

The development of critical reasoning abilities may also be hampered by short videos. The proliferation of sensationalized content and "clickbait" has facilitated the assimilation of information without discerning its veracity or precision (14). As a result, comprehension and critical analysis of significant issues may be compromised, as the entertainment value of the content takes precedence over its substance.

Short videos may contribute to the dissemination of false information. The proliferation of online propaganda and false

information has made it more challenging to differentiate between fact and fiction. The proliferation of inaccurate information to a broad audience can be facilitated by the attention-grabbing visuals and attention-grabbing headlines of brief videos, which exacerbates the issue.

Additionally, persistent exposure to short videos may result in physical repercussions. Hours of slouched work in front of a screen are associated with migraines, eye strain, and poor posture. In addition to contributing to obesity and diabetes, the blue light emitted by electronic devices can disrupt sleep patterns and exacerbate other health problems (15).

The decline of in-person interactions can also be attributed to short videos. We lose out on invaluable opportunities to interact with others in person as the amount of time we devote to displays increases. Due to the fact that online relationships can never fully substitute for the intimacy and connection that comes from in-person interactions, this can result in feelings of isolation and loneliness.

Although short videos may appear innocuous at first glance, they exert a more profound influence on our society than is commonly acknowledged. Negative effects on mental and physical health, as well as a reduction in attention spans and critical thinking abilities, can be attributed to the prevalence of short videos in our increasingly digital society. To better prioritize our well-being and relationships in the real world, it is critical that we exercise self-control over our screen time and limit our consumption.

### **Neurological Rollercoaster: The Brain's Reaction to Screen Overload**

Constant screens ensure that we are frequently inundated with stimuli and information. Screen excess is a phenomenon that can significantly impair cognitive functioning and the brain.

An excessive quantity of screen time can cause cognitive overload due to the massive volume of information that must be processed. Such consequences may include anxiety, tension, and cognitive fatigue. Additionally, research has demonstrated that extended periods of screen usage can impair cognitive functions such as attention span, memory, and decision-making (16).

A primary factor contributing to the adverse response of our minds to screen overload is the incessant influx of notifications and alerts associated with screen usage. An excessive influx of stimuli can cause the sensory processing system of the brain to become overwhelmed, resulting in impaired cognitive function and difficulty concentrating on assigned tasks. Indeed, an abundance of research has demonstrated that prolonged usage of electronic devices can result in heightened distractibility and diminished cognitive control.

Screen excess has the potential to impact social interactions and relationships, in addition to disrupting sleep patterns. Research has indicated that an inordinate amount of time spent in front of screens can result in diminished levels of empathy and emotional intelligence, as it isolates individuals from their social circles (17). This may result in feelings of isolation and loneliness, which may exacerbate the detrimental impacts of screen overload on our emotional and mental health. Excessive screen time has been linked to alterations in the brain's reward system that resemble those observed in people with substance

abuse disorders, according to research. This may result in an unhealthy compulsion to check our phones or peruse through social media, despite the fact that doing so is detrimental to our health as a whole.

In addition, excessive screen time may negatively affect our physical health. Extended periods of screen time have been associated with a rise in sedentary behavior, which has the potential to give rise to various health complications such as obesity, cardiovascular disease, and musculoskeletal disorders. In addition, prolonged screen exposure can result in discomfort, migraines, and eye strain, which exacerbates the physical consequences of screen overload.

Although screen excess can have detrimental effects on the brain and body, there are measures that can be implemented to alleviate these consequences. Mindfulness practices, time limits on screen usage, and regular pauses are all strategies that can be implemented to mitigate the detrimental effects of screen overload on cognitive performance. In addition, participating in social interactions, reading, and puzzles, which are all activities that stimulate the mind, can help to mitigate the negative effects of excessive screen time.

### **Cognitive Crossroads: Short Videos and Their Sneaky Impact on Our Minds**

An impact that short videos can have on the human mind is their capacity to captivate and retain our attention for prolonged durations. Short videos are designed to captivate our attention and keep us browsing for more thanks to their quick editing, catchy music, and captivating visuals. Our cognitive processes may become acclimated to pursuing immediate gratification and quick fixes, which may impair our capacity to concentrate on more difficult, lengthy assignments.

Furthermore, short videos frequently utilize persuasive strategies including humor, emotive appeals, and relatability in order to sway our perspectives and affect our conduct. Through the manipulation of our emotions and unconscious desires, these videos have the ability to inconspicuously influence our perspectives and convictions. In regards to matters such as consumerism, health, and politics, this subtle manipulation can be especially perilous, as viewers may inadvertently internalize inaccurate or biased information that is presented in these videos.

Unbeknownst to us, short videos also have the capacity to alter our perceptions of reality in an underhanded manner. The proliferation of filters, editing tools, and AI technology has facilitated the manipulation and alteration of videos in an attempt to impart an illusion of flawlessness and allure. Observers may experience emotions of insufficiency, doubt, and diminished self-worth as a result of comparing themselves to the seemingly impeccable individuals featured in these videos.

Our mental health and overall wellbeing can be significantly impacted by short videos. Persistent engagement with curated content, viral challenges, and social comparison may potentially exacerbate emotions of anxiety, melancholy, and isolation (18). Users who feel the need to perpetually perform and present a curated version of themselves to the world may experience burnout and depletion as a result of the pressure to consistently produce and distribute content in order to gain val-

idation and stay current with trends.

Our social interactions and relationships may also be negatively impacted by short videos. The prevalence of digital communication and online validation has the potential to undermine the integrity of in-person exchanges and impede the development of authentic interpersonal relationships (19). Stereotypes, prejudices, and detrimental social norms may be reinforced by the superficial quality of numerous short videos, as viewers may internalize and propagate such behavior without engaging in a critical analysis of the material they consume.

The rapid tempo of short videos may result in cognitive overload, wherein the brain is inundated with information and stimuli, which ultimately impairs cognitive function and causes mental fatigue. Our cognitive abilities, including information processing, decision-making, and critical thinking, may be compromised as our minds develop a habit of passively consuming content without actively participating in profound, significant reflection or analysis (20).

In addition, the potential for short videos to induce compulsive behavior such as excessive content consumption and constant smartphone monitoring can exacerbate problems associated with social isolation, postponement, and reduced efficiency. A continuous influx of notifications, likes, and comments can establish a reinforcing and rewarding feedback cycle that captivates our attention and encourages us to return for more.

### **Unmasking the Villains: Short Videos and Their Assault on Cognitive Function**

Concerns have been expressed regarding the effects of the rapid consumption of short video content on the brain and cognitive functions. Neuroscientists have investigated the neural underpinnings of the impact of short videos on the brain in recent years in an effort to comprehend how they affect our emotions, thoughts, and actions.

Dopamine is an essential neurotransmitter for the processing of motivation, pleasure, and rewards. Dopamine is produced in the brain in response to viewing entertaining or thought-provoking short videos; this chemical generates feelings of delight and contentment (21).

Short videos may also have an effect on our memory and attention. In comparison to lengthier content, the rapid-fire nature of short videos has been shown to hold our interest for longer durations. Because our minds are hardwired to respond to novel and visually appealing stimuli, such as those frequently encountered in short videos, this is the case. Moreover, memory retention and recall can be improved by the use of visual and auditory signals in short videos.

Our emotions and disposition can be profoundly affected by short videos. Research has shown that exposure to emotionally charged videos can evoke intense emotional reactions in observers, including but not limited to feelings of joy, sorrow, dread, or excitement (22). A cluster of brain structures tasked with the processing of emotions and memory, the limbic system mediates these emotional responses.

Additionally, short videos have the potential to influence our social cognition and empathy. Observing videos of individuals undergoing situations or emotions that reflect our own can stimulate the mirror neuron system, according to research. Mir-

ror neurons are specialized cells that initiate a firing response in response to both our own actions and the actions of others (23). The emotions and experiences of others depicted in short videos can be understood and empathized with thanks to this neural mechanism.

The visual and auditory cues in short videos can also affect how we perceive and process information. Certain stimuli in videos, including colors, shapes, patterns, and movements, have been shown to stimulate particular regions of the brain that are responsible for visual and auditory processing (24). This sensory input has the potential to stimulate our creative thinking and problem-solving abilities while also enhancing our perception of the world around us.

Additionally, shorter videos have the potential to influence our behavior and decision-making. Exposure to marketing or persuasive videos has been shown to stimulate the prefrontal cortex, which is responsible for higher-order cognitive functions such as self-control, planning, and decision-making (25). The neural activation presented in the videos has the potential to impact our attitudes, behaviors, and preferences in relation to their content.

### **Attention Hijack: The Battle Against Distraction and Impulsivity**

Distractions and impulsivity have emerged as prevalent obstacles that a great number of individuals contend with regularly. The pervasive presence of social media and technological advancements has rendered it more challenging to concentrate on objectives and tasks without being incessantly inundated with notifications and data. This battle against impulsivity and distraction is especially evident when it comes to viewing short videos, which are frequently created to hold our interest for an extended period of time.

Short videos are deliberately produced with the intention of captivating and addictive viewers. Typically, they feature flashy visuals and sound elements with the intention of captivating the audience through sensory stimulation. This can be a significant obstacle for those attempting to maintain focus and productivity, as it is simple to become engrossed in videos for lengthy periods of time without realizing it.

Moreover, the impulsive nature of short videos is exacerbated by the frequent encouragement of viewers to execute immediate decisions and responses. As an illustration, social media platforms such as TikTok frequently encourage users to engage in trends or challenges that demand instantaneous action, thereby fostering impetuous behavior and decision-making. Poor time management and a failure to concentrate on critical obligations and duties may result from this, which is potentially harmful to our overall health.

The challenge of resisting distractions and impulsive behavior is exacerbated by the perpetual availability and accessibility of short videos. Smartphones and other mobile devices enable us to effortlessly access and commence viewing videos, irrespective of our location or intended activity. It is even more difficult to resist the temptation to view videos when we ought to be concentrating on more vital responsibilities due to this constant availability.

It is crucial that we be conscious of our habits and behav-

iors regarding the viewing of short videos in order to combat this issue. Implementing personal boundaries and limits can prove to be a beneficial approach in mitigating interruptions and impulsive behavior. Setting specific times for viewing videos, disabling notifications, or even uninstalling particularly addictive applications are all examples of this. Regaining authority over our focus and productivity can be initiated by regaining control over our viewing habits.

A further effective method for combating the impulsivity and distractions caused by short videos is to cultivate mindfulness and present-moment awareness. We can catch ourselves before becoming overly engrossed in viewing videos by becoming more self-aware of our present-moment thoughts and actions, and then choose to reorient our attention to more pressing matters (26). Additionally, practicing mindfulness through exercises such as deep breathing and grounding can assist in refocusing attention to the present moment and averting impulsive responses.

Placing self-care and general well-being as top priorities can also serve to mitigate the detrimental effects of distractions and impulsivity. By ensuring that our physical and mental well-being are maintained through consistent exercise, sufficient sleep, and nutritious eating, we can enhance our capacity to withstand interruptions and sustain concentration on our objectives. Investing time in nature or participating in relaxation and stress-relieving activities, such as meditation, can additionally serve as effective strategies to resist the compulsive temptation to watch videos hastily.

### **Surviving the Digital Deluge: Nurturing Mental Health amid the Screen Storm**

Among the most crucial ways to promote mental health in the midst of the screen storm is to establish limits on screen time. It is essential to prioritize activities that promote mental health, such as engaging in pastimes, exercising, and spending quality time with loved ones, and to set daily screen time limits (27). By striking a harmonious equilibrium between in-person engagements and screen time, one can mitigate the risk of exhaustion and alleviate symptoms of anxiety and depression.

Mindfulness practice is an additional vital component in promoting mental well-being amidst the digital deluge. Mindfulness entails being completely present and attentive to one's environment. This can facilitate a heightened consciousness regarding the psychological repercussions of displays, enabling individuals to devise strategies to mitigate their adverse effects. Engaging in mindfulness practices, including deep breathing exercises and meditation, may assist you in developing a state of tranquility and concentration amidst the oncoming on-screen tempest.

When attempting to maintain mental health amidst the screen tempest, it is critical to prioritize self-care in addition to establishing limits and practicing mindfulness. Self-care practices, including maintaining a healthy diet and sleeping enough, as well as devoting time for relaxation and recharging, can aid in stress reduction and overall wellness. You can maintain a healthy mental state and increase your resistance to the negative effects of excessive screen time by prioritizing self-care.

Developing positive interpersonal connections is an addi-

tional critical element in promoting mental well-being amidst the screen frenzy. Social connections are of the utmost importance for maintaining good mental health; conversely, excessive screen time may induce feelings of detachment or isolation (28). Enhance one's mental well-being and fortify their social support network by actively engaging in face-to-face interactions, phone conversations, and video discussions with friends and loved ones.

Besides prioritizing self-care, establishing boundaries, practicing mindfulness, and fostering positive relationships, it is critical to participate in endeavors that enhance mental health and overall well-being. This may involve engaging in creative endeavors, journaling, volunteering, or physical activity. You can positively support your mental health and counteract the negative effects of excessive screen time by engaging in activities that bring you happiness and satisfaction.

Aware of the indicators of mental health complications that may result from excessive screen time is another crucial aspect to consider. Immediately consult a mental health professional if you experience any of the aforementioned symptoms. Medication, psychotherapy, or counseling may be required to address these concerns and assist you in navigating the screen

tempest in a healthy manner.

## Conclusion

Existing research has demonstrated that short videos possess the potential to induce hidden brain damage, especially in individuals with neurological conditions or a predisposition to seizures. Cognitive overload may result from the rapid visual and auditory stimulation in short videos, which may also cause permanent damage to neural pathways. Moreover, the frequent browsing and rapid transitions in content may potentially contribute to a reduction in attention span and an escalation in distractibility, thereby exerting an influence on cognitive function and memory retention. Limiting exposure to short videos and engaging in activities that enhance cognitive health and well-being are imperative for individuals, particularly those who have pre-existing neurological conditions. As practitioners specializing in the disciplines of neuroscience or mental health, it is critical to inform clients of the potential hazards that may arise from the overconsumption of short videos and to promote the adoption of mindfulness techniques as a means of safeguarding and enhancing their cerebral well-being. ■

## References

1. Nakshine VS, Thute P, Khatib MN, Sarkar B. Increased screen time as a cause of declining physical, psychological health, and sleep patterns: A literary review. *Cureus* 2022; 14(10):e30051. DOI: <https://doi.org/10.7759/cureus.30051>
2. Firth J, Torous J, Stubbs B, Firth JA, Steiner GZ, Smith L, Alvarez-Jimenez M, Gleeson J, Vancampfort D, Armitage CJ, Sarris J. The "online brain": How the Internet may be changing our cognition. *World Psychiatry* 2019; 18(2):119-129. DOI: <https://doi.org/10.1002/wps.20617>
3. Silvani MI, Werder R, Perret C. The influence of blue light on sleep, performance and wellbeing in young adults: A systematic review. *Front Physiol* 2022; 13:943108. DOI: <https://doi.org/10.3389/fphys.2022.943108>
4. Shechter A, Kim EW, St-Onge MP, Westwood AJ. Blocking nocturnal blue light for insomnia: A randomized controlled trial. *J Psychiatr Res* 2018; 96:196-202. DOI: <https://doi.org/10.1016/j.jpsychires.2017.10.015>
5. Twenge JM, Campbell WK. Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. *Prev Med Rep* 2018; 12:271-283. DOI: <https://doi.org/10.1016/j.pmedr.2018.10.003>
6. Kearney BE, Lanius RA. The brain-body disconnect: A somatic sensory basis for trauma-related disorders. *Front Neurosci* 2022; 16:1015749. DOI: <https://doi.org/10.3389/fnins.2022.1015749>
7. Boushra M, McDowell C. Stroke-Like Conditions. [Updated 2023 Jun 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK541044/>
8. Goldman L, Siddiqui EM, Khan A, Jahan S, Rehman MU, Mehan S, Sharma R, Budkin S, Kumar SN, Sahu A, Kumar M, Vaibhav K. Understanding acquired brain injury: A review. *Biomedicines* 2022; 10(9):2167. DOI: <https://doi.org/10.3390/biomedicines10092167>
9. Kington RS, Arnesen S, Chou WS, Curry SJ, Lazer D, Villarruel AM. Identifying credible sources of health information in social media: Principles and attributes. *NAM Perspect* 2021; 2021:10.31478/202107a. DOI: <https://doi.org/10.31478/202107a>
10. Amutio-Kareaga A, García-Campayo J, Delgado LC, Hermosilla D, Martínez-Taboada C. Improving communication between physicians and their patients through mindfulness and compassion-based strategies: A narrative review. *J Clin Med* 2017; 6(3):33. DOI: <https://doi.org/10.3390/jcm6030033>
11. Treatment for Stimulant Use Disorders: Updated 2021 [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 1999. (Treatment Improvement Protocol (TIP) Series, No. 33.) Chapter 2-How Stimulants Affect the Brain and Behavior. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK576548/>
12. Pedalino F, Camerini AL. Instagram use and body

- dissatisfaction: The mediating role of upward social comparison with peers and influencers among young females. *Int J Environ Res Public Health* 2022; 19(3):1543. DOI: <https://doi.org/10.3390/ijerph19031543>
13. Charpentier CJ, Cogliati Dezza I, Vellani V, Globig LK, Gädeke M, Sharot T. Anxiety increases information-seeking in response to large changes. *Sci Rep* 2022; 12(1):7385. DOI: <https://doi.org/10.1038/s41598-022-10813-9>
  14. Caled D, Silva MJ. Digital media and misinformation: An outlook on multidisciplinary strategies against manipulation. *J Comput Soc Sci* 2022; 5(1):123-159. DOI: <https://doi.org/10.1007/s42001-021-00118-8>
  15. Demir YP, Sumer MM. Effects of smartphone overuse on headache, sleep and quality of life in migraine patients. *Neurosciences (Riyadh)* 2019; 24(2):115-121. DOI: <https://doi.org/10.17712/nsj.2019.2.20180037>
  16. Muppalla SK, Vuppalapati S, Reddy Pulliahgaru A, Sreenivasulu H. Effects of excessive screen time on child development: An updated review and strategies for management. *Cureus* 2023; 15(6):e40608. DOI: <https://doi.org/10.7759/cureus.40608>
  17. Skalická V, Wold Hygen B, Stenseng F, Kårstad SB, Wichstrøm L. Screen time and the development of emotion understanding from age 4 to age 8: A community study. *Br J Dev Psychol* 2019; 37(3):427-443. DOI: <https://doi.org/10.1111/bjdp.12283>
  18. Bonsaksen T, Ruffolo M, Price D, Leung J, Thygesen H, Lamph G, Kabelenga I, Geirdal AØ. Associations between social media use and loneliness in a cross-national population: do motives for social media use matter? *Health Psychol Behav Med* 2023; 11(1):2158089. DOI: <https://doi.org/10.1080/21642850.2022.2158089>
  19. Ruben MA, Stosic MD, Correale J, Blanch-Hartigan D. Is technology enhancing or hindering interpersonal communication? A framework and preliminary results to examine the relationship between technology use and nonverbal decoding skill. *Front Psychol* 2021; 11:611670. DOI: <https://doi.org/10.3389/fpsyg.2020.611670>
  20. Fabio RA, Suriano R. The influence of smartphone use on tweens' capacity for complex critical thinking. *Children (Basel)* 2023; 10(4):698. DOI: <https://doi.org/10.3390/children10040698>
  21. Fonzo GA. Diminished positive affect and traumatic stress: A biobehavioral review and commentary on trauma affective neuroscience. *Neurobiol Stress* 2018; 9:214-230. DOI: <https://doi.org/10.1016/j.ynstr.2018.10.002>
  22. Kesner L, Horáček J. Empathy-related responses to depicted people in art works. *Front Psychol* 2017; 8:228. DOI: <https://doi.org/10.3389/fpsyg.2017.00228>
  23. Acharya S, Shukla S. Mirror neurons: Enigma of the metaphysical modular brain. *J Nat Sci Biol Med* 2012; 3(2):118-124. DOI: <https://doi.org/10.4103/0976-9668.101878>
  24. Sugihara T, Diltz MD, Averbeck BB, Romanski LM. Integration of auditory and visual communication information in the primate ventrolateral prefrontal cortex. *J Neurosci* 2006; 26(43):11138-11147. DOI: <https://doi.org/10.1523/JNEUROSCI.3550-06.2006>
  25. Arnsten A, Mazure CM, Sinha R. This is your brain in meltdown. *Sci Am* 2012; 306(4):48-53. DOI: <https://doi.org/10.1038/scientificamerican0412-48>
  26. Lindsay EK, Chin B, Greco CM, Young S, Brown KW, Wright AGC, Smyth JM, Burkett D, Creswell JD. How mindfulness training promotes positive emotions: Dismantling acceptance skills training in two randomized controlled trials. *J Pers Soc Psychol* 2018; 115(6):944-973. DOI: <https://doi.org/10.1037/pspa0000134>
  27. Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario. Digital media: Promoting healthy screen use in school-aged children and adolescents. *Paediatr Child Health* 2019; 24(6):402-417. DOI: <https://doi.org/10.1093/pch/pxz095>
  28. Pandya A, Lodha P. Social connectedness, excessive screen time during covid-19 and mental health: A review of current evidence. *Front Hum Dyn* 2021; 3:684137. DOI: <https://doi.org/10.3389/fhumd.2021.684137>

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Received: January 27, 2024 | Revised: February 09, 2024 | Accepted: February 16, 2024

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