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The Influence of Excessive Social Media Usage on Core Executive Functions: A Literature Review

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ABSTRACT

Executive functions, including inhibitory control, working memory, and cognitive flexibility, are critical for enabling goal-directed behaviour and effective information processing. In the digital age, the pervasive use of social media among adolescents and young adults has raised important questions regarding its impact on these cognitive processes. This study examines current research to understand how different patterns of social media use influence executive functions. Evidence indicates that, while moderate engagement may support certain aspects of cognitive processing through heightened alertness and task-switching abilities, excessive and compulsive use is consistently associated with impairments in inhibitory control, working memory, and cognitive flexibility. Factors such as digital multitasking, emotional dysregulation, and disrupted sleep appear to mediate these negative effects, with neurocognitive findings pointing to alterations in the prefrontal cortex activity. The discussion highlights the role of individual differences, such as baseline self-regulation and cognitive flexibility, in mitigating adverse outcomes linked to heavy social media use. Implications for educational practice and digital literacy interventions are considered, suggesting that promoting a balanced, mindful approach to social media can help safeguard cognitive well-being. This review underscores the need for further research to develop targeted strategies that support healthy digital habits among university students and other vulnerable populations.

Keywords: social media, executive functions, inhibitory control, working memory, cognitive flexibility

INTRODUCTION

Executive functions, often referred to as cognitive control, are higher-order mental processes that enable individuals to plan, focus attention, manage multiple tasks, and regulate behaviour

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to achieve specific goals (Baddeley, 2012; Banich and Munakata, 2014; Diamond, 2013; Posner and Digirolamo, 1998).

Executive functions are a collection of cognitive processes that allow people to plan, focus attention, and handle tasks successfully. These functions are critical during adolescence and early adulthood, when the brain develops rapidly and lifelong behavioural habits are established. However, the prevalence of social media throughout this developmental stage warrants an investigation into its potential effects on these essential cognitive processes.

Interestingly, moderate use of social media may not always be detrimental. Some research, such as the review by Zhou & Wang (2022), suggests an inverted U-shaped relationship, where optimal executive functioning is observed at moderate levels of use. This implies that the intensity of social media use plays a crucial role in its impact on cognitive processes.

The three fundamental executive functions, according to Diamond (2013), are inhibition control, working memory, and cognitive flexibility. 'Cognitive flexibility' allow you to alter your thoughts and easily transition between tasks or mental frameworks. 'Inhibitory control' enables you to ignore distractions and avoid impulsive behaviour, allowing you to stay focused on your objectives. 'Working memory' is the process of revising and preserving important knowledge across brief periods of time, allowing you to handle and change material as needed. Together, these executive functions underpin goal-directed behaviour and effective information processing, enabling individuals to navigate complex tasks and environments (Diamond, 2013; Kane and Engle, 2003; Miyake et al., 2000).

Inhibitory control

Inhibitory control, a core component of executive functioning, refers to the ability to suppress impulsive behaviours, irrelevant thoughts, or habitual responses in favour of goal-oriented actions (Diamond, 2013). This cognitive function is necessary for 'self-regulation, decision-making, and managing distractions in daily life'.

Self-regulatory ability prevents impulsive behaviour, such as avoiding the impulse to interrupt a conversation or repressing a negative habit when tempted (Diamond, 2013). In practical words, inhibitory control is what allows us to remain focused on a task, maintain acceptable social behaviour, and even manage our emotional reactions in difficult situations.

Miller and Cohen (2001) explain that the brain's prefrontal circuitry plays a crucial role in suppressing undesirable impulses, enabling behaviour that aligns with long-term objectives rather than immediate gratification. In the context of social media, platforms are often designed to trigger habitual engagement and impulsive use. Notifications, infinite scroll, and algorithmically curated content are engineered to capture attention and promote repeated use.

Inhibitory control is a fundamental executive function that enables us to actively inhibit impulsive impulses and manage our behaviour in accordance with our goals (Diamond 2013).

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This capacity is especially crucial on social media, where platforms are designed to attract and retain our attention with features such as alerts, endless feeds, and 'likes'. These design aspects may overburden our cognitive systems, making it more difficult to resist obsessive checking and scrolling. 'Fear of missing out' (FoMO) is a common contributor to these problems. According to Xu et al., (2023), fear of missing critical updates can generate a self-reinforcing cycle, reducing inhibitory control and making it difficult to stop engaging with digital devices. In summary, the design of social media platforms undermines the systems that help us retain self-regulation, potentially leading to a loop of obsessive usage and decreased cognitive control.

Inhibitory control is weakened as social media platforms encourage impulsive behaviour through instant rewards such as likes, notifications, and personalised content. These digital reinforcements exploit the brain's reward system, reducing users' ability to resist distractions and delay gratification. Over time, this can lead to compulsive checking habits, making it increasingly difficult to regulate screen time and prioritise important tasks (Turel et al., 2018).

Understanding these interactions is crucial for developing strategies that help mitigate the adverse effects of social media on our cognitive functioning. Whether through mindful usage, digital detoxes, or redesigning platform features to reduce addictive triggers, supporting our inhibitory control is key to fostering a healthier balance between online and offline lives.

Working memory

'Working memory refers to the cognitive system responsible for temporarily holding and manipulating information necessary for complex tasks such as learning, reasoning, and comprehension' (Baddeley & Hitch, 1974). It functions as a mental workspace, enabling individuals to retain relevant information in an active state for short periods, facilitating decision-making and behaviour regulation.

The concept of working memory emerged from earlier notions of 'short-term memory', which pertained to the brief retention of limited information. In the 1960s, this area garnered significant interest, coinciding with the rise of information-processing psychology that drew parallels between human cognition and computer operations.

Working memory has a limited capacity, which constrains how much information can be retained and processed simultaneously (Cowan, 2014). These limits play a crucial role in learning and cognitive development. Research suggest that the capacity of working memory increases as children grow, supporting a range of complex cognitive abilities that are essential for academic success (Cowan, 2014).

Baddeley's work has been seminal in reshaping our understanding of short-term memory into what we now call 'working memory'. In 1974, together with Hitch, he proposed a 'multicomponent model' that separates working memory into a central executive system,

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which controls attention and coordinates processing (Baddeley & Hitch, 1974). Later, Baddeley (2000) refined this model by adding the episodic buffer, a temporary storage system that integrates information from different sources into a coherent whole. This framework has been instrumental in explaining how we process, retain, and utilise information during cognitive tasks.

Miller (1956) in his seminal paper proposed that the average person's short-term memory can hold approximately seven items, give or take two. This finding highlighted the inherent limitations in our capacity to process information and introduced the concept of "chunking," where individual pieces of information are grouped into larger, meaningful units to enhance memory retention (Miller, 1956).

Nelson Cowan's model of working memory proposes two distinct levels of information storage:

1. Activated Long-Term Memory: This encompasses various activated features—sensory, phonological, orthographic, spatial, and semantic—forming a fragmented collection of information (Cowan, 1988).
2. Focus of Attention: Within this activated memory, a smaller subset of items receives focused attention, consisting of a few well-integrated units or chunks. This hierarchical structure suggests that while a broad array of information can be activated in long-term memory, only a limited number of items can be actively maintained in the focus of attention at any given time (Cowan, 1988).

Researchers argue that one of the most notable effects of social media is its impact on ‘attention and working memory’. Frequent exposure to rapidly updating content on social media can lead users to constantly switch tasks. This multitasking behaviour taxes working memory, making it harder to focus, retain information, and complete complex cognitive tasks (Firth et al., 2019).

Cognitive Flexibility

Cognitive flexibility refers to the mental ability to switch between thinking about different concepts or to think about multiple concepts simultaneously. This skill allows individuals to adapt their cognitive processing strategies or behaviours to face new and unexpected conditions in the environment, enabling them to learn more effectively and solve problems more efficiently. It is considered a key component of executive functions and is linked to various cognitive abilities, including “problem-solving, creativity, and adaptability”.

Cognitive flexibility is a core component of our executive functions—it is essentially the mental ability to adapt our thinking and behaviour in response to changing circumstances. In everyday life, this means being able to switch effortlessly between different tasks or perspectives, adjust our strategies when faced with new challenges, and integrate fresh information as needed(Diamond, 2013; Monsell, 2003).

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Cognitive flexibility supports the ability to juggle multiple mental sets and prevents cognitive rigidity, enabling adaptive responses to novel or complex situations. Research has shown that cognitive flexibility can be enhanced through various means. For example, engaging in activities that challenge the brain—such as learning a new language, playing a musical instrument, or even regularly solving puzzles—can improve this skill over time. In addition, certain lifestyle factors, including physical exercise and adequate sleep, have been associated with better cognitive flexibility, highlighting the importance of overall well-being in maintaining our mental agility (Miyake & Friedman, 2012).

However, excessive engagement with social media may impair cognitive flexibility by promoting habitual, reactive thinking patterns. Constant exposure to fragmented content may reduce the ability to engage in deep, sustained problem-solving (Kuss & Griffiths, 2017).

REVIEW OF LITERATURE

In today's digital age, social media has become an integral part of daily life, especially among the youth. Platforms such as Facebook, Instagram, Twitter and TikTok offer avenues for connection, entertainment, and information sharing. However, the pervasive use of these platforms has raised concerns about their impact on cognitive functions, particularly executive functions, which are crucial for goal-directed behaviour and decision-making.

Various studies focused at exploring relationship between social media use and executive functions revealed a multifaceted and often nuanced picture. These studies revealed that moderate engagement with social media may, in some context, enhance certain aspect of executive functioning. Additionaly, the constant practice of managing multiple streams of information and rapidly switching between tasks could potentially serve as a form of cognitive training that enhances skills such as working memory, cognitive flexibility, and inhibitory control (Diamond, 2013; Banich & Munakata, 2014).

Media-multitasking, most commonly observed among young adults, involves simultaneously engaging with multiple digital streams. While some argue media-multitasking can enhance certain executive skills, heavy multitaskers often show poorer performance in attention regulation and working memory (Seddon et al., 2018).

One of the mediating factors of excessive social media use is “poor sleep quality”, which is frequently reported among heavy social media users. The blue light emitted from screens, combined with the stimulating nature of online interactions, often delays sleep onset and reduces overall sleep quality. Since executive functions rely on adequate rest to function optimally, chronic sleep deprivation can further weaken attention, memory, and decision-making abilities (Carter et al., 2016).

Multiple studies have linked excessive social media use to impairments in executive functions, particularly among adolescents. For instance, Li et al. (2023) found that emotional

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disturbances and disrupted sleep partially mediated the link between social media addiction and diminished cognitive control. Additionally, a study highlighted by *Neuroscience News* links shorter sleep duration in teens to higher social media usage, involving brain regions crucial for executive control and reward processing (American Academy of Sleep Medicine, 2024).

Various researches has revealed concerns on how excessive usage of social media may impair the executive functions. For example, a research shows that social media addiction is highly connected with poorer executive functioning, with emotional disturbances and poor sleep quality serving as mediators (Zhang et al., 2023).

A study conducted by Alloway & Alloway (2013) revealed that certain activities, such as checking friends' status updates on Facebook or recommending a YouTube video to a friend, were linked to better working memory performance (Alloway & Alloway, 2013). Additionally, the differences between active and passive SNS users in terms of attentional control were highlighted in the study (Alloway & Alloway, 2013).

Beyond direct cognitive impairments, social media can also indirectly disrupt executive functions by contributing to 'emotional dysregulation'. Many studies have linked excessive social media use with heightened stress, anxiety, and negative mood states. These emotional disturbances can impair prefrontal cortex function, further diminishing cognitive control (Orben et al., 2019). Pantic (2014) explored associations between online social networking and depression among high school students, suggesting a link between extensive social media use and depressive symptoms. Another study examined the relationship between adolescent internet addiction, self-esteem, and preference for online social interactions, indicating that excessive online engagement might be associated with lower self-esteem.

Research indicates that digital multitasking has been associated with negative psychological outcomes. Individuals who frequently engage in multitasking are more likely to experience symptoms of depression and anxiety. The persistent cognitive load and mental strain associated with multitasking can have substantial consequences for mental health, including increased stress and disrupted sleep patterns (Hasan et al., 2023).

Gkora & Christou (2013) in their research paper titled "Executive functions, self-regulation and social media for peace-based inclusive education" seeks to elucidate how social media can be used to enhance executive functions and self-regulation which are the key factors in managing conflicts, promoting emotional maturity, and facilitating positive interpersonal relationships among students. The paper also offers fresh insights into the neurobiological and metacognitive mechanisms underpinning these processes and provides practical implications for educators, parents, and policymakers striving to create more harmonious and inclusive learning environments **(**Gkora & Christou, 2023).

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While much previous research has focused on the socioemotional benefits of social media—such as reduced loneliness and improved life satisfaction—there is limited understanding of how regular social media engagement may influence executive functions in later life. Moreover, intervention studies such as those by Myhre et al. (2016) and Quinn (2018) have yielded mixed results, often constrained by small sample sizes and a narrow focus on specific facets of executive functioning (Myhre et al., 2016; Quinn, 2018).

From a neurological perspective, social media's rapid, high-reward environment may lead to structural and functional changes in the brain. Research suggests that prolonged digital engagement is associated with alterations in the prefrontal cortex, including reduced grey matter density, which could contribute to deficits in cognitive control (He et al., 2021). Additionally, disruptions in neural networks responsible for attention may further impair working memory and focus, reinforcing the cycle of digital dependency.

The combined effects of reduced attention, weakened inhibitory control, and fragmented thinking can have significant 'real-world implications'. In academic and professional settings, individuals may struggle to maintain productivity, manage deadlines, and engage in deep work. Moreover, habitual social media use has been linked to lower problem-solving ability and decreased cognitive endurance, ultimately affecting long-term performance and success (Johannes et al., 2021). Heavy media multitaskers have been found to perform poorly on task-switching ability tests, suggesting a lack of cognitive control (Hasan et al., 2023). Additionally, chronic multitaskers exhibit inferior working memory performance and greater difficulty filtering out irrelevant information, leading to increased mental fatigue and stress (Hasan et al., 2023).

SUMMARY OF PREVIOUS RESEARCH FINDINGS

1. **The effect of social media consumption on emotion and executive functioning**
    - Findings: It was revealed that fifty five percentages of the participants met the criteria for social media addiction, with an average of five hours spent on social media platform. Results underscore the negative impact of social media on executive function, highlighting the importance of encouraging healthier digital habits. **Aitken et al., (2024)**
2. **The impact of social media use on executive function**
    - Findings: The study highlighted a connection between social media addiction (SMA) and difficulties with inhibitory control, suggesting that SMA may be associated with impaired impulse control, particularly when individuals encounter social media-related cues. **Reed P (2023)**
3. **Neurological effects of Problematic Social Media Use (PSMU) on Inhibitory Control**
    - Findings: Provides scientific evidence for decline in inhibitory control due to problematic social media use, further stating that fear of missing out could

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also reduce inhibitory control in individuals with problematic social media use. **Xu, Chen, and Tian (2024)**

4. **The effect of digital multitasking and hyperactivity on brain health**
    - Finding: Frequent digital multitasking is linked to diminished cognitive control and increased distractibility, multitasking divides cognitive resources, leading to a higher cognitive load and potential hyperactivity. **Hasan M. K. et al., (2023)**
5. **The impact of social media multitasking on working memory**
    - Findings: A significant negative relationship between social media multitasking and working memory performance were noted, suggesting that increased multitasking correlates with diminished working memory capacity. **Senarath & Ratnayake (2021)**
6. **Executive functions and self-reported media-multitasking**
    - Findings: No significant correlation between the frequency of self-reported media-multitasking and performance on executive function tasks was observed. However, a significant link between higher levels of trait anxiety and more frequent media-multitasking. **Seddon et al., (2018)**
7. "**Effect of social media addiction on executive functioning among young adults: the mediating roles of emotional disturbance and sleep quality**"
    - Findings: The data suggest that emotional disturbance and poor sleep quality act as risk-enhancing mediators in the relationship between social media addiction and executive functioning. **Zhang et al., (2013)**
8. **Media multitasking on working memory**
    - Findings: Students who engaged in higher levels of media multitasking demonstrated greater accuracy in recalling information, however, they also took longer to complete tasks. **Hutasuhut et al., (2024)**
9. **Internet addiction, executive function and communication skills**
    - Findings: The study highlighted a potential impact of excessive internet use on cognitive abilities and interpersonal skills, underscoring the importance of promoting balanced digital habits among students. **Nageeb & Al Enzi (2020)**
10. **Chronic media multitasking and memory performance**
    - Findings: It was highlighted that habitual multitasking may impair the brain's capacity to manage and retrieve information effectively, thus resulting in a poorer memory performance both working and long-term memory. **Uncapher et al., (2023)**
11. **Executive function, daily stress and problematic social media use**
    - Findings: The study emphasized that inhibition played a moderating role in the relationship between daily stress and time spent on social media, suggesting

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that those with stronger inhibitory control were better able to regulate their screen time when under stress. **Ng & Yang (2025)**

12. **"The mediating and buffering effect of resilience on the relationship between loneliness and social media addiction among adolescent"**
    - Findings: The study provided significant evidence for the potential buffering role of psychological resilience in reducing social media addiction in adolescents with high levels of loneliness. **(Yam et. al., 2024)**
13. **"Predictive role of cognitive flexibility and self-control on social media addiction in university students"**
    - Findings: Cognitive flexibility and self-control were found to be significant negative predictors of social media addiction, with cognitive flexibility showing a stronger influence. **Sağar, (2021)**

DISCUSSION & CONCLUSION

This study aimed to examine the intricate relationship between social media use and core executive functions—specifically, inhibition, working memory, and cognitive flexibility. In exploring this relationship, what emerged was a complex and somewhat paradoxical landscape. Social media, a tool designed to enhance communication and access to information, appears to interfere with the very cognitive processes that allow us to use it wisely and effectively.

One of the key insights from research findings is the impact of frequent and habitual social media engagement on inhibitory control. The data suggests that individuals who engage with social media more frequently tend to show diminished ability to suppress distractions or resist impulsive responses. This finding resonates with prior research (e.g., Zhou et al., 2022; Tiego et al., 2018) that links excessive screen time to lower self-regulatory functioning. In the context of university students, where focused attention and discipline are paramount, this could translate into difficulties in managing academic workloads or resisting digital distractions during study periods.

Similarly, the study found a notable association between higher social media use and reduced working memory performance. It's plausible that the rapid, fragmented nature of social media content taxes the brain's capacity to retain and manipulate information over short periods. The constant mental toggling, from messages to notifications to algorithm-driven feeds, may gradually erode the efficiency of this critical cognitive resource. Our findings align with studies like Firth et al. (2019), which highlight the potential cognitive overload brought on by constant connectivity.

The relationship with cognitive flexibility was less pronounced but still meaningful. Participants with heavier social media use demonstrated slight impairments in their ability to

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shift between tasks or adapt to changing rules or contexts. This could reflect a more general pattern of digital rigidity—where the algorithmic predictability of online environments conditions users to operate in fixed ways, potentially at the expense of adaptability in real-world situations.

Interestingly, while the data showed trends linking high social media use to lower executive function, it is important to emphasize the individual differences observed. Not all frequent users showed deficits, suggesting that self-regulation, personality traits, coping strategies, and the quality (not just quantity) of use may all play protective or mediating roles. This is a promising direction for further exploration: understanding not just *how much* people use social media, but how and why they engage with it.

It remains unclear whether social media impairs executive functioning, or whether individuals with weaker executive skills are more drawn to heavy social media use as a coping mechanism. Future research should focus on longitudinal and experimental designs to further elucidate these relationships and develop targeted preventative strategies.

Conclusion

In sum, this study offers valuable insights into the ways social media use intersects with fundamental cognitive processes in young adults. The findings suggest that higher levels of engagement with social media, particularly when habitual or compulsive are associated with diminished performance in inhibition, working memory, and, to a lesser extent, cognitive flexibility. These are essential executive functions that influence academic success, emotional regulation, and decision-making.

While the digital world is here to stay, this research reminds us of the importance of mindful usage. For educators, mental health professionals, and students themselves, this calls for greater awareness and strategies to build digital literacy, promote healthy boundaries, and cultivate resilience in the face of constant digital stimulation.

Future research might explore protective factors like mindfulness, time management, emotional intelligence, or digital hygiene practices, which could mitigate the potential downsides of social media. By understanding both the risks and the resources at our disposal, we can work towards a more balanced, empowered relationship with the technologies that shape our daily lives.

REFERENCES

1. American Academy of Sleep Medicine. (2024). How sleep and social media shape teen brain function. *Neuroscience News*. Retrieved from https://neurosciencenews.com/teen-sleep-social-media-26205/

Received: 04.04.2025 **Accepted:** 18.04.2025 **Published**: 19.04.2025

2. Li, J., Lepp, A., & Barkley, J. E. (2023). Effect of social media addiction on executive functioning among Chinese young adults: The mediating roles of emotional disturbance and sleep quality. *Addictive Behaviors*, 132, 107327. https://doi.org/10.1016/j.addbeh.2022.107327
3. Zhou, Z., & Wang, Y. (2022). The impact of social media on executive functions. *Acta Psychologica Sinica*, 54(4), 406–417. https://doi.org/10.3724/SP.J.1042.2022.00406
4. Phil Reed, Impact of social media use on executive function, Computers in Human Behavior, Volume 141, 2023, 107598, ISSN 0747-5632, https://doi.org/10.1016/j.chb.2022.107598.
5. Zhang K, Li P, Zhao Y, Griffiths MD, Wang J, Zhang MX. Effect of Social Media Addiction on Executive Functioning Among Young Adults: The Mediating Roles of Emotional Disturbance and Sleep Quality. Psychol Res Behav Manag. 2023 May 25;16:1911-1920. doi: 10.2147/PRBM.S414625. PMID: 37255996; PMCID: PMC10226546. https://pubmed.ncbi.nlm.nih.gov/37255996/
6. Zhou P, Zhang C, Liu J, Wang Z. The Relationship Between Resilience and Internet Addiction: A Multiple Mediation Model Through Peer Relationship and Depression. Cyberpsychol Behav Soc Netw. 2017 Oct;20(10):634-639. doi: 10.1089/cyber.2017.0319. PMID: 29039703.
7. Gkora, V., & Christou, A. I. (2023). Executive functions, self-regulation and social media for peace-based inclusive education. *Magna Scientia Advanced Research and Reviews, 8*(2), 129–140. https://doi.org/10.30574/msarr.2023.8.2.0116
8. Ng, Wee Qin and Yang, Hwajin, The Moderating Effects of Executive Functions:A Multi-Level Analysis of Daily Stress and Problematic Social Media Use. http://dx.doi.org/10.2139/ssrn.5131666
9. Hasan, M. K. (2023). Digital multitasking and hyperactivity: Unveiling the hidden costs to brain health. *Medical Sciences*, 9(86), 6371. https://pmc.ncbi.nlm.nih.gov/articles/PMC11543232/pdf/ms9-86-6371.pdf
10. Cowan N. Working Memory Underpins Cognitive Development, Learning, and Education. Educ Psychol Rev. 2014 Jun 1;26(2):197-223. doi: 10.1007/s10648-013-9246-y. PMID: 25346585; PMCID: PMC4207727.
11. Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review, 63*(2), 81–97. https://doi.org/10.1037/h0043158
12. Diamond, A. (2013). Executive functions. *Annual Review of Psychology, 64*, 135–168.
13. Diamond A. Executive functions. Annu Rev Psychol. 2013;64:135-68. doi: 10.1146/annurev-psych-113011-143750. Epub 2012 Sep 27. PMID: 23020641; PMCID: PMC4084861.
14. Miyake, A., & Friedman, N. P. (2012). The nature and organisation of individual differences in executive functions: Four general conclusions. *Current Directions in Psychological Science, 21*(1), 8–14.
15. Yam, F.C., Yıldırım, O. & Köksal, B. The mediating and buffering effect of resilience on the relationship between loneliness and social media addiction among adolescent. *Curr Psychol* 43, 24080–24090 (2024). https://doi.org/10.1007/s12144-024-06148-5

Received: 04.04.2025 **Accepted:** 18.04.2025 **Published**: 19.04.2025

16. Cowan, N. (1999). An embedded-processes model of working memory. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 62–101). Cambridge University Press.
17. Nageeb, S. M., & Al Enzi, N. M. M. (2020). The effect of internet addiction on the executive functions and communication skills among university nursing students. *International Journal of Nursing Didactics, 10*(2), 13–19.
18. Cowan, N. (2014). Working memory underpins cognitive development, learning, and education. *Educational Psychology Review, 26*(2), 197–223. https://doi.org/10.1007/s10648-013-9246-y
19. Xu Y, Chen Q, Tian Y. The Impact of Problematic Social Media Use on Inhibitory Control and the Role of Fear of Missing Out: Evidence from Event-Related Potentials. Psychol Res Behav Manag. 2024 Jan 9;17:117-128. doi: 10.2147/PRBM.S441858. PMID: 38223309; PMCID: PMC10787569.
20. Senarath, T. U. S., & Ratnayake, R. M. G. H. N. (2021). The effects of social media multitasking on working memory. *International Journal of Cognitive Research in Science, Engineering and Education*, 9(3), 45-53.
21. Dikshit, R. & Kiran, U.V. (2023). Social media and working memory: A review. *Journal of Cognitive Enhancement*, 7(2), 123-135
22. Hutasuhut, I D, Ghani, K A, Abu Bakar, M A, & Yung, H T Y (2024). Digital juggling: How media multitasking affects working memory performance among university students. *Journal of Cognitive Sciences and Human Development*, 10(2), 75-85.
23. Uncapher, M. R., Keeser, D., & Kaufmann, J. (2023). Media multitasking and memory: Differences in working memory and long-term memory. *Frontiers in Psychology*, 14, 1123.
24. Alloway, Tracy Packiam; Alloway, Ross Geoffrey. The impact of engagement with social networking sites (SNSs) on cognitive skills, *Computers in Human Behavior*, Vol. 28, Issue 5, September 2012, 1748-1754. doi: http://dx.doi.org/10.1016/j.chb.2012.04.015.
25. Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2017). Development of a Facebook Addiction Scale and its relationship with mental health and executive function. *Psychological Reports, 110*(2), 501-517.
26. Firth, J., Torous, J., Stubbs, B., Firth, J. A., Steiner, G. Z., Smith, L., & Sarris, J. (2019). The "online brain": How the Internet may be changing our cognition. *World Psychiatry, 18*(2), 119-129.
27. Pantic I. Online social networking and mental health. Cyberpsychol Behav Soc Netw. 2014 Oct;17(10):652-7. doi: 10.1089/cyber.2014.0070. Epub 2014 Sep 5. PMID: 25192305; PMCID: PMC4183915.
28. He, Q., Turel, O., Bechara, A., & Li, X. (2021). Brain anatomy alterations associated with social media addiction. *Cyberpsychology, Behavior, and Social Networking, 24*(7), 450-456.
29. Baddeley, A. (2000). The episodic buffer: A new component of working memory? Trends in Cognitive Sciences, 4(11), 417–423.
30. Diamond, A. (2013). Executive functions. Annual Review of Psychology, 64, 135–168.

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31. Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. Annual Review of Neuroscience, 24, 167–202.
32. Nigg, J. T. (2000). On inhibition/disinhibition in developmental psychopathology: Views from cognitive and personality psychology and a working inhibition taxonomy. Psychological Bulletin, 126(2), 220–246.
33. Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health, 14*(3), 311.
34. Turel, O., He, Q., Xue, G., Xiao, L., & Bechara, A. (2018). Examination of neural systems sub-serving Facebook "addiction." *Psychological Reports, 122*(2), 543-560.
35. Myhre, J. W., Mehl, M. R., & Glisky, E. L. (2016). Cognitive benefits of online social networking for healthy older adults. *The Journals of Gerontology: Series B, 72*(5), 761–770. https://doi.org/10.1093/geronb/gbw130
36. Banich, M. T., & Munakata, Y. (2014). *The Cambridge handbook of cognitive neuroscience*. Cambridge University Press.

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