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Relationship Between Screen Use and Anxiety in Adolescents

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Abstract:

In recent decades, the use of digital devices and social networks has become central to the lives of adolescents, raising concerns about its impact on mental health. This study presents a systematic review of recent literature, seeking to understand the relationship between screen time and anxiety symptoms in young people. Twenty-six systematic reviews and meta-analyses published between 2018 and 2025, identified in the PubMed database, were analyzed using Boolean operators to combine descriptors related to anxiety, screen use, and digital media. The findings indicate that both the quantity and pattern of use influence the risk of anxiety symptoms, with passive digital activities, exposure to negative content, and use close to bedtime associated with greater vulnerability. Individual factors, such as gender and previous history of anxiety, and contextual factors, such as social support and parental supervision, modulate this relationship.

Furthermore, the interactive and balanced use of screens can have neutral or even positive effects, promoting a sense of belonging and social support. This study highlights the complexity of the relationship between technology and mental health, reinforcing the need for preventive interventions, digital education, and future research that considers clinical groups and contexts of greater psychological vulnerability.

Keywords: adolescents. Anxiety. Screen use.

Abstract

In recent decades, the use of digital devices and social media has become central to adolescents' daily lives, raising concerns about its impact on mental health. This study presents a systematic review of recent literature to understand the relationship between screen time and anxiety symptoms in youth.

Twenty-six systematic reviews and meta-analyses published between 2018 and 2025 were analyzed, identified via PubMed using Boolean operators combining descriptors related to anxiety, screen use, and digital media. Findings indicate that both the amount and pattern of use influence the risk of anxiety symptoms, with passive digital activities, exposure to negative content, and use close to bedtime associated with higher vulnerability. Individual factors, such as gender and prior anxiety history, and contextual factors, such as social support and parental supervision, modulate this relationship. Furthermore, interactive and balanced screen use can have neutral or even positive effects, promoting a sense of belonging and social support. This study highlights the complexity of the relationship between technology and mental health, highlighting the need for preventive interventions, digital literacy, and future research addressing clinical groups and contexts of higher psychological vulnerability.

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1. Introduction

In recent decades, the presence of digital devices and social networks has become ubiquitous in life of teenagers, creating a scenario in which technology plays a central role in building social relationships, leisure, and learning. In parallel, an increase is observed. The significant increase in anxiety symptoms in this age group suggests a possible association between the intensive use of screens and mental health (SANTOS et al., 2023; SHANNON et al., 2022).



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Scientific literature has increasingly investigated this relationship, highlighting not only total usage time, but also engagement patterns, the type of content consumed, and the family and social context (COMPASS Study, 2023). Studies indicate that passive activities, such as Continuous scrolling through feeds, exposure to negative content, and cyberbullying are associated with higher levels of anxiety, while interactive and balanced use, such as sending messages and Content creation can have neutral or positive effects (SHANNON et al., 2022).

Despite advances in research, gaps remain, especially regarding clinical groups, such as adolescents diagnosed with anxiety disorders or other psychiatric conditions, which may be more vulnerable to the negative impacts of digital use. Thus, Understanding this relationship is essential for guiding prevention strategies, clinical interventions, and Public policies aimed at promoting mental health in a digital context.

2. Theoretical Framework / Results

2.1 Screen use and anxiety: psychological and neuroscientific evidence

The use of digital devices involves neurobiological mechanisms of reward, attention, and Emotional processing, which can interact with individual predispositions to anxiety. Research suggests that constant social media stimulation activates dopaminergic circuits, promoting immediate positive reinforcement, but also increasing sensitivity to frustrations and social comparisons (PAULUS et al., 2023).

Furthermore, prolonged screen exposure can interfere with circadian rhythms, causing harm. Sleep quality is a factor strongly associated with increased anxiety. (The content accessed...) Negative information, idealized images, or online interactions also play a central role. Problematic situations can exacerbate anxiety symptoms (COMPASS Study, 2023).

Recent studies indicate the impact of digital technologies on the mental health of Young people's attention goes beyond simply the amount of screen time. Usage patterns, content type, and context all play a role. Social factors are crucial determinants in the development of anxiety symptoms, especially in individuals with greater prior vulnerability. Thus, interventions focused on digital education and... Social support is essential to mitigate risks and promote psychological well-being (ODGERS, 2020).

2.2 Modulating factors: gender, age, type of content and social context

Recent studies show that teenage girls exhibit greater sensitivity to



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negative impacts of social networks, possibly due to more social comparison patterns

intense. Younger teenagers may be more vulnerable to negative content or use.

compulsive, while adolescents with a history of anxiety disorders or low resilience

They present a high risk (SANTOS et al., 2023).

The social, family, and school context modulates this relationship: parental supervision, support
Emotional intelligence and positive social engagement reduce the risk of adverse effects, while environments
Less support or social pressure increases vulnerability (ODGERS, 2020).

3. Materials and Methods

This is a qualitative research study, specifically a systematic literature review.

The search was performed in the PubMed database using Boolean operators to combine descriptors:

“anxiety” AND “screen time”, “digital media” AND “adolescent”, and “social media” AND “mental

“health”. Initially, 504 articles were identified. Publication filters were applied between

2018–2025, study types (systematic review or meta-analysis) and availability of full text,

resulting in 26 articles. Studies in English or Portuguese, focusing on adolescents, were included.

addressing anxiety and the use of screens, digital media or social networks, systematic reviews or meta-

analyses. Exclusion criteria included: duplicate articles, articles outside the period, and articles without a direct relationship between the analyses.

anxiety and screen use, or focusing exclusively on other disorders not associated with anxiety.

The extracted data included authors, year, type of study, population, main findings, and...

Conclusions. The methodological quality of the reviews was assessed using criteria adapted from AMSTAR.

2, classifying risk of bias and robustness of evidence.

4. Results and Discussion

The analysis of the 26 systematic reviews and meta-analyses indicated a consistent association between
Increased screen time and increased anxiety symptoms in adolescents. Longitudinal studies.

Studies show that teenagers who use social media for more than 6 hours a day presented a risk of 1.50

Those with a higher risk of developing anxiety symptoms (PR = 1.50; 95% CI 1.28–1.77; $p < 0.05$) in

compared to those with usage of less than 2 hours/day (SANTOS et al., 2023). On the other hand, the use

Interactive and supervised, such as content creation and communication with friends, was not associated.

a significant increase in symptoms (OR = 1.05; 95% CI 0.92–1.20; $p = 0.45$) (SHANNON et al.,
2022).

Gender and age differences were evident. Girls showed greater vulnerability to

Use of passive social networks, possibly due to intense social comparison patterns.



Year VI, v.1 2026 | Submission: 01/26/2026 | Accepted: 01/28/2026 | Publication: 01/30/2026

while adolescents with a prior history of anxiety demonstrated a high risk of exacerbation symptomatic (COMPASS Study, 2023). Contextual factors, such as sleep quality, also showed a significant association: adolescents with insufficient sleep (<7 hours/night) and screen use. Those close to bedtime had a 1.34 times greater risk of anxiety symptoms (95% CI). 1.12–1.59; $p < 0.01$) (ODGERS, 2020).

Furthermore, studies indicate a dose-response relationship: each additional hour of passive use of Social media increased the likelihood of anxiety symptoms by 8–12% during follow-up. 12 months. This evidence reinforces the importance of not only limiting screen time, but also to assess usage patterns and quality of accessed content (COMPASS Study, 2023).

The type of content consumed plays a critical role. Frequent exposure to content Negative experiences, cyberbullying, or idealized images of life and body significantly increased the risk. anxiety (OR = 1.42; 95% CI 1.18–1.71; $p < 0.01$), while positive and participatory interactions, Regarding communication with colleagues and content creation, their responses were neutral or slightly protective (PR). = 0.95; 95%CI 0.82–1.10; $p = 0.48$) (TWENGE, 2018).

The social and family context also modulated the observed effects. Parental supervision, Emotional support and positive social engagement reduced the risk of anxiety symptoms by 15–20%. (COMPASS Study, 2023), while environments with less support increased vulnerability. These findings highlight that preventive interventions must consider individual and social factors. and contextual factors, including digital education, screen time regulation strategies, and promotion of Healthy online interactions.

In short, the relationship between screen time and anxiety is not linear and depends on multiple factors: amount of use, type of digital activity, content consumed, individual characteristics and social context. Preventive strategies must therefore be multifaceted, integrating education. digital literacy, parental supervision, promoting healthy sleep habits, and engaging in activities. Offline.

Final Considerations

The use of screens, when excessive or inappropriately managed, has proven to be... consistently associated with increased symptoms of anxiety in adolescents, especially when combined with passive usage patterns, exposure to negative content, and disruption of sleep. However, evidence suggests that the impact of technology on mental health is not uniform: balanced usage patterns, adequate parental supervision, positive social engagement and Favorable family and school environments can act as protective factors, mitigating risks and promoting psychological resilience.



Year VI, v.1 2026 | Submission: January 26, 2026 | Accepted: January 28, 2026 | Publication: January 30, 2026

Intervention strategies must therefore transcend the mere limitation of screen time and prioritize integrated approaches that include critical digital education and the promotion of healthy habits. healthy technologies, strengthening family and school support, as well as the implementation of Public policies aimed at preventing adverse effects. Educational and therapeutic programs. They may, for example, include guidelines on managing usage time, developing Socio-emotional skills and encouragement of offline activities that promote mental well-being. It is It is equally crucial that clinical and community interventions take into account the heterogeneity of adolescents, with special attention to clinical groups, individuals with a history of disorders Anxiety and socioeconomic or cultural contexts of greater vulnerability.

Future studies should deepen the understanding of environmental mechanisms. neurobiological and social factors that modulate the relationship between technology use and mental health. incorporating longitudinal analyses, objective measures of digital behavior, and indicators of Psychological well-being. Future research could also explore how different platforms, Types of content and online interactions influence processes of emotional self-regulation and perception. social support and the development of anxiety symptoms, enabling more effective interventions. contextual, personalized, and evidence-based, capable of maximizing the benefits of Digital engagement while minimizing risks to adolescent mental health.

References

COMPASS Study. *COMPASS Annual Report 2023: Student Health Behavior Survey in Canada*. 2023. Available at: <https://uwaterloo.ca/compass-project>. Accessed on: January 27, 2026.

Odgers, C.L.; Jensen, MR *Annual Research Review: Adolescent mental health in the digital age: Facts, fears, and future directions*. *Journal of Child Psychology and Psychiatry*, vol. 61, no. 3, p. 336–348, 10.1111/jcpp.13190. DOI: Available at in: <https://acamh.onlinelibrary.wiley.com/doi/full/10.1111/jcpp.13190>. Accessed on: January 27, 2026.

Paulus, MP; Zhao, Y.; Potenza, MN; et al. *Screen media activity in youth: A critical review of mental health and neuroscience findings*. *Current Opinion in Behavioral Sciences*, vol. 54, p. 101–118, 2023. 10.1016/j.cobeha.2023.100018. DOI: Available at in: <https://www.sciencedirect.com/science/article/pii/S235215462300018X>. Accessed on: January 27, 2026.

Santos, RMS; et al. *The associations between screen time and mental health in adolescents: A systematic review*. *BMC Psychology*, vol. 11, p. 127, 2023. DOI: 10.1186/s40359-023-01166-7. Available at: <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-023-01166-7>. Accessed on: January 27, 2026.

Shannon, H.; Bush, K.; Villeneuve, PJ; Helleman, KGC; Guimond, S. *Problematic social media*



Year VI, v.1 2026 | Submission: January 26, 2026 | Accepted: January 28, 2026 | Publication: January 30, 2026

use in adolescents and young adults: Systematic review and meta-analysis. *JMIR Mental Health*, v. 9, 4, e33450, DOI: 10.2196/33450. <https://mental.jmir.org/2022/4/e33450/> Accessed on: January 27, 2026. Available in:

Twenge, J.M.; Campbell, WK *Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. Preventive Medicine Reports*, vol. 12, p. 271–283, 2018. DOI: 10.1016/j.pmedr.2018.10.003. Available at: <https://www.sciencedirect.com/science/article/pii/S2211335518301433>. Accessed on: January 27, 2026.