

**Examining the Association Between Screen Time Exposure and Anxiety-Related Symptoms
Among Adolescents**

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Chapter 2: Literature Review

The purpose of this quantitative, cross-sectional study is to examine the association between higher screen time exposure and increased prevalence of anxiety-related symptoms among adolescents in the US. Excessive screen use is a significant health issue linked to detrimental effects, such as reduced cognitive development, susceptibility to mood disorders, insomnia, and elevated likelihood of obesity due to a sedentary lifestyle (Alsaigh et al., 2022; Muppalla et al., 2023). Although various researchers have investigated the impact of digital media proliferation on mental health outcomes, studies focused on anxiety disorders remain limited, despite these conditions being the most prevalent psychiatric diagnoses among teenagers. Hence, the goal of the literature review was to present additional evidence on the correlation between high screen time and the increasing prevalence of anxiety disorders among teenagers, which is crucial for establishing causal relationships in future research. This chapter contains the following sections: (a) the search strategy, (b) literature synthesis, (c) the theoretical framework, and (d) a summary.

Search Strategy

A detailed review of the literature was conducted on various electronic databases, including Cumulative Index to Nursing and Allied Health Literature (CINAHL), Public Publisher Medline (PubMed), and Cochrane Library, to obtain pertinent information on the relationship between high screen time and anxiety disorders in adolescents. The search terms used were screen time exposure, anxiety disorders, increased media use in adolescents, anxiety-related symptoms, correlation, and effects on mental health. In addition, Boolean operators OR and AND were utilized to combine different terms into relevant phrases such as “*screen time*” OR “*digital media use*” OR “*media exposure*” AND “*adolescents*” OR “*teenagers*” OR “*youth*,”

“screen time” OR “social media use” AND “anxiety disorders” and “COVID-19” AND “screen use” AND “adolescent anxiety” OR “mental health outcomes.” Articles were considered eligible for inclusion if they were (a) published in English between 2021 and 2025, (b) freely available in full-text, (c) peer-reviewed, and (d) relevant to the study topic. Articles published before 2021, written in other languages, unavailable in full-text, not peer-reviewed, and irrelevant to the study topic were excluded.

A total of 10 peer-reviewed articles were identified for utilization in the literature synthesis (Alsaigh et al., 2022; González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Nagata et al., 2024; Pieh et al., 2025; Qi et al., 2023; Schmidt-Persson et al., 2024; Zablotsky et al., 2025; Zhang et al., 2025). Three themes also emerged from the review: (a) the prevalence and determinants of excessive digital screen time, (b) the impact of high screen time on adolescents’ health and well-being, and (c) the relationship between screen time exposure and anxiety-related disorders. The subthemes identified in each theme were (a) the COVID-19 pandemic, (b) causal and correlational links, and (c) susceptibility to anxiety, respectively.

Literature Synthesis

The articles synthesized comprised two randomized controlled trials with Level I evidence (Pieh et al., 2025; Schmidt-Persson et al., 2024) and one systematic review study with Level II evidence (Qi et al., 2023) (see Appendix A). The other seven articles comprised cross-sectional and cohort studies with Level III evidence (Alsaigh et al., 2022; González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Nagata et al., 2024; Zablotsky et al., 2025; Zhang et al., 2025). This section contains a literature synthesis of the identified themes and sub-themes.

The Prevalence and Determinants of Excessive Digital Screen Time

Diverse studies indicate that the continued integration of digital media devices such as

smartphones, televisions, tablets, and computers into individuals' lives has significantly contributed to the increased prevalence of excessive screen time exposure among adolescents (González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Qi et al., 2023; Zablotsky et al., 2025). Excessive digital screen time (EDST) is defined by extreme and unnecessary utilization of screen-based gadgets beyond the recommended 2-hour limit (Jain et al., 2023; Kaewpradit et al., 2025). Research evidence shows that the main factors contributing to EDST are the long-term effects of the COVID-19 pandemic, technological advancement, social media, the accessibility of digital devices in adolescents' bedrooms, and inadequate parental supervision (González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Qi et al., 2023). For instance, Jain et al. (2023) in a cross-sectional, community-based study found that parents' perception about a child's habituation to screen use, the absence of outdoor play period, and the presence of television and other electronic gadgets in the bedroom were vital determinants of EDST, while Kaewpradit et al. (2025) identified increased social media use and higher academic demands as the main factors in excessive screen time among adolescents.

The COVID-19 Pandemic

Alsaigh et al. (2022), González et al. (2022), and Qi et al. (2023) observed that COVID-19 was a major influence in EDST. The pandemic led to the implementation of preventative measures such as lockdowns and physical distancing, which increased the utilization of social media sites. In addition, the COVID-19 outbreak contributed to the proliferation of online learning through digital platforms, further elevating adolescents' screen use (Alsaigh et al., 2022; Qi et al., 2023). For instance, Qi et al. (2023) found that the average daily screen exposure of Canadian children and teens increased from 2.6 hours before COVID-19 to nearly 6 hours after the pandemic ($t(73) = 9.04, p = 0.001$).

Similar to Qi et al. (2023), González et al. (2022) noted a higher incidence of EDST after the pandemic among Colombian children and adolescents. The authors specifically observed that in a sample of 6,623 teenagers, 73% had excessive screen time exposure, exacerbated by the availability of digital devices in their bedrooms, accessibility to home-based video games, and the use of smartphones while eating. Comparably, Qi et al. (2023), while examining EDST among school-aged children (between 6 and 14 years), showed that about 46.4% of young individuals spend a minimum of 2.77 hours daily on screen gadgets for entertainment purposes. Congruent with Qi et al.'s (2023) and González et al.'s (2022) findings, Zablotsky et al. (2025) found that after the pandemic, about 50.4% of adolescents in the US spent at least 4 hours on entertainment screen time daily.

Collectively, Alsaigh et al. (2022), González et al. (2022), Jain et al. (2023), Kaewpradit et al. (2025), and Qi et al. (2023) established that EDST is a pervasive issue and that its prevalence among teenagers has worsened due to the COVID-19 pandemic. The research evidence also indicated that technological advancement, individuals' access to digital devices, and the effects of the COVID-19 disease are significant causes of EDST (González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Qi et al., 2023; Zablotsky et al., 2025). Extreme screen time in adolescents and its contributing factors highlight the need for additional studies on potential adverse outcomes, including anxiety-related disorders.

The Impact of High Screen Time on Adolescents' Health and Well-Being

Literature evidence shows that the proportion of adolescents with mental health disorders has increased considerably since 2020 (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Schmidt-Persson et al., 2024). According to Nagata et al. (2024), teenagers in the US are 50% more likely to develop anxiety and depressive disorders, while Schmidt-Persson et al. (2024)

showed that 25% of 11- to 15-year-old children in Southern Denmark experience symptoms, including irritability, sleeplessness, and nervousness. The elevated prevalence of mental disorders in this population is linked to adverse issues, such as sleep deprivation, excessive exposure to inappropriate digital content, and increased social nervousness, which negatively impact mental health and well-being (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025). Consequently, research has been conducted to investigate the various factors associated with the high occurrence of mental disorders among teenagers, including extreme screen-time exposure (Nagata et al., 2024; Pieh et al., 2025; Schmidt-Persson et al., 2024).

Causal and Correlational Links

Diverse studies indicated causal and correlational associations between excessive screen use and adolescents' psychological health and well-being (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Schmidt-Persson et al., 2024). For instance, Pieh et al. (2025), in a randomized control trial (RCT), noted a causal relationship between screen use and students' mental health indicators. The authors revealed that minimizing participants' screen time to less than 2 hours daily improved participants' well-being ($n^2 = .053$) and sleep quality ($n^2 = .048$). Reduced screen exposure also lessened symptoms of depression ($n^2 = .109$) and stress ($n^2 = .085$). Similarly, Schmidt-Persson et al. (2024) observed that there was a causal effect of decreasing digital leisure time on improving adolescents' mental health. The researchers found a statistically significant improvement in psychological symptoms, such as hyperactivity or inattention disorders, in the treatment group (-1.03; 95% CI -1.76 to -0.29), which implied that a short-term reduction in screen use enhances teens' psychological health and well-being. Despite the findings, Schmidt-Persson et al. (2024) emphasized the need for additional studies to determine whether the causal effect is sustainable in the long term.

Nagata et al.'s (2024) findings also aligned with Persson et al.'s (2024) and Schmidt-Persson et al.'s (2024) evidence supporting the association between high screen time and mental health. Specifically, Nagata et al. (2024) analyzed cohort data of 9,538 US adolescents to investigate whether prolonged screen use was prospectively correlated with mental health conditions, such as depression, attention-deficit or hyperactivity, and oppositional defiant disorder. Although the researchers' findings did not establish causality, the results showed that higher screen exposure was a strong predictor of conduct disorders ($B = 0.07$, 95% CI 0.03, 0.10, $p < 0.001$), depression ($B = 0.10$, 95% CI 0.06, 0.13, $p < 0.001$), and attention-deficit or hyperactivity ($B = 0.06$, 95% CI 0.01, 0.10, $p = 0.013$). Alsaigh et al. (2022), Nagata et al. (2024), Pieh et al. (2025), and Schmidt-Persson et al. (2024) findings highlight correlational associations between increased screen time exposure and adverse mental health outcomes among teens. The findings imply that reduced screen time is positively linked to improved emotional and psychological outcomes among teenagers, which aligns with the purpose of this study (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Schmidt-Persson et al., 2024).

The Relationship Between Screen Time Exposure and Anxiety-Related Disorders

Adolescents are more vulnerable to the adverse effects of extensive screen use than adults due to the rapid cognitive and psychosocial changes, such as increased metacognition and elevated self-consciousness (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Zablotsky et al., 2025; Zhang et al., 2025). Therefore, high access to digital or internet-connected devices, such as smartphones, tablets, and gaming tools, heightens their risk of experiencing negative psychological outcomes (Alsaigh et al., 2022; Zablotsky et al., 2025). Excessive screen time also elevates teens' exposure to inappropriate digital content such as violence, stereotypes, substance use, and sexual misinformation, which result in issues like sleep deprivation, worry,

mood problems, behavioral changes, irrational fear, and social nervousness (Alsaigh et al., 2022; Zablotsky et al., 2025). In addition, studies showed a significant correlation between EDST and the risk of developing anxiety disorder (Alsaigh et al., 2022; Pieh et al., 2025; Zablotsky et al., 2025; Zhang et al., 2025).

Susceptibility to Anxiety

Alsaigh et al. (2022), Pieh et al. (2025), Zablotsky et al. (2025), and Zhang et al. (2025) observed that adolescents with extreme digital exposure had an increased vulnerability to developing anxiety-associated symptoms. For instance, Zablotsky et al. (2025) in a population-based cross-sectional study conducted a national survey to investigate the correlation between high non-schoolwork screen time (at least 4 hours daily) and the negative health outcomes among US teenagers aged 12 to 17 years. The authors found that adolescents with excessive screen use were more susceptible to anxiety, depression symptoms, irregular sleep routine, and weight-related issues. Specifically, Zablotsky et al. (2025) established that 27.1% of teens utilizing social media platforms for more than 4 hours daily developed anxiety symptoms and had an elevated likelihood of experiencing infrequent emotional and social support from their peers as compared to those using less time. Similarly, Alsaigh et al. (2022) and Zhang et al. (2025) showed that there was a significant relationship between extensive screen exposure and the occurrence of anxiety disorders in adolescents. Alsaigh et al. (2022) noted that 65.6% of the study participants with extended screen-time also had anxiety-related disorders, while Zhang et al. (2025) reported a prevalence rate of 41.8% among the treatment group.

Comparably, findings by Pieh et al. (2025) and Nagata et al. (2024) indicated that higher levels of screen exposure correlated with increased feelings of worry, nervousness, fearfulness, and unease. Pieh et al. (2025) suggested the implementation of strategies to reduce smartphone

use, particularly among adolescents, to address the negative outcomes. The authors also highlighted the need for additional research to establish the causal association between excessive screen time and negative psychological health outcomes. Comparably, Nagata et al. (2024) emphasized the importance of conducting future studies to investigate potential factors linking screen use with child behavioral issues, such as aggression, defiance, and anger outbursts.

The synthesized studies showed that adolescents have higher screen time use than other populations, which increases their susceptibility to anxiety-related symptoms (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Zablotsky et al., 2025; Zhang et al., 2025). Specifically, Alsaigh et al. (2022), Zablotsky et al. (2025), and Zhang et al. (2025) found a statistically significant association between excessive screen time exposure and anxiety disorders among individuals aged between 12 and 17 years. Therefore, the findings support the need for further research examining the correlation between screen time and anxiety disorders (Alsaigh et al., 2022; Nagata et al., 2024; Pieh et al., 2025; Zablotsky et al., 2025; Zhang et al., 2025).

Contrasting Elements in the Synthesized Studies

Differences in methodologies, research purpose, populations, and study scope were identified among the synthesized studies. For instance, Alsaigh et al. (2022), González et al. (2022), Jain et al. (2023), Kaewpradit et al. (2025), Zablotsky et al. (2025), and Zhang et al. (2025) utilized population-based cross-sectional studies to examine the prevalence of digital screen use and the associated mental health effects. Comparably, Schmidt-Persson et al. (2024) and Pieh et al. (2025) used RCT designs to evaluate causal relationships between the variables. In addition, there were differences in the study participants used in the various studies. Alsaigh et al. (2022), González et al. (2022), Nagata et al. (2024), Qi et al. (2023), and Zablotsky et al. (2025) focused on adolescents; Kaewpradit et al. (2025) and Zhang et al. (2025) recruited

university students; while Jain et al. (2023) and Schmidt-Persson et al. (2024) utilized samples comprising children below 18 years.

The research scope also varied; Alsaigh et al. (2022), González et al. (2022), Jain et al. (2023), Kaewpradit et al. (2025), Nagata et al. (2024), Zablotsky et al. (2025), and Zhang et al. (2025) examined associations between the study variables. Comparably, Schmidt-Persson et al. (2024) and Pieh et al. (2025) established causal relationships, while Qi et al. (2023) conducted a systematic review of existing research to provide a comprehensive rationale for designing screen time interventions and guidelines for school-based children. Despite the dissimilarities, the studies collectively provided sufficient evidence on the need for additional research investigating the association between extensive screentime and the prevalence of anxiety-related symptoms among adolescents (Alsaigh et al., 2022; González et al., 2022; Jain et al., 2023; Kaewpradit et al., 2025; Nagata et al., 2024; Pieh et al., 2025; Qi et al., 2023; Schmidt-Persson et al., 2024; Zablotsky et al., 2025; Zhang et al., 2025).

Theoretical Framework

The social cognitive theory will be used as the theoretical framework for the proposed cross-sectional study to examine how excessive screen time exposure is associated with the increasing prevalence of anxiety disorders among adolescents. The theory, developed in the 1970s by a psychologist, Albert Bandura, postulates that individuals' beliefs in their capabilities can influence behavior and actions (Bandura, 1977). According to Bandura, four main factors influence a person's self-efficacy: mastery experiences, vicarious experiences, verbal or social persuasion, and emotional state (Bandura, 1977).

In mastery experiences, Bandura indicated that completing new responsibilities can improve a person's assurance in their capabilities, while failure undermines their perception of

dealing with challenges (Poluektova et al., 2023). Consequently, overcoming unfamiliar obstacles provides proof of whether an individual can undertake the actions needed to be self-efficient (Poluektova et al., 2023). In vicarious experiences, the psychologist posits that observing other people accomplish tasks can enhance one's belief in their ability to replicate and perform the same activities (Bandura, 1977). According to Bandura, a person can examine others, reflect, and develop the perceived actions to potentially influence their self-efficacy in managing similar undertakings.

Regarding social persuasion, Bandura argues that receiving positive affirmation while executing a task inspires a person to succeed (Bandura, 1977). Therefore, affirming or rejecting an individual's performance can influence their confidence in completing a responsibility (Poluektova et al., 2023). In addition, Albert suggested that people's psychological and emotional state influences their efficacy (Bandura, 1977). According to the emotional-state concept, high stimulation in endangering situations is usually interpreted as an indicator of vulnerability, which leads to reduced productivity (Poluektova et al., 2023). Contrastingly, the ability to minimize and regulate stress promotes a sense of self-efficacy.

Application in the Study

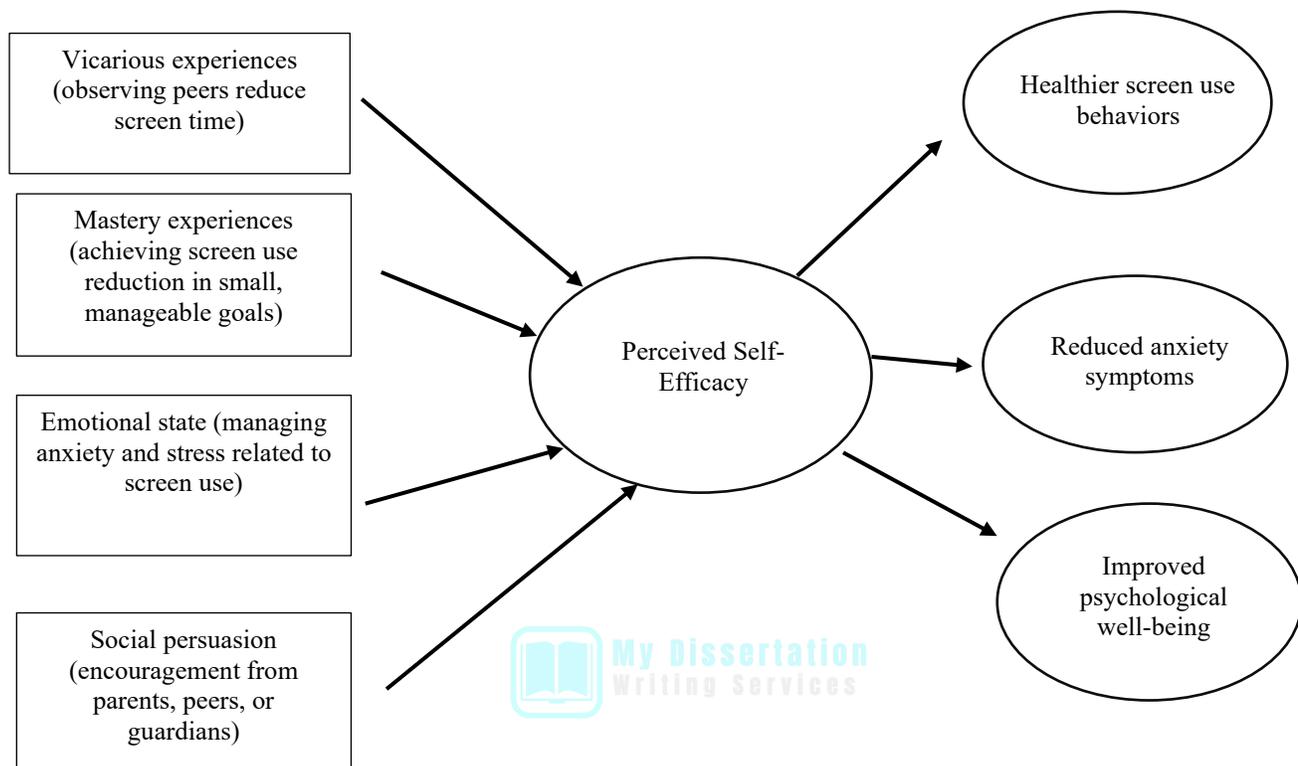
In the context of the proposed study, Bandura's theory will be utilized to demonstrate how adolescents with high self-efficacy are more likely to reduce their screen time-related behaviors when they are certain of their ability to succeed (see Figure 1). On the contrary, teenagers without self-assurance have a lower likelihood of avoiding actions that contribute to excessive screen use. In vicarious experiences, an adolescent can observe other peers limit screen exposure to harmful and inappropriate content that negatively impacts their mental health. Watching others succeed can enhance a teen's confidence in their capability to achieve a similar

outcome. In mastery experiences, parents, guardians, and adults can help adolescents overcome screen addiction by setting manageable goals such as gradually reducing the daily number of hours spent on electronic devices before bedtime (Ding & Li, 2023). Attaining these milestones can significantly enhance the teenager's confidence in managing their overall screen use behavior.

Emotional state can be used to understand the psychological effects of extensive screen time on an individual (Ding & Li, 2023). High screen use is associated with negative factors entailing increased social nervousness, sleep deprivation, social withdrawal, and low mood regulation, which adolescents can interpret as an indicator of vulnerability, reducing their self-efficacy (Alsaigh et al., 2022; Nagata et al., 2024). Minimizing adolescents' screen exposure can prevent the adverse effects, including sleeplessness and social withdrawal, and promote their sense of self-confidence (Alsaigh et al., 2022; Nagata et al., 2024). Through social persuasion, parents and guardians can use positive affirmation to foster teenagers' belief in their ability to regulate the use of digital entertainment devices (Poluektova et al., 2023).

Figure 1

The Application of Bandura's Self-Efficacy Theory in the Study



Summary

Excessive screen use among adolescents is a significant health problem associated with adverse outcomes, such as increased susceptibility to mood disorders, sleeplessness, and a high risk of developing obesity due to physical inactivity. Although various studies have been conducted to examine the effects of excessive screen time on teenagers' overall mental health, research focusing on the impact on anxiety disorders remains inadequate. Therefore, a detailed literature search and synthesis were conducted on electronic databases, such as CINAHL, PubMed, and Cochrane Library, to obtain relevant information on the relationship between high

screen exposure and anxiety disorders in adolescents. The findings in the reviewed literature indicated that excessive screen time use is a pervasive issue among teenagers. In addition, evidence from the synthesized studies showed that there was a significant link between high screen time and mental health disorders. Therefore, the findings of the existing literature supported the investigation of the association between extensive screentime and the prevalence of anxiety-related symptoms among adolescents. The next chapter is methodology, which will contain (a) the study design, (b) population and sample, (c) study setting, (d) data collection procedures, (e) data analysis, (f) ethical considerations, and (f) a summary.



References

- Alsaigh, R. R., Assas, G. E., Yahia, N. H., Sharaf, N. F., Shaikh, S. F., Alghamdi, H. M., & Alghamdi, S. A. (2022). The relationship between screen time exposure and the presence of anxiety-related disorders among adolescents during the COVID-19 pandemic: A cross-sectional study. *Belitung Nursing Journal*, 8(3), 1–7. <https://doi.org/10.33546/bnj.2058>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Ding, K., & Li, H. (2023). Digital addiction intervention for children and adolescents: A scoping review. *International Journal of Environmental Research and Public Health*, 20(6), e4777. <https://doi.org/10.3390/ijerph20064777>
- González, S. A., Sarmiento, O. L., Florez-Pregonero, A., Katzmarzyk, P. T., Chaput, J. P., & Tremblay, M. S. (2022). Prevalence and associated factors of excessive recreational screen time among Colombian children and adolescents. *International Journal of Public Health*, 67, e1604217. <https://doi.org/10.3389/ijph.2022.1604217>
- Jain, S., Shrivastava, S., Mathur, A., Pathak, D., & Pathak, A. (2023). Prevalence and determinants of excessive screen viewing time in children aged 3–15 years and its effects on physical activity, sleep, eye symptoms, and headache. *International Journal of Environmental Research and Public Health*, 20(4), e3449. <https://doi.org/10.3390/ijerph20043449>
- Kaewpradit, K., Ngamchaliew, P., & Buathong, N. (2025). Digital screen time usage, prevalence of excessive digital screen time, and its association with mental health, sleep quality, and

- academic performance among Southern University students. *Frontiers in Psychiatry*, *16*, e1535631. <https://doi.org/10.3389/fpsy.2025.1535631>
- Muppalla, S. K., Vuppalapati, S., Pulliahgaru, A. R., Sreenivasulu, H., & kumar Muppalla, S. (2023). Effects of excessive screen time on child development: an updated review and strategies for management. *Cureus*, *15*(6), 1–5. <https://doi.org/10.7759/cureus.40608>
- Nagata, J. M., Al-Shoaibi, A. A., Leong, A. W., Zamora, G., Testa, A., Ganson, K. T., & Baker, F. C. (2024). Screen time and mental health: A prospective analysis of the Adolescent Brain Cognitive Development (ABCD) Study. *BMC Public Health*, *24*(1), 1–13. <https://doi.org/10.1186/s12889-024-20102-x>
- Pieh, C., Humer, E., Hoenigl, A., Schwab, J., Mayerhofer, D., Dale, R., & Haider, K. (2025). Smartphone screen time reduction improves mental health: A randomized controlled trial. *BMC Medicine*, *23*(1), 1–13. <https://doi.org/10.1186/s12916-025-03944-z>
- Poluektova, O., Kappas, A., & Smith, C. A. (2023). Using Bandura's self-efficacy theory to explain individual differences in the appraisal of problem-focused coping potential. *Emotion Review*, *15*(4), 302–312. https://doi.org/10.1177/17540739231164367?urlappend=%3Futm_source%3Dresearchgate
- Qi, J., Yan, Y., & Yin, H. (2023). Screen time among school-aged children aged 6–14: A systematic review. *Global Health Research and Policy*, *8*(1), 1–19. <https://doi.org/10.1186/s41256-023-00297-z>
- Schmidt-Persson, J., Rasmussen, M. G. B., Sørensen, S. O., Mortensen, S. R., Olesen, L. G., Brage, S., & Grøntved, A. (2024). Screen media use and mental health of children and

adolescents: A secondary analysis of a randomized clinical trial. *JAMA Network Open*, 7(7), e2419881. <https://doi.org/10.1001/jamanetworkopen.2024.19881>

Zablotsky, B., Ng, A. E., Black, L. I., Haile, G., Bose, J., Jones, J. R., & Blumberg, S. J. (2025). Associations between screen time use and health outcomes among US teenagers. *Preventing Chronic Disease*, 22, e38. <http://dx.doi.org/10.5888/pcd22.240537>

Zhang, L., Zhao, S., Zhao, S., Ke, Y., Yang, W., & Lei, M. (2025). Association between the time of exposure to electronic screens and anxiety and depression after controlling for demographics, exercises, and lifestyles among university students. *Neuropsychiatric Disease and Treatment*, 2025, 885–902. <https://doi.org/10.2147/NDT.S510287>

