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Social media and ADHD symptoms in adolescents - a scoping review

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Abstract

Background

Social media use among adolescents has increased substantially over the past decade, coinciding with a rise in ADHD diagnoses. Whether social media use contributes to ADHD symptom expression in adolescents without a prior diagnosis remains unclear.

Aim/research question

To map and synthesize existing research on the association between social media use and ADHD-related symptoms in adolescents without a prior ADHD diagnosis.

Method

A scoping review was conducted following the Arksey and O'Malley framework and reported according to PRISMA guidelines. A systematic search was performed in PubMed and PsycINFO in February 2026.

Results

Six studies met the inclusion criteria, four longitudinal cohort studies and two cross-sectional studies. The included studies were conducted in the United States, the Netherlands, Norway and Canada with sample sizes ranging from 113 to 23,790 participants and examined adolescents aged 10-18 years without a prior ADHD diagnosis. All relied on self-reported measures of social media use and ADHD symptoms. All studies reported a positive association between social media use and ADHD symptoms. The association was stronger for problematic patterns of use than for general use.

Conclusion

The findings suggest that social media use, particularly problematic patterns of use, is associated with increased ADHD symptoms in adolescents, although causality cannot be established. The relationship appears complex and is likely shaped by individual-level factors. The findings suggest that clinicians assessing adolescents with attention difficulties may benefit from asking about social media habits. The research field is still limited in size and methodological diversity and further studies using objective measures and longer follow-up periods are needed.

Keyword

Social media, ADHD, adolescents, inattention, impulsiveness, hyperactivity.

Background

Screen time usage in children and adolescents

Screen time refers to time spent engaging in any form of digital media. Digital media broadly refers to content that is shared and accessed through digital platforms and various devices. This includes social media, video gaming, television viewing, streaming services, apps, social networking platforms and digital tools (1, 2). Social media describes interactive platforms where users communicate and engage with user-generated content, for example Instagram, TikTok, Snapchat, and Facebook (3). The distinction between these concepts is inconsistent across studies, and there is currently no internationally accepted definition (4, 5).

Over the past decade, digital media has become embedded in the daily lives of children, with smartphones, tablets, computers and television now widely available in most households (6). Among digital devices, mobile phones appear to be the primary means of accessing the internet. Recent statistics show that by the age of 10, approximately 70% of children have access to their own smartphones and rising to 95% by age 15 (7).

Screen time for children younger than five years of age should be limited to less than one hour per day on any device, according to the World Health Organization (8). However, no specific guidance is provided for adolescents. In response to this gap, several countries have developed national recommendations. For instance, the Swedish Public Health Agency advises restricting recreational screen time to 1–2 hours per day for 6–12-year-olds and 2–3 hours per day for 13–18-year-olds (9).

However, the recommended screen time is commonly exceeded. In OECD countries (the Organisation for Economic Co-operation and Development), a group of 38 largely high-income countries including Sweden, teenagers use digital devices 1.1 hour per day on average for leisure during school, 2.6 hours before and after school, and 3.9 hours per day on weekends (10). The Swedish Media Institute states that daily mobile phone use has been ubiquitous in almost all adolescents since 2016 (11). In 2024, average daily use in Sweden was 3.7h for 9–12-year-olds and 6-7h for 13–18-year-olds (11). Adolescents also perceive their own use of digital devices as excessive, and the number reporting such excessive use is increasing year after year (11).

Most 15-year-olds use digital devices mainly for fun. About 95% browse the internet for entertainment, and 96% use social media (10). Fewer children use devices to look for practical information. Teens aged 13–18 spend most

of their screen time on online videos, with social media coming next and television last (12).

Attention Deficit Hyperactivity Disorder in adolescents

Mental health issues among children and adolescents have risen noticeably in recent years and are now recognized as a significant public health issue (13). Attention Deficit Hyperactivity disorder (ADHD) is one such condition, a neuropsychiatric disorder characterized by three core symptom domains: inattention, hyperactivity and impulsivity (14). Inattention manifests as difficulty keeping focus, being easily distracted and making careless mistakes. Hyperactivity refers to excessive motor activity, such as being restless, excessive talking, fidgeting and difficulty remaining seated. Impulsivity involves acting without thinking, difficulty waiting for one's turn and frequent interruption of others (14). It may lead to difficulties in multiple areas of everyday life, including academic achievement, social interactions, and substance use or abuse. ADHD affects about 8% of children and adolescents globally (15), 13% in the US (16), and 4–6% in Europe (15). In Sweden, the estimated prevalence among adolescents aged 10-17 years based on 2022 medication dispensing data was 8% for boys and 4.5% for girls (17). In the US, approximately 1 million more children had received an ADHD diagnosis in 2022 than in 2016 (18). Consequently, this contributes to a substantial societal and economic burden, costing hundreds of billions of dollars each year globally (19). In Sweden, the annual healthcare cost for an average individual is 304$ while those with ADHD incurred more than three times higher costs (19). The lifetime societal cost has also been estimated at approximately 7.7 million SEK per individual with ADHD in Sweden (20).

Screen time and mental health

The rise of ADHD in adolescents, together with the rapid growth of social media, raises questions about whether high levels of screen exposure may contribute to ADHD symptoms. ADHD arises from a combination of genetic and environmental factors (21). Identifying these factors could clarify trends in prevalence and symptom severity. Brain development during adolescence may be influenced by the frequent use of digital devices and regular engagement with online content (22). Highly stimulating digital content could potentially engage dopaminergic pathways that are involved with attention and impulse control, processes strongly linked to ADHD (23).

Since dopamine dysregulation is one of the core characteristics of ADHD, it is relevant to explore how social media relates to ADHD symptoms. If social

media engagement interacts with dopamine pathways associated with ADHD, then social media may influence symptom expression or the degree of ADHD symptoms in some adolescents. The knowledge regarding the relationship between social media use and ADHD symptoms in adolescents remains limited. A scoping review is therefore important to map the existing literature, identify current knowledge gaps, and provide an overview of the available research in this area. Increased knowledge may contribute to a more nuanced understanding of adolescents' social media use and support the development of future recommendations and interventions aimed at promoting healthier patterns of use.

Aim / research question

The aim of this scoping review was to map and synthesize existing research on the association between social media use and ADHD-related symptoms in adolescents without a prior ADHD diagnosis.

Method

Study design

This study was conducted as a scoping review following the methodological framework described by Arksey and O'Malley (24). The reporting of the review was guided by the PRISMA guidelines (25), to ensure transparency and reproducibility. Quality assessment of the studies is not included in a scoping review.

Identification of research question

The research question was developed using the PEO framework (Population, Exposure, Outcome)

P: Adolescents aged 10-18 years.

E: Use of social media

O: ADHD-related symptoms: inattention, hyperactivity, impulsiveness

Study selection

Inclusion criteria:

1. Original scientific articles that fit the above PEO model
2. Geography: Europe and North America
3. Language: English, Swedish, Norwegian or Danish

Exclusion criteria:

1. Studies not available in full text
2. Systematic reviews and meta-analyses

Restricting the geographic focus in the inclusion criteria helps ensure that the findings reflect patterns of screen use among adolescents in Sweden. Systematic reviews and meta-analyses were excluded as the aim was to capture primary research data rather than synthesized evidence.

Data collection and analysis

A systematic literature search was conducted in PubMed and PsycINFO on February 27, 2026. The search strategy was developed in collaboration with a research librarian at the Biomedical Library, University of Gothenburg, and refined through pilot searches. The search terms were consistent across both databases but were adapted in their formatting and structure to align with the specific requirements of each database search engine.

PubMed:
(ADHD symptoms) AND (adolescents) AND (screen time OR screen-based sedentary time OR digital media OR social media OR mobile phone) AND ("Social Media"[Mesh] OR "social media" OR "social networking" OR Instagram OR tik tok OR snapchat OR Facebook)

PsycInfo:
(ADHD OR "ADHD symptoms" OR "attention deficit" OR inattent* OR "attention problem*" OR "attention difficult*" OR "concentration difficult*" OR "concentration problem*" OR hyperactiv* OR impulsiv*) AND ("screen time" OR "social media" OR "digital media" OR "internet use" OR smartphone* OR "mobile phone*") AND (adolescen* OR teen* OR youth*) AND ("social media" OR "social networking" OR Instagram OR "TikTok" OR Snapchat OR Facebook)

The identified records were screened according to predefined inclusion and exclusion criteria. The relevant studies were selected for analysis. Data from these studies were then extracted, organized in table form and summarized in text.

Ethical considerations

The current study design did not require ethical approval, as no study participants were directly involved. The included studies all reported either ethical approval from an institutional review board or utilized secondary data that did not require separate ethical approval. It's also worth noting that experimental designs in this area would be ethically challenging, which partly explains the reliance on observational studies.

Results

The search in both databases yielded a total of 255 articles. No search filter was applied. A total of 20 duplicates were removed, leaving 235 articles. The titles and abstracts were screened based on the inclusion and exclusion criteria reducing the number of articles to 19. These were read in full text, of which 6 met the inclusion criteria. A PRISMA flow diagram of the article selection process is presented in Figure 1.

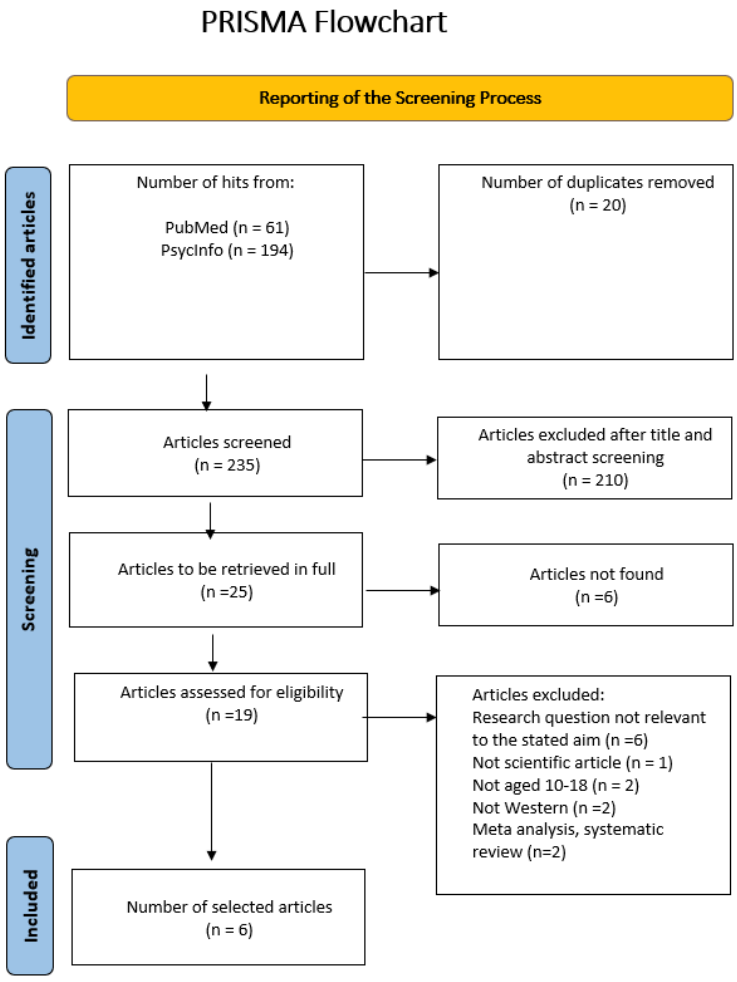

Figure 1. Flowchart of the selection process according to PRISMA (25).

Table 1. Overview of the included studies

Author, year, title, country	Study design	Population	Screen types	Outcome measure	Main result	Conclusion
Wallace *et al.*, 2023 Screen time, impulsivity, neuropsychological functions and their relationship to growth in adolescent attention-deficit/hyperactivity disorder symptoms (26). Canada	Longitudinal cohort study (Over 5 years) data collected annually from 7th-11th grade, starting 2012)	N = 3,779 girls 49%. mean age 12.8 years [SD = 0.5]	Social media Television Video gaming Computer use	Hyperactivity / Inattention scale of the SDQ	Higher SMU showed a positive and significant relationship with higher ADHD symptoms Between-person β = 0.481, p < 0.001 Within-person β = 0.134). Lagged effects were also significant for social media use mediated through impulsivity.	High social media use was associated with higher ADHD symptoms as well as later symptom increase. The association was weaker for within person increases in SMU.
Ra et al., 2018 Association of Digital Media Use With Subsequent Symptoms of Attention-Deficit/Hyperactivity Disorder Among Adolescents (27). United States	Longitudinal cohort study; (over 2 years) conducted 2014–2016 with 24-month follow-up.	N = 2,587 girls 54.4% mean age 15.5 years [SD = 0.5]	14 activities including: Social media Texting Online chatting Streaming Video gaming	Self-reported 18 DSM-IV ADHD symptoms, ADHD-sx positive if ≥6 symptoms	Higher frequency of digital media use at baseline was associated with increased ADHD symptoms over 24 months (OR = 1.10; 95% CI 1.05–1.15). ADHD symptom prevalence rose from 4.6% with no high-frequency activities to 10.5% with 14 activities.	Higher frequency of digital media use was associated with increased ADHD symptoms. The size effect was modest.
Mérelle et al., 2017 Which health-related problems are associated with problematic video-gaming or social media use in adolescents? A large-scale cross-sectional study (28) Netherlands	Cross-sectional study, data collected in 2013–2014	N = 21,053 girls 50.6% mean age 14.4 years (SD ≈ 1.3)	Problematic video-gaming (any device) Problematic social media use	Hyperactivity / Inattention scale of the SDQ	PSMU was associated with higher odds of hyperactivity and inattention symptoms (OR = 2.15; 95% CI 1.93–2.39), as was PVG (OR = 1.78; 95% CI 1.56–2.04),	Both PVG and PSMU were associated with increased hyperactivity and inattention symptoms- The effect size for PSMU was modest.

Frei *et al.*, 2025 The phenotypic and genetic relationship between adolescent mental health and time spent on social media, gaming, and TV (29). Norway	Longitudinal cohort study (Data from pregnant women between 1999-2008). Questions collected from 14-16 year olds	N = 23,790 Girls 54.1% mean age 14.4 years (SD = 0.51)	Social media Gaming TV watching	Parent/Teacher RS-DBD & SDQ	Higher social media use (≥3–4 h/day) was significantly associated with higher behavioural symptom scores (RS-DBD) F = 30.02 (df = 5; 14,764), p < 2.2e-16.	Higher social media use was associated with increased ADHD-related behavioural symptoms in adolescents. Effect sizes were modest.
Boer et al., 2020 Attention Deficit Hyperactivity Disorder-Symptoms, Social Media Use Intensity, and Social Media Use Problems in Adolescents: Investigating Directionality (30). Netherlands	Longitudinal cohort study (over 2 years) Data collected in three waves 2015, 2016, and 2017.	N = 543 Girls 50.8% mean age 12.9 years (SD=0.73)	SMU intensity (frequency of checking and posting) and SMU problems (addiction like behaviors).	ADHD-Questionnaire -attention -hyperactivity -impulsivity (5-point response scale; higher values indicate more symptoms).	Higher SMU problems at Wave 1 were associated with increased attention deficits (β = 0.31, p = 0.004) and impulsivity (β = 0.51, p < 0.001) at Wave 2. SMU intensity did not predict later attention deficit (β = 0.05, P=0.508) or any ADHD symptoms. Cross-lagged analyses also indicated that ADHD symptoms did not predict later social media problems.	SMU problems predicted increased ADHD symptoms over time, while SMU intensity did not.
Barry et al., 2017 Adolescent social media use and mental health from adolescent and parent perspectives (31). United States	Cross-sectional survey study. Not stated when data was collected	N = 113 Girls 45.1% Mean age 15.2 years (SD=1.02)	Social media use - nr of social media accounts - frequency of checking social media	Parent-reported DSM-5 ADHD symptoms -Inattention -Hyperactivity -Impulsivity	The number of social media accounts correlated with inattention (r = 0.38–0.40, p < .001) and hyperactivity/impulsivity (r = 0.32–0.33, p < .01). More frequent checking of social media correlated with hyperactivity/impulsivity (r = 0.21, p < .05).	Higher social media engagement was associated with greater ADHD-related symptoms.

SD=Standard Deviation. OR=Odds Ratio. CI=Confidence Interval. SMU= Social media use. PSMU=Problematic social media use. PVG=Problematic video-gaming. SDQ=Strengths and Difficulties Questionnaire. RS-DBD=Rating Scale for Disruptive Behavior Disorders

The included studies were published between 2017 and 2025 and conducted in high-income countries; two in the United States, two in the Netherlands, and one each in Norway and Canada. Sample sizes ranged from 113 - 23,790 participants. An overview of the studies included is presented in Table 1. Four studies used longitudinal cohort designs with follow-ups of 2-5 years, while two were cross-sectional studies. The studies varied in design, variables and sample size. Across all studies, the distribution of participants' age and gender was fairly balanced, and the participants in the analysis did not have a prior ADHD diagnosis or a known psychiatric comorbidity. The ethnic composition varied across studies. Barry et al. (31) reported a predominantly white Caucasian sample, Mérelle et al. (28) included both western and non-western participants, and Ra et al. (27) had a higher proportion of Hispanic adolescents, while Frei et al. (29) and Wallace et al. (26) did not report ethnicity.

The studies differed in how they categorized screen use, including time and type of device. Two studies (30, 31) focused specifically on social media use in greater depth. Boer et al. (30) assessed social media intensity by looking at the frequency of checking and posting, and also included a separate measure of problematic or addictive-like use. Barry et al. (31) examined both the number of social media accounts and frequency of checking as separate variables. Mérelle et al. (28) focused solely on problematic digital device use, including gaming and social media. Video gaming included games across multiple devices, while social media referred broadly to networking or messaging platforms such as WhatsApp, Twitter, or Facebook.

Frei et al. (29), Ra et al. (27), and Wallace et al. (26) also included television viewing and gaming as separate categories. Ra et al. (27) provided the most comprehensive assessment, covering 14 digital activities including texting, content creation, online interaction, and media consumption.

In all studies, both screen use and ADHD symptoms were assessed using self-report measures. Screen use was typically measured by time (minutes/hours per day or week) or frequency of use. Ra et al. (27) further classified usage frequency into two broad categories, high-frequency use and lower-frequency use, based on the weekly frequency of engagement with each type of digital media. Barry et al. (31) assessed both the number of social media accounts (using a 5-point scale from 0 to more than 7 accounts) and the frequency of use (on a 8-point scale from never to 10 times/day), with data reported by both adolescents and their parents. Mérelle et al. (28) and Boer et al. (30) studied problematic social media use, classifying adolescents as problematic users based on established cut-off scores. Although different instruments were used, both assessed core

features of addictive digital use, such as loss of control and continued use despite negative consequences.

ADHD symptoms were assessed using various self-report instruments, capturing core domains of inattention, hyperactivity, and impulsivity. In addition, the study by Barry et al. (31) incorporated parent-reported ADHD symptoms based on Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria, rated on a 4-point scale from “never” to “very often”.

Across all included studies, a positive association was generally observed between higher levels of social media use and increased ADHD symptoms. Wallace et al. (26) reported that higher overall screen time was associated with more intensive ADHD symptoms. The strongest association was observed for social media use at the between-person level, meaning that adolescents with higher average social media use than their peers had higher ADHD symptom scores. The direct within-person association was weaker, meaning individual increases in social media use within a given year were only modestly associated with ADHD symptom increase that same year. However, a significant lagged within-person effect was observed, where increases in social media use in one year were associated with higher ADHD symptoms in the following year, mediated by impulsivity.

Similarly, the cross-sectional study by Barry et al. (31) found that greater social media engagement was associated with higher ADHD symptoms. In contrast, Boer et al. (30) reported no association between social media intensity and ADHD symptoms, but observed a strong association between problematic social media use and increases in ADHD symptoms over time, particularly inattention. Mérelle et al. (28) similarly reported markedly higher ADHD symptoms among adolescents with problematic use.

Several studies investigated multiple types of screen activities. Ra et al. (27) being the most comprehensive one reported that adolescents who frequently engaged in multiple activities were more likely to develop ADHD symptoms during the follow up period.

Frei et al. (29) observed that adolescents using social media ≥3–4 hours/day reported higher ADHD symptoms. The association remained statistically significant even after adjusting for potential confounders.

Overall, all studies showed a positive relationship between greater levels of screen use and increased ADHD symptoms. The association was generally stronger for problematic patterns of social media use than for general use.

Discussion

This scoping review identified six studies examining the association between social media use and ADHD symptoms in adolescents without a prior ADHD diagnosis, reflecting a research field that remains limited in size and methodological diversity. The studies were conducted in the United States, the Netherlands, Norway and Canada. The included populations consisted of adolescents aged 10–18 years, with a relatively balanced gender distribution, though ethnic composition differed across studies and was not always reported. Four studies used longitudinal cohort designs and two were cross-sectional. All studies relied on self-reported measures of both social media use and ADHD symptoms, and no standardized measurement approach was used across the field.

Across all six studies, a positive association between social media use and ADHD symptoms was reported, with the association being most pronounced for problematic or addictive-like patterns of use. Notably, Boer et al. (30) found no significant association for social media use intensity, with significant effects limited to problematic use. This is noteworthy given that Barry et al. (31), despite using a similar frequency-based measure, reported a positive association.

The overall findings are broadly consistent with prior research, including a systematic review by Thorell et al. (32) examining longitudinal associations between digital media use and ADHD symptoms, and a meta-analysis by Liu et al. (33) on screen time and childhood ADHD. Both studies reported stronger associations for problematic patterns of use than for general use.

The pattern of findings also suggests that individual-level factors play a meaningful role. Between-person differences showed stronger associations with ADHD symptoms than within-person changes over time, adolescents who consistently used social media more than their peers showed stronger associations than those whose use simply increased within a given year. This indicates that pre-existing individual differences may partly account for the observed relationship.

Nevertheless, a significant lagged effect was also observed, whereby increases in social media use predicted higher ADHD symptoms the following year. This association was mediated by impulsivity, whereby greater social media use was linked to increased impulsive behavior, which in turn exacerbated ADHD symptoms over time. This is biologically plausible as social media platforms deliver fast-paced stimulating content that may engage dopaminergic pathways involved in attention and impulse control.

Adding to this complexity, Frei et al. (29) also examined adolescents with a prior hyperkinetic disorder diagnosis and found that both low and high levels of social media use were associated with higher odds of diagnosis. Shared genetic factors explained 63% of this association among females, suggesting that individuals with greater genetic vulnerability to ADHD may either disengage from or engage more intensively with social media. This supports a potential bidirectional relationship, also reported by Thorell et al (32), in which ADHD related traits influence patterns of social media use, while social media use in turn affects attention and behavior. However, the phenotypic association in Frei et al (29) remained significant even after accounting for genetic influences, suggesting that social media use may act as an environmental factor in ADHD symptom expression. While this finding falls outside the primary scope of this review, it provides relevant context for understanding the complexity of this relationship.

Gaming and television viewing showed weak associations with ADHD symptoms; however, these findings should be understood as incidental, as neither was a primary exposure in this review.

In clinical practice, it may be relevant to ask about social media habits, particularly compulsive or poorly controlled use, when adolescents present with attention difficulties. The relationship appears multifactorial, potentially reflecting both underlying vulnerabilities and contributing to symptom expression. Although causality cannot be established, the consistency of associations across studies supports clinical awareness and targeted questioning in assessments of adolescents with suspected ADHD.

Strengths and weaknesses

This review has several strengths. The search strategy was developed in collaboration with a research librarian, and the application of the PRISMA reporting guidelines enhances both transparency and reproducibility. However, several limitations must be acknowledged and considered when interpreting the findings. The entire review process, including the literature search, screening and data analysis, was conducted by a single author, which increases the risk that relevant studies may not have been identified or included. Limiting the search to two databases may have reduced the amount of relevant literature identified. Additionally, the search string was restricted to ensure a manageable number of relevant articles. While this increased precision, it may also have excluded relevant studies. A broader search strategy would likely have identified additional relevant studies.

The number of included studies was small (n=6), which limits the strength of the conclusions that can be drawn. The studies also varied considerably

in design, sample size, and measurement methods. No gold standard exists for measuring social media use, and no single standardized instrument was used to assess ADHD symptoms across studies, which further complicates comparisons between findings. A notable limitation both within the included studies and the research field more broadly is that all measures of social media use and ADHD symptoms were based on self-report, introducing a risk of both over- and underreporting as well as subjective interpretation of both exposure and outcome.

Another challenge relates to how social media use is defined and measured. The concept includes a wide range of platforms and activities, and the boundaries between these are not always clear. While platforms such as Instagram, TikTok, and Snapchat are clearly classified as social media, other forms of digital use, such as messaging applications or online forums, are less clearly defined. This may lead to variation in how participants interpret questions and how researchers categorize social media use, which in turn affects the comparability of findings.

The generalizability of these findings warrants careful consideration. While the geographic scope of this review was deliberately restricted to Europe and North America to enhance the relevance of findings to a Swedish adolescent population, only one of the six included studies was conducted in Scandinavia. Cultural and structural differences between the other countries and Sweden mean that findings should be interpreted with some caution. Furthermore, ethnic composition differed across studies and was not always reported, making it unclear whether the observed associations apply equally to ethnically diverse populations. That said, the consistency of the association across studies conducted in different national contexts provides some support for its broader relevance.

Additionally, the rapid development of social media, including AI-driven content, recommendation algorithms, and conversational AI, means that data collected between 2012 and 2022 may not fully reflect current adolescent usage patterns. This is a limitation inherent to the field rather than specific to this review, but it nonetheless affects how confidently findings can be applied to current clinical practice.

Future research implications

The findings of this scoping review highlight several directions for future research. Future studies should move beyond self-report and instead incorporate objective measures of social media use, such as device-based tracking, to capture actual usage patterns more accurately. Longer longitudinal studies are needed to better explore causal relationships and to examine whether the associations observed persist or change over time.

Future research should also investigate underlying mechanisms, particularly impulsivity and other potential mediators of ADHD symptom expression. Increased research in this area could contribute to more accurate identification of at-risk usage patterns among adolescents and inform the development of evidence-based clinical guidelines and preventive strategies.

Conclusion

This scoping review maps the current research on the association between social media use and ADHD symptoms in adolescents without a prior ADHD diagnosis. Six studies have examined this relationship, using longitudinal cohort and cross-sectional designs with self-reported measures, conducted in Western countries. The available research consistently indicates a positive association, particularly for problematic patterns of use, though causality cannot be established and the research field remains limited in size and methodological diversity.

Bibliography

1. Liebherr M, Heyder A, Brailovskaia J, Burkardt TM, Latrouite C, Montag C, et al. The Digital Media-use Effects (d-MUsE) Model: A comprehensive framework for exploring/studying functional and dysfunctional effects on adolescent wellbeing. J Behav Addict. 2025;14(1):100-13.
2. Public Health Agency of Sweden. Digitala medier och barns och ungas hälsa - En kunskapssammanställning. Stockholm: Public Health Agency of Sweden; 2024. [cited 2026 May 14] Available from: https://www.folkhalsomyndigheten.se/contentassets/20a0ad3202d54bc9be156ff3e407b55c/digitala-medier-barns-ungas-halsa-kunskapssammanstallning.pdf.
3. Kanchan S, Gaidhane A. Social Media Role and Its Impact on Public Health: A Narrative Review. Cureus. 2023;15(1):e33737.
4. Bekalu MA, Sato T, Viswanath K. Conceptualizing and Measuring Social Media Use in Health and Well-being Studies: Systematic Review. J Med Internet Res. 2023;25:e43191.
5. Kaye LK, Orben A, Ellis DA, Hunter SC, Houghton S. The Conceptual and Methodological Mayhem of “Screen Time”. Int J Environ Res Public Health. 2020;17(10):3661.
6. Qi J, Yan Y, Yin H. Screen time among school-aged children of aged 6–14: a systematic review. Global Health Res Policy. 2023;8(1):12.
7. Šmahel D, Háková HM. EU Kids Online 2020: survey results from 19 countries. London: The London School of Economics and Political Science; 2020. [cited 2026 Feb 12] Available from: https://www.eukidsonline.ch/files/Eu-kids-online-2020-international-report.pdf.
8. World Health Organization. Guidelines on Physical Activity, Sedentary Behaviour and Sleep for Children under 5 Years of Age. Geneva: World Health Organization; 2019. Report No.: 978-92-4-155053-6. [cited 2026 Feb 12] Available from: https://www.who.int/publications/i/item/9789241550536.
9. Public Health Agency of Sweden. Recommendations for children’s and adolescents’ digital media use. Stockholm: Public Health Agency of Sweden; 2024. [cited 2026 Feb 12] Available from: https://www.folkhalsomyndigheten.se/contentassets/ab9cc71603f84f048dadf4c2851032f6/recommendations-childrens-adolescents-digital-media-use.pdf.
10. Organisation for Economic Co-operation and Development. How's Life for Children in the Digital Age? Paris: OECD; 2025. [cited 2026 Feb 12] Available from:

https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/05/how-s-life-for-children-in-the-digital-age_c4a22655/0854b900-en.pdf.
11. Mediemyndigheten. Ungar & medier 2025: En statistisk undersökning av ungas medievanor och attityder till medieanvändning. Stockholm; 2025. [cited 2026 Feb 12] Available from: https://mediemyndigheten.se/globalassets/rapporter-och-analyser/ungar-och-medier/mediemyndigheten-rapport-ungar-och-medier.pdf.
12. Rideout V, Peebles A, Mann S, Robb MB. *The common sense census: Media Use by Tweens and Teens, 2021*. San Francisco: Common Sense; 2020. [cited 2026 Feb 18] Available from: https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.
13. World Health Organization. Mental health of adolescents. Geneva: World Health Organization; 2025. [cited 2026 Feb 18]. Available from: https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health.
14. Wilens TE, Spencer TJ. Understanding Attention-Deficit/Hyperactivity Disorder from Childhood to Adulthood. Postgrad Med. 2010;122(5):97-109.
15. Ayano G, Tsegay L, Gizachew Y, Demelash S, Alati R. The Prevalence of Attention Deficit Hyperactivity Disorder in Children and Adolescents: An Umbrella Review of Global Evidence. Eur Psychiatry. 2024;67(S1):860–6.
16. Lent A, Dunn A, Eldawy N, Jhumkhawala V, Rao M, Sohmer J, Sacca L. Trends in Childhood Behavioral, Mental, and Developmental Problems (2019–2022) Using the National Survey of Children's Health. Pediatr Rep. 2024;16(4):983-1000.
17. Socialstyrelsen. Diagnostik och läkemedelsbehandling vid adhd: Förekomst, trend och könsskillnader. Stockholm: Socialstyrelsen; 2023. [cited 2026 Feb 21] Available from: https://www.socialstyrelsen.se/contentassets/7cf0e4662040470a8d4db0710b751f83/2023-11-8862.pdf.
18. Danielson ML, Claussen AH, Bitsko RH, Katz SM, Newsome K, Blumberg SJ, et al. ADHD Prevalence Among U.S. Children and Adolescents in 2022: Diagnosis, Severity, Co-Occurring Disorders, and Treatment. J Clin Child Adolesc Psychol. 2024;53(3):343-60.
19. Faraone SV, Banaschewski T, Coghill D, Zheng Y, Biederman J, Bellgrove MA, et al. The World Federation of ADHD International Consensus Statement: 208 Evidence-based conclusions about the disorder. Neurosci Biobehav Rev. 2021;128:789-818.

20. Institutet för Hälso- och Sjukvårdsekonomi. Samhällskostnader för ADHD – Värdet av tidiga och samordnade insatser. Lund: IHE; 2024. [cited 2026 Mar 03] Available from: https://ihe.se/app/uploads/2024/06/IHE-RAPPORT-2024_8_.pdf.
21. Larsson JO, Larsson H, Lichtenstein P. Genetic and environmental contributions to stability and change of ADHD symptoms between 8 and 13 years of age: a longitudinal twin study. J Am Acad Child Adolesc Psychiatry. 2004;43(10):1267-75.
22. Marciano L, Camerini A-L, Morese R. The Developing Brain in the Digital Era: A Scoping Review of Structural and Functional Correlates of Screen Time in Adolescence. Front Psychol 2021;12:671817.
23. Lissak G. Adverse physiological and psychological effects of screen time on children and adolescents: Literature review and case study. Environ Res. 2018;164:149-57.
24. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol.2005;8(1):19–32.
25. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169(7):467-73.
26. Wallace J, Boers E, Ouellet J, Afzali MH, Conrod P. Screen time, impulsivity, neuropsychological functions and their relationship to growth in adolescent attention-deficit/hyperactivity disorder symptoms. Sci Rep. 2023;13(1):18108.
27. Ra CK, Cho J, Stone MD, De La Cerda J, Goldenson NI, Moroney E, et al. Association of Digital Media Use With Subsequent Symptoms of Attention-Deficit/Hyperactivity Disorder Among Adolescents. JAMA. 2018;320(3):255-63.
28. Mérelle SYM, Kleiboer AM, Schotanus M, Cluitmans TLM, Waardenburg CM, Kramer D, et al. Which health-related problems are associated with problematic video-gaming or social media use in adolescents? A large-scale cross-sectional study. Clin Neuropsychiatry. 2017;14(1):11-9.
29. Frei E, Frei O, Jaholkowski P, Parker N, Parekh P, Shadrin AA, et al. The phenotypic and genetic relationship between adolescent mental health and time spent on social media, gaming, and TV. Psychiatry Res. 2025;353:116761.
30. Boer M, Stevens G, Finkenauer C, van den Eijnden R. Attention Deficit Hyperactivity Disorder-Symptoms, Social Media Use Intensity, and Social Media Use Problems in Adolescents: Investigating Directionality. Child Dev. 2020;91(4):e853-e65.
31. Barry CT, Sidoti CL, Briggs SM, Reiter SR, Lindsey RA. Adolescent social media use and mental health from adolescent and parent perspectives. J Adolesc. 2017;61:1-11.

32. Thorell LB, Burén J, Ström Wiman J, Sandberg D, Nutley SB. Longitudinal associations between digital media use and adhd symptoms in children and adolescents: A systematic literature review. Eur Child Adolesc Psychiatry. 2022;33(8):2503–26.
33. Liu H, Chen X, Huang M, Yu X, Gan Y, Wang J, et al. Screen time and childhood attention deficit hyperactivity disorder: a meta-analysis. Rev Environ Health. 2024;39(4):643-50.