

Systematic Review Article

# A Systematic Metareview of the Impact of Social Media Use on Adolescent Mental Health

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## ABSTRACT

This paper analyzes 32 reviews of the impact of social media use on adolescent mental health in order to identify global trends as well as gaps in the field. 15 of the reviews analyzed found a negative effect on adolescent mental health and 15 reviews found mixed results. Only two reviews focused on positive effects, such as a sense of belonging and inclusion. Negative impact on sleep quality emerged as a primary effect of social media use, with 8 out of 32 reviews identifying this as a consequence. Several limitations of current research in the field were identified, including confounding factors and over-reliance on self reporting for measuring impacts. Future research should prioritize longitudinal studies in order to strengthen claims about positive and negative effects of social media on mental health. Additionally, further research should determine methods other than self reporting in order to collect more accurate data.

**Keywords:** Social media; adolescence; depression; anxiety; mental health; sleep; online community

## INTRODUCTION

As social media becomes more accessible and ingrained in daily life, it is important to understand its impact on adolescents' mental health (1). Social media is commonly defined as the active, passive, private, or public usage of internet platforms in order to share pictures, comments, or react to content (2, 3). In his 2024 book, *The Anxious Generation*, Jonathan Haidt identifies the beginning of social media culture as being in the early 2010s (4). A 2018 Pew Research study found that in the United States, over 85% of adolescents use social media (5). With regard to types of social media, 90% of

US 13-17-year-olds use YouTube, 63% are on TikTok, and 61% are on Instagram. Nearly 64% of US 11-12 years report social media use, with on average 3.4 social media accounts each (6). In addition, an Italian review from 2022 highlighted a study that reported that in 2019, 85.8% of Italian adolescents between 11-17 years old regularly used phones (7). This is a global phenomenon.

As adolescent social media use has increased, a number of studies have been conducted globally to investigate the impact on mental health (8). One 2021 analysis of global social media usage reported that adolescents with higher daily time spent on social media had a 59.6% increase in risk of depression when compared with the control group. The risk of depression was shown to increase by 13% for each hour increase in social media use (9). On the other hand, an earlier 2017 review in the United States found that adolescents use social media to develop and maintain friendships, where over 90% of teenagers report that they use social media to connect with offline friends each day (10). This review

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also found that adolescents reported that social media helped them better understand their friends' feelings and encouraged connections between them (10). Finally, a third review states that although the use of social media and depression are "generally correlated" in teens, there are inconsistent results and the quality of data is overall low (11).

In spite of the prevalence of social media in the lives of teens, the literature on adolescents and social media is limited. Of the studies that have been conducted, many rely on self-reported data, which are prone to biases and low validity (12, 13). In addition, reviews of the field predominantly include cross sectional and correlational designs, making it difficult to definitively establish causation between social media use and mental health (14, 15). There is also a lack of longitudinal and experimental studies, limiting the ability to make claims about directionality or long-term effects of social media on adolescent mental health (16, 17, 18). Across studies, there are also inconsistent definitions of social media use, mental health, and exposure and outcome variables, making standardization difficult (2, 10). Variability in study design and methodology also complicates the field, including unclear or non-systemic search criteria (10, 19). The social media platforms studied vary as well, with each study and review focusing on different types of media (1, 19). Technology is rapidly evolving, which presents a challenge for studies and reviews to keep up with the new trends in social media usage among adolescents (20, 21). Finally, studies in the field often fail to avoid sampling bias, such as gender imbalances, and an underrepresentation of diverse populations (17, 22, 23, 24).

Adolescence is characterized by changes both social and cognitive (22). As social interactions and peer approval grow in importance for adolescents alongside a development of a sense of both their own emotions and those of others, communication becomes increasingly essential (22). With the rise of social media use, adolescents are replacing time spent face-to-face with online interactions. A 2018 study reported that 46% of US teenagers report using the internet "nearly continuously", which is a 24% increase from 2015 (11). With adolescents spending significant amounts of time on social media, it is important to consider what daily activities (such as sleep) are being replaced by this behavior (11). It is also critical to assess the correlation between social media use and adolescent mental health in order to support adolescents and design relevant interventions.

The purpose of this metareview is to summarize and

evaluate existing reviews in the field of social media and adolescent mental health. We will assess the literature to determine which reviews if any establish causality between social media use and mental health outcomes. We will discuss possible confounding factors and external circumstances which may be influencing the authors' conclusions.

Finally, we will make recommendations for future studies based on our analysis.

## METHODS AND MATERIALS

Records were identified from Psynet (n=92) using the following search string (Title: adolescents *AND* Title: phones *OR* Title: adolescents *AND* Title: social media *OR* Title: teens *AND* Title: phones *OR* Title: teens *AND* Title: social media *OR* Title: middle school *AND* Title: social media *OR* Title: middle school *AND* Title: phones *OR* Title: adolescence *AND* Title: social media *OR* Title: adolescence *AND* Title: social media *OR* Title: adolescent *AND* Title: social media *OR* Title: adolescent *AND* Title: phones *AND* Methodology: Literature Review *AND* Methodology: Systematic Review *AND* Year: 2015 *To* 2025). 2015 was chosen as the starting date to focus on recent work in the field. An additional search was conducted of the PubMed data base with the search string: (((2015/01/01:3000/12/31[Date - Publication] *AND* ("2015/08/16 00:00":3000/01/01 05:00"[Date - Publication] *AND* "systematic review"[Filter]) *AND* ("adolescents"[Title] *AND* "phones"[Title])) *OR* ("adolescents"[Title] *AND* "social media"[Title])) *AND* ((y\_10[Filter]) *AND* (systematicreview[Filter]))) *NOT* (food). This search did not provide any novel records.

Studies were screened and selected by the author, who performed both the title/abstract screening and the full-text review. Systematic reviews published in English and focusing on social media and phones linked to teen mental health overall were included. Papers were included if they contained studies on adolescents or teenagers. Papers were excluded if they were not accessible for download via CLIO, and all downloadable reports were included (n=89). Papers focusing on suicide, methods of measuring screentime, sex, social media interventions, diet, skin, cancer, ADHD, body image, gaming, sexual and gender identity, alcohol, physical health, cyberbullying, risky behavior, and COVID-19 were excluded and remaining reviews focused on social media use in general (n=35). Any nonreviews were excluded, leaving only reports that contained reviews (n=32). The methodological quality of the included

systematic reviews were assessed with the Critical Appraisal Skills Programme (CASP) 2018 Checklist for Systematic Reviews. All studies were retained due to meeting the majority of CASP criteria including: Addressed a clearly focused question, included relevant papers, assessed quality of included studies, presented precise results, and considered important outcomes. See PRISMA diagram in Figure 1.

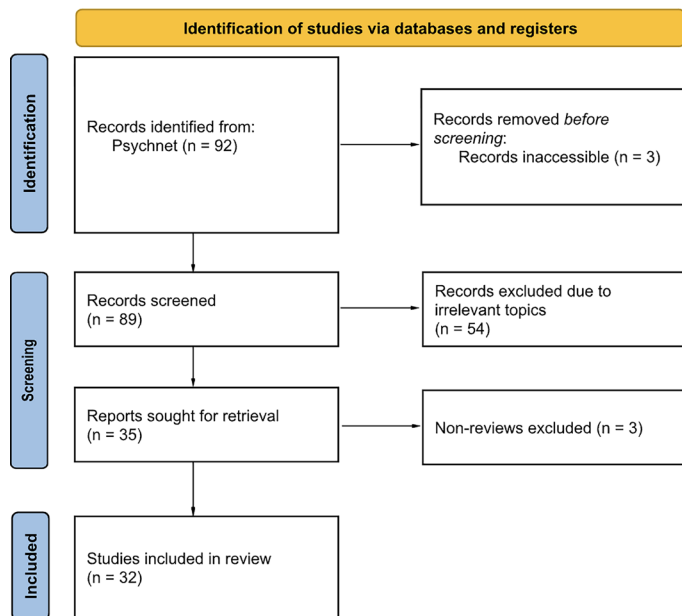


Figure 1. PRISMA flow diagram presents the identification, screening, eligibility assessment, and final inclusion of the included studies.

All reviews were categorized as first, either Systematic or Qualitative. After sorting into two categories, systematic reviews were then organized into a meta analysis category and qualitative reviews were subdivided into either meta analysis, narrative, scoping, or other (Figure 3). Systematic reviews are defined by a structured, methodical review of existing studies, while qualitative reviews summarize findings from studies without statistics. Meta analysis reviews are a method of statistics where results from multiple studies are used to calculate a conclusion. Narrative reviews are descriptive summaries of research on a topic, and explains the conclusions less systematically than a meta-analysis. Scoping reviews are broader and are used to map out existing research on a topic and identify gaps. Reviews placed in the other category do not fit into the options above.

## RESULTS AND DISCUSSION

### Summary of analyzed reviews

While many of the reviews did not specify individual countries in their scope, most included only studies conducted in English-speaking regions. Additionally, most of the reviews analyzed did not define the specific age range of the studies, instead classifying the participants in the included studies as “adolescents” or “youth”. Those that did specify an age range were not in agreement as to the definition of adolescents. For example, Schwartz *et al.* defined adolescents as being 12-18 years old, while Fassi *et al.* defined adolescents as 10-24 years old (25, 26). Most reviews analyzed did not discuss the gender composition of the included studies. When gender was acknowledged, it was usually confined to discussion of single studies (1, 8, 27). Studies with a focus on specific groups of adolescents such as those suffering from anorexia or specific mental illnesses were excluded from many of the reviews analyzed (3, 17).

15 of the 32 reviews analyzed found high levels of social media use are associated with poor mental health in adolescents, while 15 reviews identified mixed results. The two remaining reviews found a positive effect of social media on mental health such as feelings of belonging and inclusion or social connection. However, there are consistent findings in the field that the evidence is mixed, and a direct correlation between the two variables has not been established.

### Effect of Social Media on Adolescent Mental Health

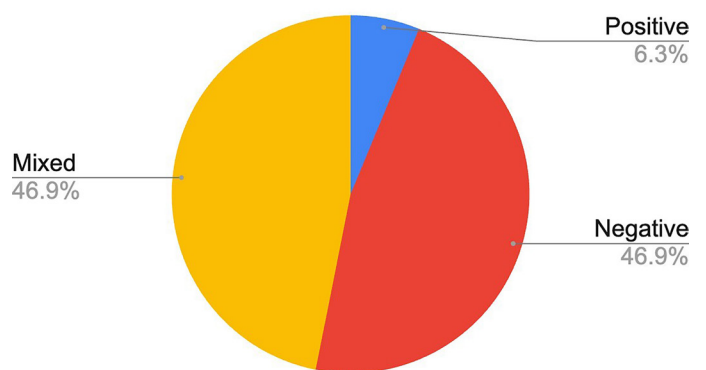


Figure 2. Pie chart depicting the percentage of reviews analyzed that found positive (6.3%), negative (46.9%), and mixed (46.9%) effects of social media on adolescent mental health. This chart is a summary of data presented in Table 1.

**Table 1. Characteristics of 32 reviews.** Acronyms are expanded as follows: NS: not specified. WEMWBS: Warwick-Edinburgh Mental Well-being Scale. SDQ: Strengths and Difficulties Questionnaire. MPSDQ: Marsh's Physical Self-Description Questionnaire. FSW: Flourishing Scale Wellbeing. SWB: Subjective Wellbeing Bespoke Scale. BDI: Beck Depression Inventory. DSM-IV: Diagnostic and Statistical Manual of Mental Disorders, 4th Edition. CD: Conduct Disorder. CIS-R: Clinical Interview Schedule, diagnosed by ICD-10: International Classification of Diseases. SAS: Self-Rating Anxiety Scale. HRQoL: health-related quality of life. CES-D: Center for Epidemiological Studies Depression. MASC: Multidimensional Anxiety Scale for Children. ADS-K: German version of CES-D. BSI: Brief Symptom Inventory. GHQ: General Health Questionnaire. DASS: Depression Anxiety Stress Scale. STAI: State-Trait Anxiety Inventory. DSMC: Diagnostic Statistical Manual Checklist. SASA: Social Anxiety Scale for Adolescents. TMAS: Taylor Manifest Anxiety Scale. GAD: Generalized Anxiety Disorder Scale. SHADS: Scale Hospital Anxiety and Depression Scale. LSASSRV: Liebowitz Social Anxiety Scale Self-Report Version. PSM: Psychological Stress Measure. SC: Symptom Checklist. SASSMU: Social Anxiety Scale for Social Media Users. SIAS: Social Interaction Anxiety Scale. SCAI: Spence Child Anxiety Inventory. SSAI: Spielberger State Anxiety Inventory. SMAQ: Social Media Addiction Questionnaire. SSI: semi structured interviews. SAQ: self-administered questionnaire. SMFQ: Short Mood and Feelings Questionnaire. CDI: Children's Depression Inventory. PHQ: Patient Health Questionnaire. HADS: Hospital Anxiety and Depression Scale. OSCD: Original Symptom Checklist-Depression. DASS: Depression Anxiety Stress Scale. RSES: Rosenberg Self-esteem Scale. UCLA-LS: UCLA Loneliness Scale. PSQI: Pittsburgh Sleep Questionnaire Index. HSC: Hopkins Symptom Checklist scale. SCL: Salivary cortisol level. QLSC-T: Quality of Life Scale for Children-Turkish version. MINI-KID: Mini-International Neuropsychiatric Interview for Children and Adolescents. IBS: Illinois Bully Scale. QIDS-A17-C: the 17-item Clinician Rated Quick Inventory of Depressive Symptoms. YSRBF: Youth Self-Report Baseline Form. EC: Emotional Connection meters. CAS: cyber aggression scale. RRS: Ruminative Response Scale. FDS: Finnish Depression Scale. SPPA: Self Perception Profile of Adolescents. BESAA: Body Esteem Scale for Adolescents and Adults. EDEQ: the Eating Disorder Examination Questionnaire. SATAQ: the Sociocultural Attitudes Toward Appearance Questionnaire. OBCSY: Objectified Body Consciousness Scale Youth. DTS-EDI: Drive for Thinness Scale of the Eating Disorder Inventory. SOQ: Self-Objectification Questionnaire. MBSRQ: Multidimensional Body-Self Relations Questionnaire. SR-IS: Self-Reflection and Insight Scale. SC-CS: Self Concept Clarity Scale. HBSC: Health Behavior in School-aged Children. GAIN-SS: Global Appraisal of Individual Needs Short Screener. SMDS: Social Media Disorder Scale.

First Author	Pub. Year	Age Range	Regions Studied	Review Type	Symptoms Measures	Effect of SM
Lysenstøen C	2021	13-18	USA	meta analysis	NS	positive
Jo S	2023	Mean age: ≤19	USA	other	WEMWBS	positive
Valkenburg PM	2022	NS	USA	narrative	NS	negative
Fassi L	2024	10-24	USA, UK, Europe	meta analysis	NS	negative
Ivie EJ	2020	11-18	Global <sup>1</sup>	meta analysis	CESD, DSM-5 C, DMS, PHQ9, CDI, HADS, BDI-II	negative
Shah J	2019	NS	Global <sup>1</sup>	other	NS	negative
Vannucci A	2020	12-18	Europe, North America, Asia, Brazil, Australia	meta analysis	NS	negative
Schønning V	2020	13-19	Global <sup>1</sup>	scoping	NS	negative
Course-Choi J	2021	10-19	Italy, Egypt, Sweden	meta analysis	SDQ, SPPA, BESAA, CES-D, DASS, EDEQ, SATAQ, OBCSY, DTS-EDI, SOQ, MBSRQ, UCLA-LS, SR-IS, RSES, SC-CS	negative
Shannon H	2022	12-30	Global <sup>1</sup>	meta analysis	DASS, CES-D	negative

Continued Table 1. Characteristics of 32 reviews.

First Author	Pub. Year	Age Range	Regions Studied	Review Type	Symptoms Measures	Effect of SM
Azem L	2023	NS	Global <sup>1</sup>	scoping	HADS, CES-D, CDI, RSES, UCLA-LS, PSQI, GAD-7, HSC, SCL, QLSC-T, MINI-KID, IBS, QIDS-A17-C, YSRBF, EC, CAS, SMFQ, RRS, FDS, PHQ-9,	negative
Khalaf AM	2023	NS	Global <sup>1</sup>	meta analysis	NS	negative
Hilty DM	2023	NS	Global <sup>1</sup>	scoping	RADS-2, SELSA, ZSRDS	negative
Girela-Serrano BM	2022	NS	Global <sup>1</sup>	meta analysis	SDQ, MPSDQ, FSW, SWB, BDI, DSM-IV, CD, CIS-R, ICD-10, SAS, HRQoL-27, BSI, HRQoL-52, MASC, CES-D, WEMWBS, ADS-K, BDI-II, HRQoL-10, GHQ-12	negative
Kerr B	2025	12-24	Global <sup>1</sup>	meta analysis	DASS, STAI, BDI, DSMC, SASA, GHQ, TMAS, GAD-2, GAD-7, SHADS, LSASSRV, PSM-9, SC-25, SASSMU, SIAS, SCAI, MASC, SSAI	negative
Nagata JM	2025	9-20	USA	other	SMAQ	negative
MacKenzie MD	2022	10-24	Global <sup>1</sup>	meta analysis	SSI, SAQ	negative
Ghai S	2022	NS	Global <sup>1</sup>	narrative	NS	mixed
Rajamohan S	2019	NS	NS	meta analysis	NS	mixed
Liu M	2022	10-19	Global <sup>1</sup>	narrative	CESD, SMFQ, BDI, PHQ9, CDI, BSI, HADS, OSCD	mixed
Gupta C	2022	NS	NS	narrative	NS	mixed
Bozzola E	2022	≤18	USA	scoping	NS	mixed
Popat A	2023	13-17	Global <sup>1</sup>	other	NS	mixed
Alfredson QD	2024	13-18	Global <sup>1</sup>	meta analysis	PHQ-9, DSM-5, SMFQ, HBSC, BSI, SC-90-R, CES-D, SDQ, GAD-7, SDQ, GAIN-SS, GHQ, SMDS	mixed
Agyapong-Opoku N	2025	NS	Global	scoping	NS	mixed
Ferguson, CJ	2025	12-18	Global	meta analysis	NS	mixed
Hamilton JL	2023	NS	Sub-Saharan Africa, Middle East & North Africa, Latin America, China, South & Southeast Asia	narrative	NS	mixed

Continued Table 1. Characteristics of 32 reviews.

First Author	Pub. Year	Age Range	Regions Studied	Review Type	Symptoms Measures	Effect of SM
Arias-de la Torre J	2020	≤20	Sweden, USA, UK, Australia, Iran, Bhutan	narrative	NS	mixed
Uhls YT	2017	NS	USA	narrative	NS	mixed
Ghai S	2023	10-24	Global	scoping	NS	mixed
West M	2024	NS	Global <sup>1</sup>	meta analysis	NS	mixed
Schwartz D	2025	12-18	Global <sup>1</sup>	meta analysis	NS	mixed

<sup>1</sup>Written in English, French, or Spanish.

Despite the conflicting findings in the field, certain types of content that adolescents may encounter during social media use have been found to be especially harmful. Two United States reviews, (10, 22), and two global reviews, (7, 12) found that social media encourages cyberbullying, which can lead to eating disorders, suicidal ideation, and general negative mental health. In addition, two global reviews of English-based studies (3, 16) report that social media environments often promote the specific behavior of social comparison. On the other hand, some types of social media content may actually have positive effects. One commonly identified example throughout the globe is the community online and the support that adolescents can lend each other on social media (3, 5, 10, 13, 15, 16).

One commonality of the studies included in the reviews analyzed was a heavy reliance on self reporting, primarily surveys such as the Reynolds Adolescent Depression Scale, Bergen Social Media Addiction Scale (BSMAS) (12), the Beck Anxiety Inventory, Generalized Anxiety Disorder-7, and the Social Anxiety for Adolescents Scale, (28). There are methodological limitations in using reports from individuals' own experience. This can lead to recall bias, where individuals remember their own behavior incorrectly, or report it incorrectly (29, 30). In addition, the questions in the surveys used may be vague or less clear to specific participants, causing them to accidentally answer the questions incorrectly. These effects of self-reporting can limit the validity of the findings of the studies, and cause inconsistencies in the reviews. 12 of the 32 reviews analyzed acknowledged these limitations.

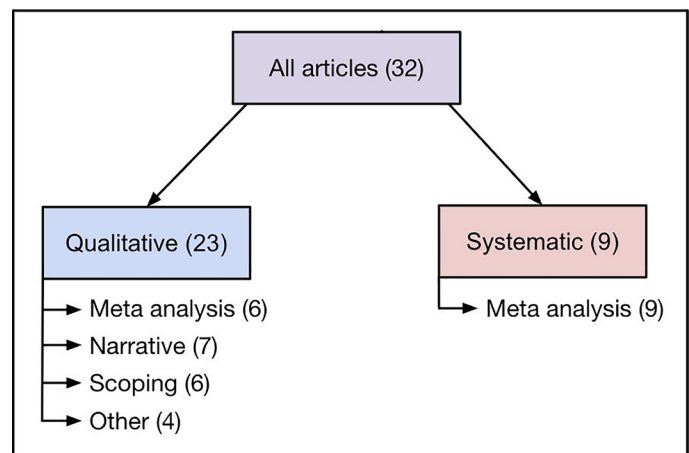


Figure 3. Characteristics of the Analyzed Reviews. All of the 9 systematic reviews are meta analyses. Out of the 23 qualitative reviews, 6 are meta analyses, 7 are narrative reviews, 6 are scoping reviews, and 4 do not fit into any of the above categories.

**Confounding factors and societal context**

While 15 of the reviews under analysis reported correlations between increased time spent on social media with higher rates of depression and anxiety, several note that adolescents who are already experiencing poor mental health may spend more time on social media because of their mental health. This makes the causal aspect of the relationship difficult to establish. Arias-de la Torre J *et al.*, Khalaf AM *et al.*, Liu M *et al.*, and Nagata JM *et al.* all failed to find evidence of causation between increased time spent on social media and poor

mental health (6, 9, 13, 15). The 2022 systematic review focusing on adolescents and young adults by Shannon H *et al.* drew attention to this concern, highlighting that in studies which focus on cross-sectional correlational data (such as the reviews discussed above), a direct causal relationship cannot be inferred (14). Part of the reason for this ambiguity surrounding a causal relationship is due to confounding factors.

There are confounding factors outside of the impact of social media that may have an influence on teen mental health. In a scoping review focusing on the United States and Europe, Schønning *et al.* determined that social media can act as a reinforcement of adolescents' current moods and motivations, whether that is positive or negative (31). In addition, Shannon H *et al.* mentioned that there are likely mutual effects between poor mental health and an increase of social media usage, meaning that poor mental health can lead to an increase of social media usage as well as the opposite (14). Schønning *et al.* found that it is likely that socioeconomic status and geographic location play a role in the potential association between social media use and mental health (31). The global 2020 qualitative review by Arias-de la Torre *et al.* found that those who are from families with a lower socioeconomic status may have a higher risk of developing depression when exposed to more wealthy people in the media (15).

The 2023 systematic review focusing on Facebook, Instagram, Twitter, Snapchat, and TikTok by Khalaf *et al.* found that risk factors such as family issues, bullying, and social isolation can manifest from other sources during this period, which can impact social and emotional growth and social media use (13). According to Schønning *et al.*, depression and anxiety from these factors may be intensified by social media but not created by it (31). Khalaf *et al.* also called for more research on potential mediators of the connection between social factors and adolescent depression (such as gender, age, and parent participation) (13). Arias-de la Torre *et al.* concluded that the relationships observed are too complex for straightforward results on whether social media and mental health have a direct relationship, because of different moderating factors (15).

In response to this challenge, there is a need for more longitudinal research to clarify whether increased time spent on social media causes poor mental health or if adolescents with poor mental health are more likely to spend more time on social media. Additionally, in spite of the complexity of confounding factors in the analyzed reviews, meaningful patterns have emerged.

### Consensus on social media use and sleep

As Gupta *et al.* discuss, the sleep patterns of adolescents have a significant impact on their development (11). Eight of the 32 reviews from our analysis found that social media use before bed is associated with worsened sleep quality (2, 6, 7, 10, 11, 12, 13, 19). Of these, several studies found that greater time spent on social media can replace time spent sleeping, while also increasing weariness the next day and worsening overall sleep quality (6, 11, 19, 32). A 2022 scoping review of adolescents in Italy, Sweden, and Egypt also found that greater time on social media can result in later bedtimes and changing sleep habits over time (7).

The effect of social media on sleep has several possible physical explanations: using screens during time that could otherwise be spent sleeping, which delays bedtime; increased arousal before sleep caused by social media use, which can lengthen the time it takes to fall asleep; and a modest disruption of circadian rhythm and alertness due to exposure to blue light from screens (6, 19). Social media use specifically, beyond just screentime, can be especially harmful because it is constantly interactive, with a high engagement level. Additionally, adolescents can communicate with each other without any real limits (19).

Gupta *et al.*, Uhls *et al.*, and Khalaf *et al.* found that a high usage of social media by teens may be linked to chronic sleep deprivation, which can have a destructive impact on mental health and social emotional functioning (11, 10, 13). In addition, Bozzola *et al.* and Nagata *et al.* (in their 2025 review of adolescents aged 9-15 years old) identified that poor sleep duration and quality linked to social media use constitutes a risk factor for metabolic conditions such as diabetes, cardiovascular disease, and mental health issues (7, 6). In a narrative review of United States adolescents, Uhls *et al.* found that changing sleep cycles in adolescents can result in depression, loss of memory, problems at school, and car crashes (10). Since sleep is significantly important to adolescent development, these findings represent a critical point of impact.

### Positive impacts of social media on adolescents

While 15 out of the 32 reviews found that social media is correlated with exclusively detrimental outcomes for adolescents, 15 found mixed results, and two reviews indicated an exclusively positive effect of social media use (Figure 2). The first, a 2021 systematic review investigated the extent to which online pro-social

behavior was related to social media use in adolescents aged 13-16 (33). This review found a positive correlation between time spent on social media and online prosocial behavior, defined by voluntary behavior carried out online with the intention of benefitting others or promoting positive relationships with others. However, as this is a relatively unexplored area of the field, only two studies were included in the review (33). The second, a qualitative 2023 review, discussed 10 additional papers, focusing on adolescent well-being as a result of healthy social media use (5). The authors found that healthy social media use produced better relationships with peers and positive affect, determining that adolescents use social media to feel safe, seek information, and connect with others (5). This review has a similar limitation to the first in that it considers only healthy social media use.

Several of the reviews that found mixed results of social media use identified specific positive outcomes. One 2025 review reported that social media can help adolescents experiencing mental health struggles by creating supportive online communities, and improve quality of life, social support, and wellbeing while reducing stress (16). These findings are in agreement with those of Rajamohan *et al.*, who suggested that increased social media use may impact adolescents' affective and cognitive empathy positively, as well as broadening their ability to communicate their feelings (16, 34). Social media also provides an environment to spread mental health resources and information in order to spread awareness and attempt to help people who may not have received these resources otherwise (3).

Despite evidence that online connections may be positive for adolescents, they may also be harmful in certain circumstances. In their 2022 review, Popat and Tarrant found that adolescents can create connections online without as much pressure as in-person meetings may create (3). However, these connections can become dangerous once users feel like they need to be constantly on social media in order to stay connected. This creates a reliance on social media that can result in addiction (3). Given these findings, additional research into the possible positive effects of social media is needed, with an eye towards establishing causation and clarifying the relevant circumstances.

## CONCLUSION

Our analysis found a lack of consensus on the effects of social media on adolescent mental health, with a general trend towards negative outcomes. Specifically, there is a

possible agreement that social media is associated with negative sleep outcomes for adolescents. The studies included in these reviews varied widely in the ages, gender, region, and social media platforms. This presents a challenge for making generalized claims. In addition, there is a heavy reliance in the field on self reporting, which weakens the findings of the studies. Most of the reviews under analysis acknowledged this limitation, but none presented a solution. Due to confounding factors, it is difficult to establish causation between social media use and diminished mental health outcomes in adolescents. In addition, many reviews agreed that there are positive effects of social media including fostering a community and connections.

Due to the small number of papers in this analysis, these observations may not be generalizable. Additionally, this single author review could have been improved by the addition of a second reviewer to create opportunities for comparison during the screening process and better ensure an unbiased selection process. Further research should be conducted using longitudinal and experimental study designs in order to strengthen causal claims about social media's impact on adolescent mental health. In addition, there should be a consistent definition of both mental health and social media in order to make the variables more uniform. Moreover, a constant limitation in the field is that the technology is perpetually changing and evolving, making it difficult to draw definitive conclusions.

## CONFLICT OF INTEREST

The author declares that there are no conflicts of interest related to this work.

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